

e-ISSN: 1248-2624



# Journal of Qualitative Research in Education

ENAD  
ONLINE



Publishing

[www.enadonline.com](http://www.enadonline.com)

PUBLISHING MANAGER / Sahibi ve Sorumlu Yazı İşleri Müdürü  
Anı Publishing Education and Consultancy Advertisement Stationary Industry Trade  
Co. Ltd. in the name of Anı Yayıncılık Eğitim ve Danışmanlık Reklam Kırtasiye Sanayi  
Ticaret Ltd. Sti. adına  
Ozer DASCAN

EDITORIAL PRODUCTION ADMINISTRATOR / Yayın Yönetim  
Ozer DASCAN

HEADQUARTER / Yönetim Merkezi  
Anı Yayıncılık, Kızılırmak Sokak 10/A  
06640 Bakanlıklar Ankara, TURKEY  
enad.editor@gmail.com  
Tel: +90 312 425 81 50 pbx Fax: +90 312 425 81 11

Printing Date / Basım Tarihi: 31 Jun. 2022 / 31 Ocak 2022  
Broadcast Type / Yayın Türü: Local Broadcast / Yerel Sureli Yayın  
Cover Design / Kapak Tasarımı: Kezban KILICOGLU  
Composition / Dizgi: Kezban KILICOGLU

The ideas published in the journal belong to the authors.  
Dergide yayınlanan yazıların tüm sorumluluğu yazarlarına aittir.

*Eğitimde Nitel Araştırmalar Dergisi* / ENAD (e-ISSN: 1248-2624) ANI Yayıncılık tarafından yılda dört kez yayımlanan hakemli bir dergidir.  
*Journal of Qualitative Research in Education* / JOQRE (e-ISSN: 1248-2624) is four times a year, peer-reviewed journal published by ANI Publishing.

ENAD – Dizinlenme / JOQRE is indexed and abstracted in,

- ✓ ESCI - Emerging Sources Citation Index
- ✓ ULAKBİM national index
- ✓ ASOS Index - Akademia Sosyal Bilimler İndeksi
- ✓ DOAJ – Directory of Open Access Journal
- ✓ Google Akademik
- ✓ Index Copernicus
- ✓ SOBİAD – Sosyal Bilimler Atıf Dizini
- ✓ TEİ – Turk Eğitim İndeksi

© ANI Publishing. All rights reserved.

© ANI Yayıncılık. Tüm hakları saklıdır.

**Bas Editor** **Editor-in-Chief**

*Ali Ersoy, Anadolu Universitesi, Turkiye* *Ali Ersoy, Anadolu University, Turkey*

**Editorler**

*Abbas Turnuklu, Dokuz Eylul Universitesi, Turkiye*  
*Adile Askim Kurt, Anadolu Universitesi, Turkiye*  
*Ahmet Saban, Necmettin Erbakan Universitesi, Turkiye*  
*Arife Figen Ersoy, Anadolu Universitesi, Turkiye*  
*Bahadır Namdar, Ege Universitesi, Turkiye*  
*Bulent Alan, Anadolu Universitesi, Turkiye*  
*Cigdem Kılıc, İstanbul Medeniyet Universitesi, Turkiye*  
*Engin Karahan, Eskisehir Osmangazi Universitesi, Turkiye*  
*Hasan Gurgur, Anadolu Universitesi, Turkiye*  
*Muhammet Ozden, Kutahya Dumlupınar Universitesi, Turkiye*  
*Murat Dogan Sahin, Anadolu Universitesi, Turkiye*  
*Nuray Mamur, Pamukkale Universitesi, Turkiye*  
*Sakir Cinkır, Ankara Universitesi, Turkiye*  
*Vesile Alkan, Pamukkale Universitesi, Turkiye*  
*Yıldız Uzuner, Anadolu Universitesi, Turkiye*

**Editors**

*Abbas Turnuklu, Dokuz Eylul University, Turkey*  
*Adile Askim Kurt, Anadolu University, Turkey*  
*Ahmet Saban, Necmettin Erbakan University, Turkey*  
*Arife Figen Ersoy, Anadolu University, Turkey*  
*Bahadır Namdar, Ege University, Turkey*  
*Bulent Alan, Anadolu University, Turkey*  
*Cigdem Kılıc, İstanbul Medeniyet University, Turkey*  
*Engin Karahan, Eskisehir Osmangazi University, Turkey*  
*Hasan Gurgur, Anadolu University, Turkey*  
*Muhammet Ozden, Kutahya Dumlupınar University, Turkey*  
*Murat Dogan Sahin, Anadolu University, Turkey*  
*Nuray Mamur, Pamukkale University, Turkey*  
*Sakir Cinkır, Ankara University, Turkey*  
*Vesile Alkan, Pamukkale University, Turkey*  
*Yıldız Uzuner, Anadolu University, Turkey*

**Uluslararası Editorler Kurulu**

*Ali Yıldırım, Goteborg Universitesi, İsvec*  
*Corrine Glesne, Vermont Universitesi, Amerika*  
*Hasan Simsek, Dogu Akdeniz Univeristesi, Turkiye*  
*Ingrid Engdahl, Stockholm Universitesi, İsvec*  
*Magos Kostas, Thessaly Universitesi, Yunanistan*  
*Melih Turgut, Norvec Fen ve Teknoloji Universitesi, Norvec*  
*S. Aslı Ozgun-Koca, Wayne State Universitesi, Amerika*  
*Senel Poyrazlı, Pen State Universitesi, Amerika*  
*Tony Mahon, Canterbury Christ Church Universitesi, İngiltere*  
*Wendy Cobb, Canterbury Christ Church Universitesi, İngiltere*

**International Editorial Board**

*Ali Yıldırım, Goteborg University, Sweden*  
*Corrine Glesne, University of Vermont, USA*  
*Hasan Simsek, Eastern Mediterranean University, Turkey*  
*Ingrid Engdahl, Stockholm University, Sweden*  
*Magos Kostas, University of Thessaly, Greece*  
*Melih Turgut, Norwegian University of Science and Technology, Norway*  
*S. Aslı Ozgun-Koca, Wayne State University, USA*  
*Senel Poyrazlı, Pen State University, USA*  
*Tony Mahon, Canterbury Christ Church University, UK*  
*Wendy Cobb, Canterbury Christ Church University, UK*

**Teknik Editorler**

*Osman Colaklıoğlu, Anadolu Universitesi, Turkiye*  
*Fatih Selim Sellum, Sakarya Universitesi, Turkey*

**Technical Editors**

*Osman Colaklıoğlu, Anadolu University, Turkey*  
*Fatih Selim Sellum, Sakarya University, Turkey*



**Table of Contents**

---

Analysis of Mixed Methods Graduate Thesis Studies in Special Education Programs in Turkey

Murat DOGAN, Secil CELIK, Gozde TOMRIS ..... 1-32

School Counsellors' Perceptions of School Justice and Awareness of Advocacy Duties

Sinem TARHAN ..... 33-55

The Examination of Special Education Teachers' Views On Teaching Play Skills to Children With Autism Spectrum Disorders

Ayse Cigdem GULVEREN, Serife YUCESoy OZKAN, Nuray ONCUL .....56-77

An Action Research on the Use of Collaborative Teaching Techniques

Sinan ARI, Sabahattin CIFTCI ..... 78-110

Incorrect Strategies Developed by Seventh- Grade Students to Solve Proportional Reasoning Problems

Meltem Gulsum KARLI, Esra YILDIZ .....111-148

Using Electronic Services Provided by the Ministry of National Education as a Decision Support System: A Grounded Theory Study

Tayfun YORUK, Ilhan GUNBAYI .....149-178

Teacher Empowerment Strategies: Reasons for Nonfulfillment and Solution Suggestions

Naciye CALISICI CELIK, Bilgen KIRAL .....179-202

Factors Affecting Innovative Work Behaviors of Teachers from the Perspective of Organizational Intelligence

Belgin TURA, Sait AKBASLI.....203-234



**Table of Contents**

---

Determination of Primary School Teachers' Mathematical Gender Stereotypes and Examination of Their Reflection on Students

Ozge NURLU USTUN, Naciye AKSOY.....235-264

Syrian Refugee Children's Education in Turkish Public Schools: Primary School Teachers' Experiences

Nurhan ATALAY, Zeynep KILIC, Burcu ANILAN, Huseyin ANILAN, Sengul S. ANAGUN .....265-281

# Analysis of Mixed Methods Graduate Thesis Studies in Special Education Programs in Turkey

Murat DOGAN\* Secil CELIK\*\* Gozde TOMRIS\*\*\*

## To cite this article:

Dogan, M., Celik, S., & Tomris, G. (2022). Analysis of mixed methods graduate thesis studies in special education programs in Turkey. *Journal of Qualitative Research in Education*, 29, 1-32, doi:10.14689/enad.29.1

**Abstract:** This research aims to analyze mixed methods graduate thesis studies completed between 2010 and 2020 in special education programs in Turkey. The literature scan has yielded 26 studies. A qualitative research method, analytical research design has been employed in this study. Research data has been obtained from documents – namely the graduate thesis studies – and analyzed through content analysis carried out following fundamental stages of mixed methods research as proposed in the literature. These stages served as themes in this study: 'Determining the research aim and research questions', 'Selecting a mixed methods research design', 'Explaining the rationale for the mixed methods approach', 'Sampling', 'Collecting the data', 'Analysing the data', 'Integrating, interpreting and reporting the data', 'Researcher competencies and roles' and 'Ethics'. The limitations observed in the methodology and reporting of the thesis studies have suggested that the quality standards of mixed methods research are not reflected on the studies. These limitations include confusion in terminology, lack of explanation as to why the method and the design have been employed, restricted validity and reliability, and lack of integration through blending quantitative and qualitative data. In summary, despite the increase in the number of mixed methods research studies in special education has contributed to the field, it is still debatable whether the philosophical perspective behind the method and its strong suits can be reflected on the studies.

**Keywords:** Mixed methods research, mixed methods, graduate thesis, special education, mixed methods in special education




## Article Info

Received:  
25 Oct. 2021  
Revised:  
24 Nov. 2021  
Accepted:  
07 Jan. 2022

## Article Type

Research

© 2022 ANI Publishing. All rights reserved.

\*  Corresponding Author: Anadolu University, [mudogan@anadolu.edu.tr](mailto:mudogan@anadolu.edu.tr)  
\*\*  Anadolu University, [secilcelik@anadolu.edu.tr](mailto:secilcelik@anadolu.edu.tr)  
\*\*\*  Eskisehir Osmangazi University, [gtomris@ogu.edu.tr](mailto:gtomris@ogu.edu.tr)



## Introduction

Starting with quantitative research, the journey of research methods in social sciences, in time, expanded to include qualitative research as well. Currently, either quantitative or qualitative research method can separately be employed in social sciences research (Greene, 2006; Gunbayi, 2020). During the last quarter of 20<sup>th</sup> century when the clash of paradigms was at large between quantitative and qualitative research methods, mixed methods research methodology emerged as a “third methodological initiative/paradigm/movement” (Tashakkori & Teddlie, 2003) and a “third research paradigm” (Johnson & Odwuegbuzie, 2004). Early 1990s witnessed the definition of mixed methods research in sociology and management in the U.S., education and evaluation in the U.S again, and in nursing in Canada. Enjoying various definitions in the literature, mixed methods research is commonly termed as “collection, analysis, and integration of quantitative and qualitative research data either within the same study or in a series of studies to understand the research problem better” (Creswell & Plano-Clark, 2018; Johnson et al., 2007). The foundational idea behind the method asserts that using both quantitative and qualitative methods provides opportunities to produce comprehensive answers for the research problem and questions instead of employing only one of them (Creswell, 2012; Creswell & Plano-Clark, 2018; Tashokkori & Teddle, 2003). This research method, inspired by pragmatist and transformative paradigms, has become increasingly popular in the social sciences due to the growth of research studies in education (Firat et al., 2014). This led to the growth of communication and cooperation between positivist and post-positivist quantitative and interpretive qualitative researchers. During this period, quite a few distinguished studies pioneering the use of mixed methods as a different methodological approach have been completed, and mixed methods research has grown especially in applied disciplines, such as special education (Askun & Cizel, 2020; Cresswell et al., 2006; Teddlie & Tashakkori, 2015).

Debates over the labels, criteria and design adopted within mixed methods research are naturally still going on given that it is a new and improving approach as opposed to other paradigms (Corrigan & Onwuegbuzie, 2020; Cresswell & Plano-Clark, 2018). As a result of this evolution and transformation process, this method has been employed by more and more researchers in the field of social sciences (Anguera et al., 2017; Bryman, 2006; Dures et al., 2011; Greene, 2006; Morgan, 2014; Yardley & Bishop, 2015). Consequently, research endeavors examining the theoretical foundation, designs, implementation stages, and mixed methods research have accelerated. In addition, other efforts have also expanded to analyze and discuss the challenges, researcher experiences, and the aspects of the method that need improvement (Collins et al., 2006; Corr et al., 2019; Corrigan & Onwuegbuzie, 2020; Onwuegbuzie & Collins, 2017; Wachsmann et al., 2019). Commonly cited issues regarding this method include lack of a common perspective regarding the method (Salehi & Golafshani, 2010), theoretical and conceptual confusion, lack of rationales as to why the method is chosen, inability to synthesize the data sets, lack of cooperation among the researchers (Baim-Lance et al., 2020), lack of proper academic supervision/guidance, and the scarcity of good examples (Corr et al., 2019).



Recent years have also witnessed publication of other research studies utilizing various assessment criteria to investigate the projects in line with mixed methods research (Baim-Lance et al., 2020; Onwuegbuzie & Poth, 2016). The success of this method is bound to the quality standards rising on a couple of fundamental stages and principles (Corrigan and Onwuegbuzie 2020; Neupane, 2019). In Corrigan and Onwuegbuzie (2020), the need for research to clarify the quality standards is still emphasized along with the necessity to produce special manuals and guidelines about mixed methods. Accordingly, this study offers researchers a meta-framework containing the fundamental stages and the principles to be followed in each stage using a mixed methods approach. This framework serves as the theoretical foundation for the themes utilized during the analysis of the graduate thesis studies examined in this research.

According to Corrigan and Onwuegbuzie (2020), the basic stages of the mixed methods research are listed as follows: determining the research goal, choosing a design for the mixed methods research, providing rationales as to why mixed methods approach and its design has been adopted, determining the research sample, validity and reliability efforts, collecting the research data, analyzing the research data, and integrating, interpreting, and reporting the data. Precise completion of these stages is closely related with the researcher's ability to reflect their faith in the power of integrating quantitative and qualitative research methods upon their research (Corrigan & Onwuegbuzie, 2020; Johnson & Onwuegbuzie, 2004; Salehi & Golafshani, 2010).

Johnson and Christensen (2010) have listed the six basic aims of mixed methods research as: exploration, description, understanding, explanation, prediction, and influence. The first stage, determining the research goal and questions, is of major impact in terms of planning some other stages, such as providing the theoretical and conceptual foundation and determining the research sample. For instance, think about a research aiming to investigate the effect of learning disability over reading skills of primary school students. In such a research, qualitative approach might have the upper hand since the aim is to explore and understand an unknown phenomenon. Following this exploration, a researcher may design a study examining which intervention is effective in improving reading skills. In doing so, s/he may aim to predict the effect of a given intervention. In doing so, s/he may aim to predict the effect of a given intervention and determine its effectiveness. In this process, the research questions would be the guide, and thus they have to be developed following the nature of mixed methods research paradigm (Johnson & Onwuegbuzie, 2020).

Another major stage is choosing a research design based on a mixed methods approach. Literature review indicates that there is no unity in terms of grouping and labelling these designs (Cresswell & Plano-Clark, 2018): Convergent parallel design, explanatory sequential design, exploratory sequential design, embedded design, transformative design, multiphase design, convergent design. Explanation of the rationale for why the mixed methods approach and its design have been opted for is the same as the foundation of a building (Corrigan & Onwuegbuzie, 2020). Greene et al. (1989) lists five fundamental reasons to employ mixed methods research: data triangulation, complementarity, development, initiation, and expansion. Choosing this approach and





one of its designs is definitive over how the sample is designed, what data types are utilized, how the data sets are integrated, which data has the priority, and how the temporal aspects of data collection is determined (Corrigan & Onwuegbuzie, 2020; Cresswell & Plano-Clark, 2018).

Other issues to be considered by researchers include collecting data until saturation is reached, choosing appropriate analyses for the sample size, verifying the data, interpreting the data through association, and reporting through the integration of all the relevant data and analyses (Corrigan & Onwuegbuzie, 2020; Teddlie & Tashakkori, 2009). Besides, some factors about researcher can clearly facilitate the execution of the process, such as one's level of awareness regarding their competencies, acuteness to make decisions for team effort when needed, precision in defining his/her roles, and clarity in terms of ethical issues (Doyle et al., 2009; Wachsmann et al., 2019).

## **The History of Mixed Methods Research and Reflections in Turkey**

Many mixed methods studies have been conducted across various fields (education, psychology, nursing, program evaluation, etc.) within the international literature since early 1990s. These studies played a major role in triggering the transformation of mixed methods research into a separate paradigm (Creswell & Plano Clark, 2018; Teddlie & Tashakkori, 2009). In time, mixed methods research gained popularity in social sciences because qualitative method became clearer in the minds of researchers, the advantages of collecting quantitative and qualitative data and the importance of data triangulation were acknowledged, and because studies in the field of education grew in number (Cresswell, 2012). As of 2000, mixed methods research had turned into a method adopted by many researchers in social sciences, and numerous books and studies had been published about this method (Punch, 2009; Teddlie & Tashakkori, 2009). However, theoretical discussions and practice models in the international literature still continue about utilising quantitative and qualitative methods within mixed methods research (Corrigan & Onwuegbuzie, 2020).

Though international developments about the methodological issues are closely followed in Turkey, the use of mixed methods research in social sciences is a relatively new phenomenon. The international developments that started in early 2000 also reached Turkey. Subsequently, the frequency of mixed methods research (books, graduate thesis studies, research articles, etc.) increased in social sciences, especially in the applied fields such as educational sciences, psychology, and sociology. Special education is one of the disciplines in social sciences where mixed methods research has increased (Collins et al., 2006; Corr et al., 2019).

## **The Relation Between Special Education and Mixed Methods Research**

Special education is a dynamic discipline that requires collaboration between different fields to maintain its national and international relevance by conducting research on various topics (Corr et al., 2019). The use of mixed methods research in the social



sciences is naturally reflected in the field of special education, and the number of mixed methods studies in special education has increased worldwide (Collins et al., 2006; Klingner & Boardman, 2011; Trainor, 2011). Rather than a current trend towards mixed methods research, the potential this approach bears for special education is cited as the reason behind such an increase (Collins et al., 2006; Klingner & Boardman, 2011).

Current debates center around especially the gap between theory and practice in special education. It is stated that specifically mixed methods research designs that include intervention have the potential to fill this gap (Klingner & Boardman, 2011; Schneider & McDonald, 2007; Vaughn et al., 2000).

Another hot debate in the literature regards whether special education is a good fit for mixed methods research. Special education is a field of study investigating issues about social and political aspects of inclusive education such as disabilities, human rights and advocacy, individual and cultural differences, and equal rights in accessing education (Collins et al., 2006; Klingner & Boardman, 2011; Trainor, 2011). It is believed that mixed methods research can facilitate discussion of cultural, ontological, and epistemological aspects of special education through a multifocal perspective (Collins et al., 2006; Klingner & Boardman, 2011; Trainor, 2011). Some assert that this method can help researchers achieve a stronger synthesis of the research problem and provide a more holistic and in-depth response to research problems about separate disability groups owing to the rich data set (Collins et al., 2006; Trainor, 2011). Additionally, each disability group is unique in terms of cultural and developmental characteristics stipulates that various research problems concerning different disability groups have a more powerful interpretation based on data collected from more than one source. These indicate that mixed methods research is compatible with the nature of special education (Collins et al., 2006; Klingner & Boardman, 2011; Trainor, 2011).

There is an ongoing discussion in the literature concerning the contributions of the method to the field of special education on one hand, and research endeavors are directed to examine different aspects of the method, on the other. The outcome of such international trends has manifested as an increase in the number of research studies conducted through mixed methods approach in the field of special education in Turkey, a majority of which primarily comprises graduate thesis studies (San, 2020). These studies generally focus on the analysis and discussion of implementation and reporting stages of the method within special education, and also on various model suggestions to utilize the method more functionally (Collins et al., 2006; Corr et al., 2019; Li et al., 2000; Odom et al., 2005).

In Turkey, presently, 11 universities offer graduate education in special education, seven of which admit students for both MA and Ph.D. degrees (Council of Higher Education, 2020). No statistical details could be obtained regarding the number and type of graduate thesis studies completed in these universities in one term. In Turkey, special education graduate programs are structured around a common curriculum specifying the courses students should complete as compulsory or elective. Research Methods/Research Methodology is one of the compulsory courses in this program. Though the content of this course spans across quantitative, qualitative and mixed

methods research, the gist of the course may vary depending on the instructor's experience, methodological perspective, and approach. On top of that, a supervisor's closeness to a certain paradigm can also be influential, even definitive, over methodological structure of a thesis study (Corrigan & Onwuegbuzie, 2020). It is noteworthy that only two universities in Turkey (Anadolu University and Hasan Kalyoncu University) offer a separate course, named as "mixed methods research in special education."

Examination of thesis studies completed in special education graduate programs in Turkey has unmasked that the use of mixed methods in graduate thesis studies started as of 2010 (Karaaslan, 2010). There has been an increase in such studies since 2015 (see Figure 3). As stated previously, the literature emphasizes that mixed methods research is compatible with the nature of special education, which is an applied discipline (Collins et al., 2006; Klingner & Boardman, 2011; Trainor, 2011). In time, it is predicted that mixed methods research will play a more significant role in graduate thesis studies within special education. There will be a considerable upward trend in the number of studies employing this method. However, national research is still in its infancy in terms of research efforts describing mixed methods research in special education and analysing paradigm-specific characteristics, stages, and implementation alternatives of this method (San, 2020). Thus, it may be concluded that special education research through mixed methods is a new trend in Turkey, and that comprehensive discussions about this method has not become prevalent yet.

Based on the reasons as mentioned earlier, it is of crucial significance to provide an in-depth analysis for the contents of special education graduate thesis studies conducted via mixed methods in Turkey, and in doing so, to reach plausible interpretations as to the quality of these studies. Such a research effort is expected to contribute to the field by depicting the current outlook of special education graduate thesis studies completed through mixed methods and the challenges experienced during the thesis process, by providing a steady perspective for specialists and researchers, and by improving the methodological discussions with relevant research data. In addition, it is also foreseen that the relevance and place of mixed methods within the field of special education will be embraced by larger groups of people and this method will be employed more often in special education. Therefore, the present study is also significant for its potential to steer current special education research.

## **Research Aim**

This study aims to analyse the mixed methods graduate thesis studies conducted between 2010 and 2020 in special education programs in Turkey through the themes determined in line with the literature. Accordingly, answers have been sought for two main research questions:

1. What are the general descriptive features of mixed methods graduate thesis studies conducted in special education programs?

2. What characteristics of mixed methods research can be traced in graduate thesis studies conducted in special education programs?

## Method

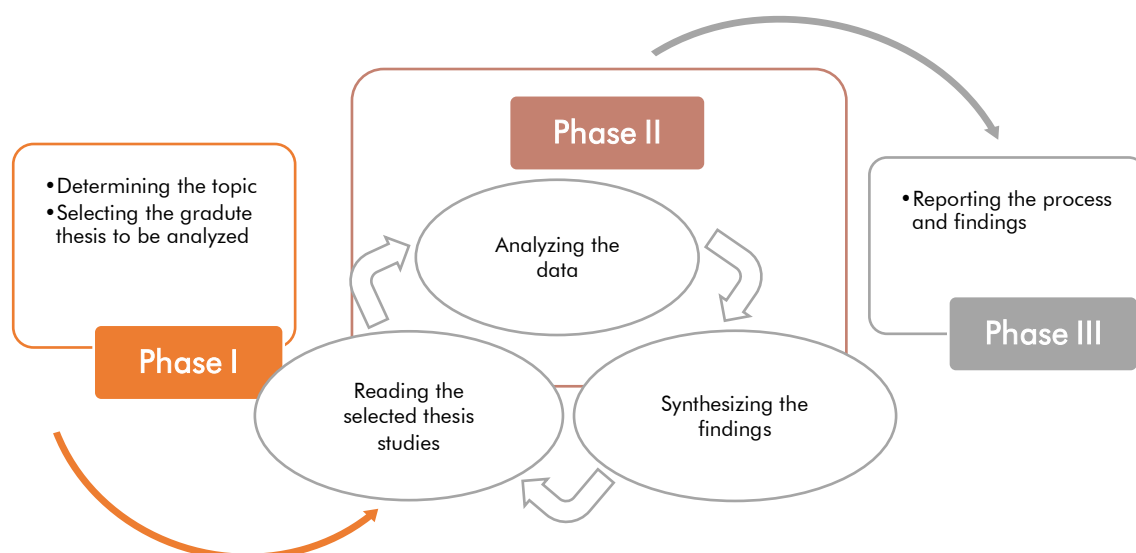
This study was based on a theoretical and analytical approach to determine and analyze a current situation (Neel, 1981). Hence, this is a qualitative research. Accordingly, content analysis has been employed to reach an exploratory analysis, and document analysis – a qualitative data collection tool – has been utilized. Document analysis refers to the scrutiny of written or visual materials informative about the phenomenon at hand (Bowen, 2009; Yildirim & Simsek, 2013). All materials providing information about a research topic are classified as documents, including books, articles, statistics, theses, and pictures (Baloglu, 2009; Balci, 2013). The documents in the present study are thesis studies. In short, the nature of this study is compatible with document analysis as the data collection technique, with content analysis as the data analysis technique, and with theoretical and analytical approach as the research design.

## Research Process

This study was conducted in three phases, all of which are shown in Figure 1 and explained in more detail in the following sections.

**Figure 1.**

*Phases of the Research Process*





## **Data Sources and Data Collection**

Data sources consist of mixed methods graduate thesis studies completed between 2010 and 2020 in special education programs in Turkey. The reason why 2010 was specified as the start of scanning is that the first special education mixed methods thesis study was published in 2010 (Karaaslan, 2010). At the end of the review of the relevant literature, a total of 26 thesis studies were identified. During data collection, a three-step scanning process was employed.

In the first step, the thesis studies were scanned within the archives of the National Thesis Center of the Council of Higher Education. In the second step, e-archives were scanned at the libraries of the universities that have a special education department in Turkey. Lastly, a screening on the indices was run, and the traces in the reference parts of the thesis studies were followed manually. The review process was guided by relevant keywords and their combinations, including "mixed methods research, mixed methods research, mixed methods research, mixed methods research, Special Education, Special Needs, Developmental Disability, Disabled, Intellectual Disability, Mental Retardation, Autism, Autism Spectrum Disorder, Pervasive Developmental Disorder, Hearing Impairment, Hard of Hearing, Visually Impaired, Visual Disability, Physically Challenged, Physical Disability, Additional Disabilities, Multiple Disabilities, Multiple Impairments, The Gifted, and Talented."

## **Data Analysis and Interpretation**

Data analysis was completed through content analysis approach. This approach pursues identifying concepts and relations that account for the research data. Content analysis is used to define the data and find out the truth that might be hidden in the data. The essential procedure in content analysis is to sort research data under concepts and themes to be determined based on the similarity amongst the data, then to interpret them via their relations (Glesne, 2010; Yildirim & Simsek, 2013).

The fundamental stages to plan and execute mixed methods research served as the reference to determine the themes adopted during content analysis (Corrigan & Onwuegbuzie, 2020). The rationale behind this is that these steps and the guidelines in them are considered quality indicators of mixed methods research. Indeed, these steps draw a meta-framework that can describe the previously completed studies, help interpret the quality of these studies, and direct future research endeavors. The stages were displayed in Figure 2.

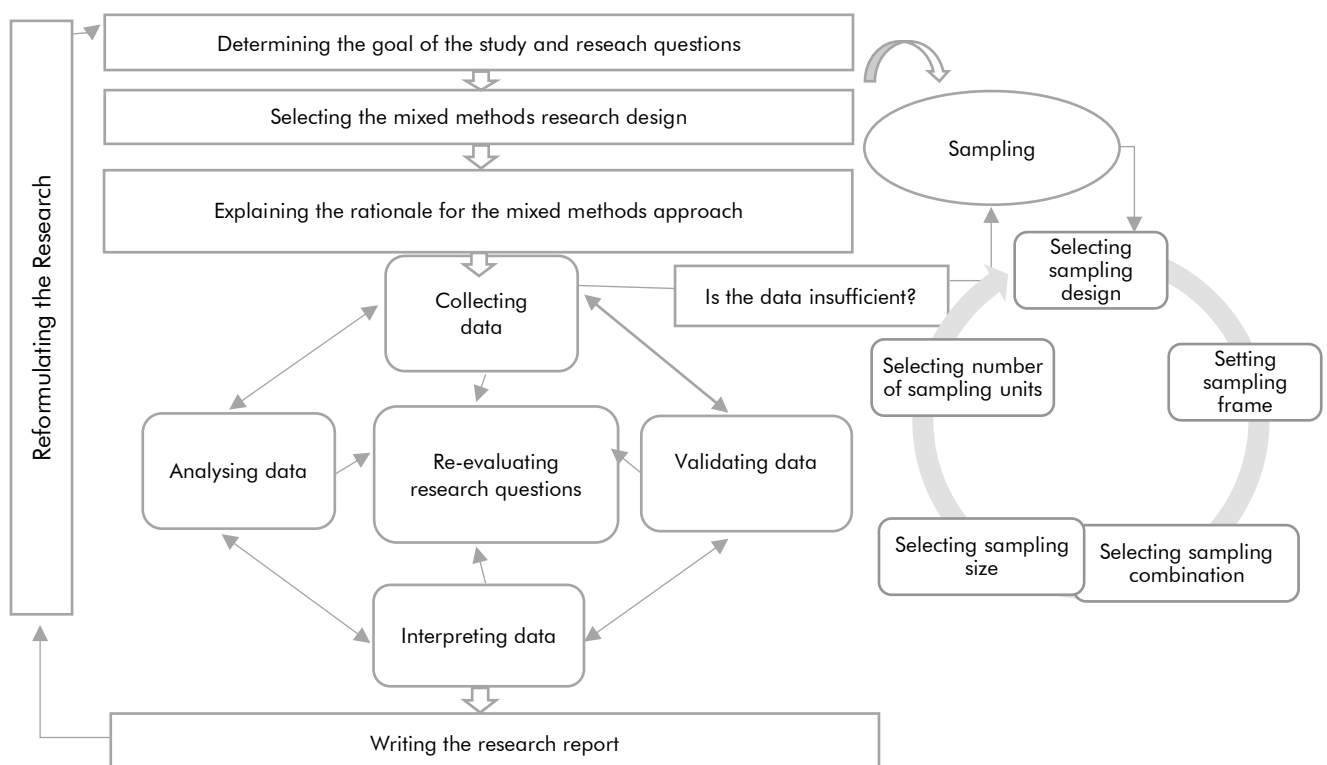
Figure 2 shows that some of the stages within mixed methods research are intricately completed cyclically. Besides, researcher roles and ethical issues are the other major components to be considered during the research process (Cresswell, 2012; Corrigan & Onwuegbuzie, 2020). The themes employed during the analysis of the thesis studies in this research were determined following Figure 2. In doing so, some of the stages in Figure 2 were combined, and researcher competence, researcher roles, and ethical issues were added as the other themes in the current study. During the analysis, the

researchers initially examined the thesis studies separately in terms of the fundamental stages of the mixed methods research. Then they got together and negotiated over the themes until consensus was achieved. After consulting with a field expert experienced in mixed methods research, the identified themes were finalised. The 9 themes employed in this research are as follows:

1. Determining the research goal and research questions
2. Selecting the mixed methods research design
3. Explaining the rationale for the mixed methods approach
4. Sampling
5. Collecting the data
6. Analyzing the data
7. Integrating, verifying, interpreting and reporting the data
8. Researcher competence and roles
9. Ethics

**Figure 2.**

*The Fundamental Stages of Mixed Methods Research (Meta-Framework)*



Source: Adapted from Corrigan & Onwuegbuzie, 2020.



Once the themes were identified, the thesis were examined in light of these themes. A data sheet was developed for this analysis, recording details and examples consistent with the themes. All the thesis studies obtained during the research process were first read and coded by the researchers independently. Two researchers (second and third authors), separately, worked on all the thesis studies. In comparison, two other researchers (first author and another field expert), independently, examined 13 thesis studies (half of the thesis studies), and all data were recorded on the data sheet in line with the themes. Reliability efforts included online meetings where the codes written on the data sheet for each thesis study were compared and contrasted. The researchers freely explained their own evaluations regarding the codes on which they did not agree, and discussions were run until one side of the disagreement was convinced and consensus was achieved.

### **Researcher Competence**

The first author has 7-year experience conducting mixed methods research and supervising graduate thesis studies. On the other hand, the second and third authors have completed their Ph.D. dissertations via mixed methods research and have partaken in numerous projects designed following this method.

## **Findings and Interpretations**

This section presents and interprets the research data obtained via an analysis of mixed methods graduate thesis studies conducted within special education programs in Turkey. In compliance with research questions, the thesis studies were first examined in terms of general descriptive features and the requirements of mixed methods research. The number of the thesis studies is clearly noted within the findings part, and *n* is used as the abbreviation for 'number.'

### **General Descriptive Features of the Thesis Studies**

The distribution of graduate thesis studies across universities and programs is depicted in Table 1.

**Table 1.***The Distribution of Graduate Thesis Studies across Universities and Programs (n = 26)*

| Category                | n  | %  |
|-------------------------|----|----|
| <b>University</b>       |    |    |
| Anadolu                 | 13 | 50 |
| Necmettin Erbakan       | 6  | 23 |
| Ankara                  | 2  | 8  |
| Gazi                    | 2  | 8  |
| Hasan Kalyoncu          | 1  | 4  |
| Bolu Abant İzzet Baysal | 1  | 4  |
| Dokuz Eylül             | 1  | 4  |
| <b>Graduate Program</b> |    |    |
| Doctoral                | 15 | 58 |
| Master's                | 11 | 42 |

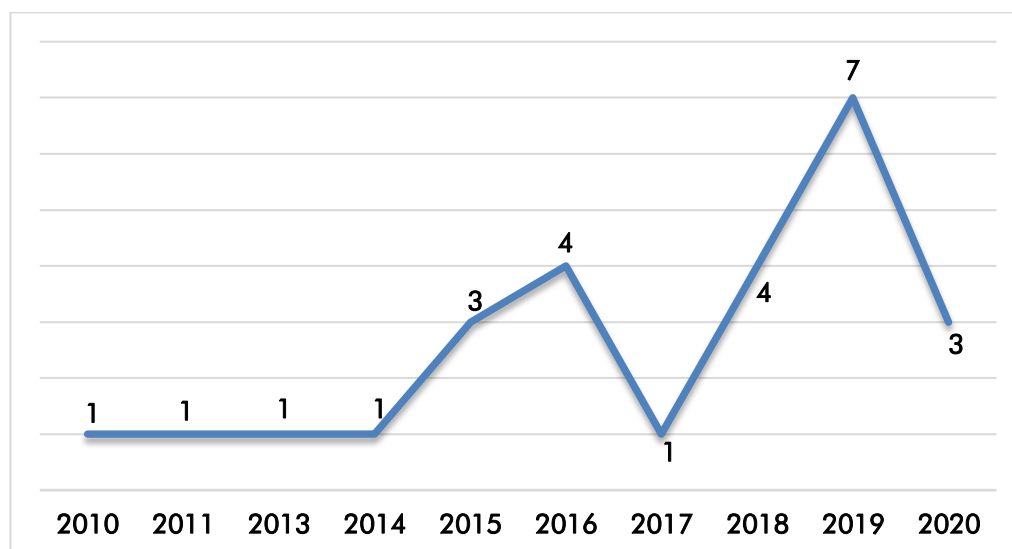
The thesis studies completed in special education programs are scattered across many universities. However, it is noteworthy that the majority of the studies have been completed at Anadolu University and Necmettin Erbakan University. Figure 3 displays the distribution of these thesis studies across years.

Figure 3 shows that mixed methods research in the field of special education in Turkey dates back to 2010, that for some time there has been either no mixed methods study (2012) or only one mixed methods study per year, and that the number of studies has recently increased significantly. Thus, it is possible to conclude that there is a growing interest for this method within special education, which is consistent with many studies promoting mixed methods research in the literature. Furthermore, a significant number of the thesis studies are Ph.D. dissertations (n: 15).



**Figure 3.**

*The Distribution of Graduate Thesis Studies across Years*



### Mixed Methods Research Features in the Thesis Studies

Mixed methods research qualities of the graduate thesis studies were examined and analyzed in line with the fundamental stages of mixed methods research as outlined in the relevant literature. Following sections present the data obtained for each theme in detail.

#### Theme 1. Determining the research goal and research questions

Remarkably, more than half of the thesis studies within the scope of the current research ( $n: 17$ ) are designed to determine the effectiveness of either a newly developed program/practice or another one already in use. In other words, intervention studies outnumber the others. In intervention studies, the effectiveness of a program either developed or adapted by the researcher is investigated over the individual with special needs, her/his family, teachers, or various other stakeholders. In these studies, interventions are designed and conducted for different components, such as *parent-child interaction* (Karaaslan, 2010; Toper-Korkmaz, 2015; Tomris, 2019), *social skills* (Kaya, 2011; Sani-Bozkurt, 2016; Icyuz, 2019), and *problem behaviors* (Kahveci, 2015; Melekoglu, 2017); in other studies under examination, parental needs (Bayrakli, 2016; Cankuvet, 2015; Sahin, 2019) and teachers' professional competence (Bilgic, 2018; Karaca, 2018; Deniz, 2019; Celik, 2019; Eker, 2020; Bural, 2020) are chosen as the focus. Additionally, another noteworthy finding points out that 9 of the thesis studies directly regard inclusive education (Bayrakli, 2016; Bilgic, 2018; Celik, 2019; Icyuz, 2016; Karaca, 2018; Karahan, 2019; Melekoglu, 2017; Yildirim-Haciibrahimoglu, 2013; Yilmaz, 2014).

In almost half of these thesis studies (8), first a needs analysis was carried out to explore and describe the current condition, and then the effectiveness of intervention was investigated following the implementation of a program formulated following needs analysis (Bayrakli, 2016; Bural, 2020; Cankuvvet, 2015; Celik, 2019; Deniz, 2019; Eker, 2020; Karaca, 2018; Sahin, 2019). For instance, Cankuvvet (2015) describes this process in her study as follows:

*In the first phase of the study, parents' needs were determined through qualitative data collection techniques. The need for information as unearthed via qualitative data collection techniques was investigated in a larger sample by utilizing a quantitative data collection tool developed following the qualitative data. In the second phase, the effectiveness of the program designed based on the needs determined in the first phase was assessed and evaluated by using quantitative data collection techniques.*

There is a need for various programs to address different disability groups and individual needs in special education (Heward, 2009). Therefore, the high number of thesis studies oriented to determine the effectiveness of a program or practice through intervention is expected, yet it is striking that those studies aspiring to devise a program based on needs are dramatically few in number. Besides, nine of the thesis studies examined in this research are structured along the goals of exploration and description, a mere outline of a current condition. The dominant research paradigm alternates in these studies based on the condition to be explored and described. While the qualitative aspect is dominant in three thesis studies (Karahana, 2019; Ozdemir, 2016; Yildirim-Hacibrahimoglu, 2013), the qualitative dimension outweighs the quantitative one in one study (Icyuz, 2016). Within the remaining five studies, both quantitative and qualitative paradigms bear equal significance (Anil, 2019; Erkaya, 2018; Kilic, 2020; Tunali, 2018; Yilmaz, 2014). This finding can be attributed to the closeness of the researcher to one of the research paradigms during determining the research goal and research questions, and to the extent how far s/he can reflect her/his belief in the power of integrating quantitative and qualitative research methods (Cresswell, 2012; Corrigan & Onwuegbuzie, 2020).

In all of the thesis studies, there is no ambiguity or need for more clarification with respect to the explanation of the research goal and research questions. The clarity of the research goal and research questions is definitive over planning some stages, such as establishing theoretical and conceptual background and selecting the sample. In some studies (e.g. Sahin, 2019), quantitative and qualitative research questions are presented separately. In others (e.g. Erkaya, 2018) more comprehensive questions were formulated to integrate both quantitative and qualitative research methods, which is more consistent with the nature of mixed methods research. The example below illustrates a research question that entails collecting both quantitative and qualitative data:

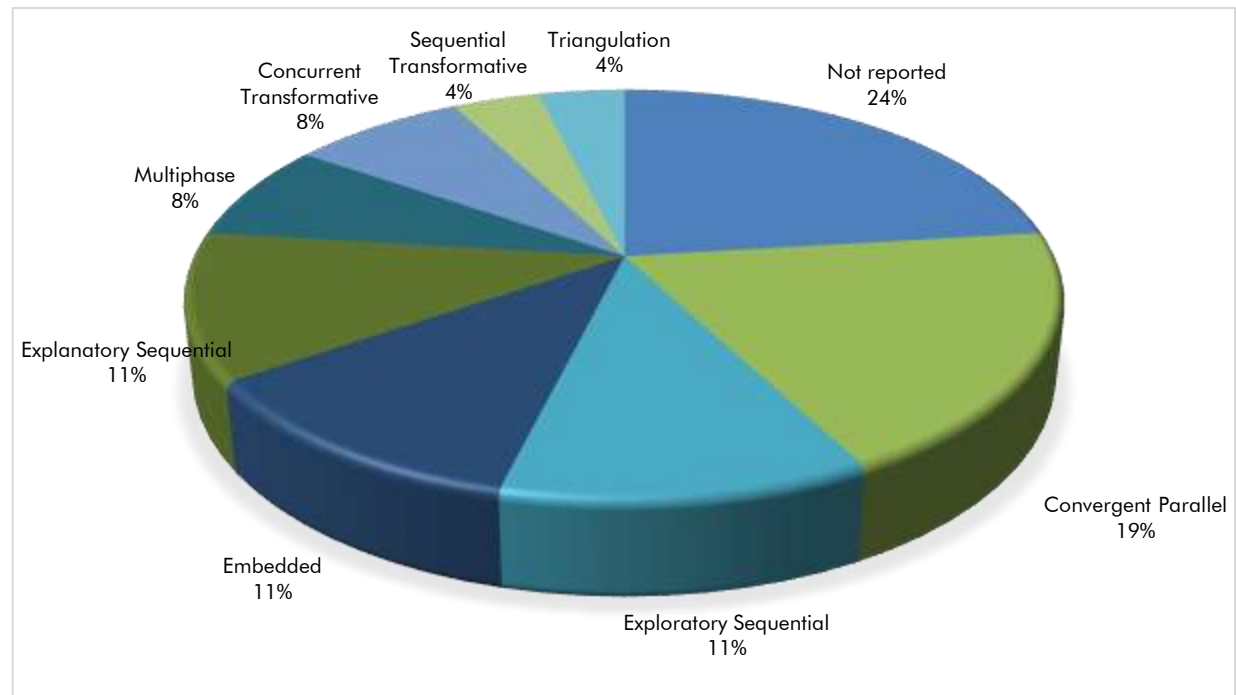
*The aim of this study is to identify the communication problems that hearing-impaired preschool and primary school children experience in their social environment and to explore the problems they encounter in their social environment outside home and school, from the perspective of their mothers and the solutions and coping strategies their mothers have developed for these problems.*

*In line with the overall aim, answers to the following research question were sought: In what contexts do children with hearing impairment have problems communicating with others." (Erkaya, 2018).*

## Theme 2. Selecting the mixed methods research design

A closer analysis of the designs employed in the thesis studies reveal that no mixed methods research design is explicitly named in some of them ( $n: 6$ ). Three of these six thesis studies were completed in 2015 or earlier (Karaaslan, 2010; Kaya, 2011; Kahveci, 2015), and the other three were supervised by the same person (Karaca, 2018; Deniz, 2019; Bural, 2020). The fact that resources about the mixed methods research paradigm were limited before 2015 and that this method was in its infancy as a new paradigm at that time may be the reason why the research design was not explained in the three studies mentioned above. Likewise, lack of experience, knowledge and direction on part of the supervisor may have led to limitations in the other three studies.

In contrast, theses completed after 2015 used a variety of research designs with reference to a variety of sources, reflecting the significant increase in the number of sources on mixed methods research in recent years and confusion regarding the terminology used in different sources. Analysis of multiple sources in the literature shows that there is no uniformity in the translation of designs and the same design may have different names in different sources (San, 2020). All the research designs used in the studies of the dissertation are directly included in this research. Accordingly, mixed methods research designs detected in the thesis studies can be listed as follows in order of frequency: Convergent Parallel Design ( $n: 5$ ), Exploratory Sequential Design ( $n: 3$ ), Explanatory Sequential Design ( $n: 3$ ), Embedded Design ( $n: 3$ ), Multiphase Design ( $n: 2$ ), Concurrent Transformative Design ( $n: 2$ ), Sequential Transformative Design ( $n: 1$ ), and Triangulation Design ( $n: 1$ ) (see Graphic 1).

**Graphic 1.***Mixed Methods Research Designs in Graduate Thesis Studies*

A scrutiny of the quantitative and qualitative aspects of the thesis studies yield that pretest-posttest control group ( $n: 7$ ) and experimental designs without a control group ( $n: 5$ ) are the most frequently utilized designs, followed by survey model ( $n: 6$ ), single subject experimental design ( $n: 2$ ), mixed factorial design ( $n: 1$ ), and design-based research ( $n: 1$ ). Though there is no reference to any design regarding the quantitative aspect in some studies, some others employed more than one design (e.g., survey model + pretest-posttest experimental design with a control group, etc.) (Icyuz, 2019). Besides, only two studies include information concerning the research design adopted for the qualitative aspect, and both selected the phenomenological design (Karahana, 2019; Sahin, 2019). These findings suggest that, due to the nature of special education, quasi-experimental designs generally predominate for the quantitative dimension in dissertations and that, for the qualitative aspect of their studies, researchers primarily prefer research designs that are conducive to understanding and exploring participants' experiences, perspectives, and worldviews regarding a phenomenon or process. Now that the mixed methods research has been recognized as a distinct paradigm, the researchers should refrain from considering the designs of other research methods and pursue employing a clear mixed methods design (Cresswell, 2012). On the contrary, the fact that "mixed methods research design" is not mentioned at all in some studies, and rather the names of quantitative and qualitative designs are referred to can be taken as a sign indicating that this paradigm has not been internalized yet.

### Theme 3. Explaining the rationale for the mixed methods approach

A majority of the thesis studies explain why mixed methods research and design are employed within a theoretical framework through reference to the literature ( $n: 21$ ). On the other hand, some thesis studies present no relevant explanation or reference to any resources ( $n: 5$ ). In some of these studies, the qualitative data are reported only for social validity and classified as mixed methods research (e.g. Karaaslan, 2010). The following excerpt is embedded into the methodology chapter of the thesis study by Karaaslan (2010): "In this research, pretest-posttest control group design was employed. In addition, this study also reflects the characteristics of mixed-method where both qualitative and quantitative data are analyzed." This could be linked to the fact that access to resources about mixed methods research was limited when this study was completed. Furthermore, the studies that can hardly be classified as mixed methods research because they only collect data on social validity should be interpreted as reflecting that the philosophical and theoretical background of mixed methods research was not clear to the researchers at the time. The literature reports that mixed methods research is not a simple combination of qualitative and quantitative methods, but rather a detailed integration of the strengths of each method (Cresswell, 2012; Teddlie & Tashakkori, 2009).

Concerning the research goal, the thesis studies revolve around data triangulation, complementarity, development, and expansion. For instance, Tomris (2019) states the following as an explanation to why mixed methods research is employed in her study:

*The reason why a mixed methods approach was used in this study is because of "triangulation", "complementarity" and "extension". In this study, data triangulation was chosen to examine the similarity between research data collected using different methods and to determine if two types of data support each other... "Complementarity" refers to the need to identify the contradiction between quantitative and qualitative data, if any, and to provide an in-depth and rich analysis by collecting data from different angles; "expansion", on the other hand, means actually expanding the boundaries of the study with separate research methods to analyze separate phenomena and to improve the reliability and validity of the research findings (Creswell & Plano Clark, 2018, p. 103).*

Cankuvet (2015) states the following to explain that she opted for mixed methods research to develop her findings through data triangulation: "Concerning data triangulation, the research data has been collected via focus group and semi-structured interviews." Also, Icyuz (2019), who reports that complementarity is the reason for using mixed methods research, provides the following explanation: "...because it provides a means to answer the research questions more comprehensively... the research data were first collected using quantitative instruments and then supplemented with details from qualitative data distilled from drama sessions."

### Theme 4. Sampling

Determining the research sample is a more complicated process in mixed methods research than in other paradigms because there are several components to consider,

such as timing (simultaneous or sequential data collection), priority and importance (dominance or equality of the qualitative and/or quantitative aspect), and the relationship between designs (parallel, embedded, or multilevel) (Corrigan & Onwuegbuzie, 2020). In eight of the thesis studies within the scope of this research, quantitative aspect has the priority and, accordingly, quantitative data were first gathered from the participants, and then qualitative data were obtained from the same or a smaller sample (Bilgic, 2018; Kahveci, 2015; Karaaslan, 2010; Karaca, 2018; Karahan, 2019; Kaya, 2011; Ozdemir, 2016; Yildirim-Haciibrahimoglu, 2013). In seven of the thesis studies, qualitative aspect is more dominant than the quantitative one. Apart from one of them (Bayrakli, 2016), generally separate samples were selected to collect quantitative and qualitative research data (Bural, 2020; Cankuvvet, 2015; Deniz, 2019; Eker, 2020; Icyuz, 2019; Sahin, 2019).

In eleven of the thesis studies, the research data were obtained from the selected samples concurrently (Anil, 2018; Celik, 2019; Erkaya, 2018; Icyuz, 2019; Kilic, 2020; Melekoglu, 2017; Sani-Bozkurt, 2016; Toper-Korkmaz, 2015; Tomris, 2019; Tunali, 2018; Yilmaz, 2014). All these studies are structured around concurrent data collection designs, such as convergent parallel design (Anil, 2018; Melekoglu, 2017; Toper-Korkmaz, 2015; Yilmaz, 2014), concurrent transformative design (Erkaya, 2018; Kilic, 2020), triangulation design (Tomris, 2019), and embedded design (Celik, 2019). These findings suggest a consistency between sampling and design regarding the timing and priority aspects.

The highest and lowest numbers of participants within the samples range from 10 to 210 for scales, 4 to 43 for semi-structured interviews, and 30 to 43 for focus group interviews. It is noteworthy that the numbers of participants in the thesis studies with an experimental design for the quantitative aspect do not meet the adequate number of participants suggested for experimental research. The numbers of interviewees for the qualitative aspect are generally compatible with what is proposed in the literature. This particular finding indicates that participants in the dissertation studies, conducted using the mixed methods research paradigm, were selected through purposive sampling due to the nature of special education and in accordance with the relevant literature, and that their findings cannot be generalized to the whole and should be interpreted within research limitations.

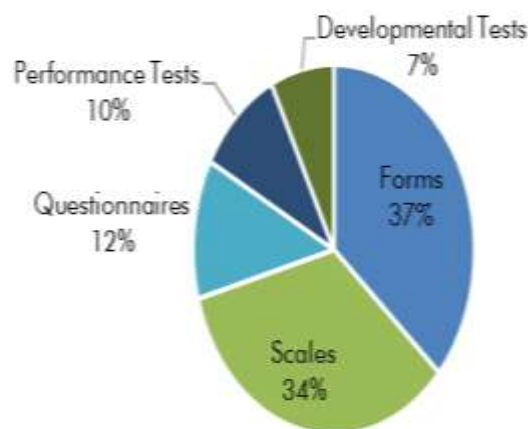
The distribution of participant profiles across the thesis studies is as follows: teachers ( $n$ : 12); families ( $n$ : 11), children with special needs between 6 and 18 years of age ( $n$ : 6), young children with special needs between 0 and 6 years of age ( $n$ : 5), adults with special needs ( $n$ : 2), typically developing children ( $n$ : 2), and administrators ( $n$ : 2). As for the disability groups in the thesis studies, autism spectrum disorder is the most frequent one ( $n$ : 6) followed by hearing impairment ( $n$ : 5), intellectual disability ( $n$ : 4), the gifted ( $n$ : 2), visual impairment ( $n$ : 1), and learning disability ( $n$ : 1).

## Theme 5. Collecting the data

Data collection procedures in most of the thesis studies ( $n: 16$ ) are of two separate folds for quantitative and qualitative aspects. These studies provide detailed information about both quantitative and qualitative data collection tools. A brief depiction of both quantitative and qualitative data collection tools employed in the thesis studies is presented in Graph 2 and 3, respectively.

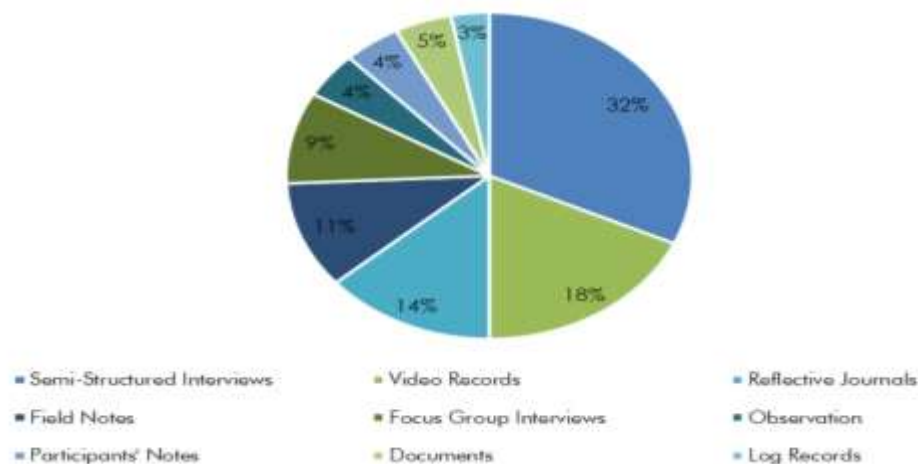
### Graph 2.

*Quantitative Data Collection Tools in the Thesis Studies*



### Graph 3.

*Qualitative Data Collection Techniques in the Thesis Studies*



A closer examination of Graph 2 and 3 shows that different quantitative and qualitative data collection techniques are utilized in the thesis studies and that forms and scales are dominant quantitative tools while semi-structured interview is the most frequent qualitative data collection procedure.

In data collection section, validity-reliability efforts in the graduate thesis studies were also taken into account. Validity and reliability of mixed methods research have to be established for both quantitative and qualitative paradigms through in-depth data obtained for each method (Onwuegbuzie & Leech, 2009). Especially 16 thesis studies completed within the recent years include information about the validity and reliability efforts under separate sections for quantitative and qualitative aspects, but 4 thesis studies provide details about the validity and reliability of either quantitative or qualitative research data (Eker, 2020; Kahveci, 2015; Karahan, 2019; Kaya, 2011). Moreover, 6 of the thesis studies do not present any information as to the validity and reliability of the research (Anıl, 2019; Bural, 2020; Deniz, 2019; Karaca, 2018; Icyuz, 2018; Tunali, 2018). Quantitative measures often include inter-observer and procedural reliability, while qualitative measures primarily include data triangulation, peer evaluation, expert evaluation, and participant endorsement. Lack of detailed explanation about the validity and reliability efforts in almost half of the thesis studies could be taken as a sign for the problems experienced during planning and implementing the main stages of the methodology.

### **Theme 6. Analyzing the data**

Data collection in mixed methods research entails running the qualitative data through qualitative analysis and the quantitative data through quantitative analysis (Cresswell & Plano-Clark, 2018). All the thesis studies investigated in the current research comply with this rule of thumb. Statistical techniques are used for quantitative analysis of groups, and graphical analysis is followed in two thesis studies conducted via single subject research model. Mostly descriptive, content, and inductive analysis procedures are chosen for the qualitative aspect of the studies. In some of the thesis studies, though, more than one technique (e.g., descriptive analysis + content analysis) is utilized concurrently (e.g., Sahin, 2019).

### **Theme 7. Integrating, interpreting, and reporting the data**

Reporting is regarded as a significant stage or a component within mixed methods research (Gorard & Taylor, 2004). Reporting component of the thesis studies examined in this research is evaluated in terms of two dimensions: terminology and organization.

Firstly, there is a notable inconsistency in the terminology observed in the thesis studies. Although the most commonly used term is mixed methods, there are some other terms in the studies such as blended design, mixed design, mixed research model, mixed method, mixed model, mixed approach, mixed method model, mixed research design, mixed methods research, and mixed methods research. This inconsistency points to a contradiction of terms about mixed methods research across the national literature, which could be attributed to the fact that mixed methods research is a newer and still developing paradigm as opposed to the others.



As stated above, the second dimension of reporting stage regards the organization of thesis studies. Despite several discrepancies in manuals of various institutes, all the thesis studies comply with APA format and present information under introduction, method, findings, and discussions chapters (APA, 2015). For any research effort to be considered as an example of mixed methods research study, data collection tools of the two methods should be employed in a way that supports each other, and the collected data should be presented via a comprehensive integration (Creswell & Plano-Clark, 2018; Leech & Onwuegbuzie, 2009). On the contrary, in 10 studies the qualitative and quantitative results are reported with the help of a synthesis, in 16 others without synthesis. This finding highlights that the perspective behind mixed methods research is not adequately addressed in the reporting phase of the dissertation studies examined. For instance, Erkaya (2018) emphasizes the integration of quantitative and qualitative results within the findings section and states:

*...when presenting the findings, those obtained as a result of qualitative and quantitative analyses were integrated in order to better understand the interaction areas mentioned by the families... 21 participants noted that their children do communicate with the elderly in the family and with other relatives. Mother A6 said the following about this ... Analysis of CISBA shows that the elderly in the family and the relatives consist of 78.9% of people (n=71) with whom the children communicate outside the school and home environment...*

## Theme 8. Researcher competence and roles

During the planning stage of mixed methods research, it is critical to collaborate with experts knowledgeable about quantitative and qualitative methods (Corrigan & Obwuegbuzie, 2020; Onwuegbuzie & Poth, 2016; Wachsmann et al., 2019). The researcher her/himself is an essential part of the research; therefore, they should reflect their perspectives about the research paradigms and their knowledge about quantitative and qualitative methods, should include information about his experiences and roles, the problems encountered during the process and the corresponding solutions in the research report (Corrigan & Obwuegbuzie, 2020; Wachsmann et al., 2019). In this sense, 20 of the thesis in this research do not provide information on any of these points. Only five of the dissertation studies provide a limited amount of information about the researcher's competence in quantitative and qualitative methods. Only one of the recently completed studies informs the reader about the role of the researcher, her/his knowledge of the method, the problems encountered during the work process and the corresponding solutions. Following is an excerpt from Celik (2019) about researcher roles:

*In line with the reported information, the researcher – who developed the data collection tools and led the data collection procedure, and who is a practitioner and an observer – is experienced in practicing and monitoring early childhood special education services and in naturalistic teaching strategies both abroad and in Turkey. Additionally, s/he had the opportunity to enrich her/his knowledge and experience about conducting research via different methods by partaking in numerous projects and studies designed in accordance with both qualitative and quantitative methods.*



## **Theme 9. Ethics**

Ethical principles have to be followed in any scientific research endeavour. Thus, research reports should include information about the measures taken to prevent any ethical violation (Creswell, 2012). As of 2019, “Ethics Committee Approval” has been a compulsory component of any scientific research in Turkey (Official Gazette, March 9, 2019, issue: 30709). The review of thesis in this review found that all studies completed in 2019 and beyond included ethics committee approval.

The majority of the thesis studies report how ethical principles were followed by referring to relevant consents, code names to protect participants’ confidentiality and detailed explanations made to the participants about the research aim. Apart from these, only a few thesis studies provide information regarding research ethics and ethical practice separately. In Celik (2019), ethical issues before the research process starts (informed consent), during data collection (situational ethics, relational ethics) and during reporting (exit ethics) are presented separately.

## **Discussion, Conclusion, and Suggestions**

This research aims to analyze graduate thesis studies designed as mixed methods research in special education programs in Turkey. In this sense, the primary finding indicates that there is a steady increase in the number of mixed methods graduate thesis studies completed in special education programs, and this increase is especially of concern for the last couple of years. This finding is consistent with the recent development and evolution of research methods (Creswell, 2012; Cresswell & Plano-Clark, 2018; Corrigan & Onwuegbuzie, 2020; Gunbayi, 2020). The debate in the literature transcends the fact that there is a current tendency for the mixed methods, and regards the close relation between this method and the field of special education (Collins et al., 2006; Klinger & Boardman, 2011; Trainor, 2011). The gist of opinions advocating that the nature of special education is fit for mixed methods research can be summarized as follows: Special education is a vast field of research where an array of questions about social, societal, political, and inclusive education is vigorously investigated, such as disabilities, human rights and advocacy, individual and cultural diversity, and equal access to education. Literature reports that mixed methods research is conducive to negotiating and discussing the field's cultural, ontological, and epistemological aspects through multiple perspectives (Collins et al., 2006; Klingner & Boardman, 2011; Trainor, 2011). As a matter of fact, each disability group in the field bears a distinctive set of cultural and developmental characteristics, which is the very reason why a range of research problems about separate disability groups needs a stronger interpretation based on data from more than one source. Mixed methods research equips researchers with a robust synthesis of quantitative and qualitative data (Trainor, 2011). Special education is an applied discipline focusing on individuality. Thus, it is vital to explore the needs of distinct disability groups, develop interventions according to these needs,



implement the interventions, and evaluate them (Corr et al., 2019; Klingner & Boardman, 2011).

The idea that there is a gap between theory and practice in special education is another contemporary issue of debate (Odom et al., 2005). Some scholars emphasize that mixed methods research with intervention-based designs promises to bridge that gap (Klingner & Boardman, 2011; Schneider & McDonald, 2007; Vaughn et al., 2000). The bulk of national mixed methods research in special education either involves an intervention or aims to determine the effectiveness of an intervention. On the whole, these findings serve as evidence for the close relationship between special education and mixed methods research. However, the dearth of studies is notable about developing specific programs based on participants' needs. Thus, it stands debatable if the needs-driven nature of special education is totally and truly reflected in Turkish studies.

The methodological stance of future special education studies can be steered by incorporating mixed methods research paradigm into the curricula of graduate programs and by offering courses specifically about this method (Wachsmann et al., 2019). This very research unravels that there are more mixed methods thesis studies at those universities that put this perspective into practice and provide resources and expertise support. The Ph.D. program at Anadolu University, for example, offers a specific course named "mixed methods research in special education", this university assists researcher in terms of resources and expertise, and subsidizes researchers through projects. It is of notice that most graduate thesis studies are Ph.D. dissertations. As the relevant literature underpins, mixed methods research entails a teamwork rising on proper cooperation, precise chronological planning, and a lot of hours of work. (Corrigan & Onwuegbuzie, 2020; Wachsmann et al., 2019). Moreover, both the researcher's and the supervisor's methodological knowledge and experience significantly determine the path of each thesis study (Corrigan & Onwuegbuzie, 2020; Wachsmann et al., 2019). Unlike an M.A degree, Ph.D. studies span a longer period of time and call for cooperation with experts and solid support for resources. The fact that special education mixed methods research is mainly conducted at the Ph.D. level in Turkey may indicate that these essential components are considered during the planning of Ph.D. dissertations.

In mixed methods, research goal and questions lay the foundation for theoretical and conceptual framework and guide the sampling process (Cresswell, 2012; Johnson & Christensen, 2010). Bronfenbrenner's ecological systems theory (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2006) builds significant pillars for the fundamental stages of mixed methods research (developing research questions, sampling, etc.) (Corrigan & Onwuegbuzie, 2020). It is crucial which level of the ecological system is addressed in mixed methods research (microsystem, exosystem, mesosystem, macrosystem, chronosystem), as the generalizability of the results is tied to the level at which the participants are located (Corrigan & Onwuegbuzie, 2020). The special education graduate studies in Turkey clearly explain research goal and questions. Yet, there are still some limitations. One of them is the insufficient number of more comprehensive research questions integrating quantitative and qualitative methods. A second is the set



of research objectives and questions on the microsystem, which hinders the generalizability of research results. Rooted in its nature, special education is a difficult discipline to form a homogenous group of participants, and this results in group-specific interpretations of the findings (Odom et al., 2005).

The thesis studies analyzed in this research mostly accommodate children with special needs, teachers, and families as participants. This finding can be correlated with the fact that mixed methods research is a new paradigm in special education and also with the challenges to access stakeholders of the macrosystem (policy makers, administrators, etc.). Consequently, the research goal and sampling decisions are two intricately related and fundamental stages (Corrigan & Onwuegbuzie, 2020; Newman et al., 2003).

Selecting the mixed methods research design is another formidable stage for researchers (Creswell & Plano-Clark, 2018). Debates are currently not conclusive about design as developments continue (Creswell & Plano-Clark, 2018). The terminology's confusion adds to the difficulty in explaining mixed methods research designs. This unclarity grows with inconsistent translations of the developments about design in the international literature (San, 2020). The thesis studies analyzed in this research are also not free from such terminological confusion when presenting the research design.

Nevertheless, the Turkish terms for different designs are more clearly and consistently stated in the thesis studies published in 2015 and afterwards. This finding resonates with the increase in both national and international resources on mixed methods. Indeed, the designs employed in more recent thesis studies are described regarding many resources (San, 2020). This ambiguity in the design terminology is observed in various Turkish terms used for mixed methods research. This inconsistency can be interpreted as a sign that the translation of several labels in the international literature, such as mixed-method, mixed methods, mixed-method research, mixed methods research, into the national literature is determined by each researcher's perspective. Semantic shifts and errors in some translations can only be linked to a researcher's knowledge, experience, and perspective, not to the characteristics of the Turkish language.

Studies must provide the rationale behind selecting the mixed methods research and its designs. Yet, some of the thesis studies lack an explanation for the rationale behind their selected designs. This could be explained by the fact that some thesis studies date more back and some were supervised by the same person. In others, merely social validity data was collected, and the study was defined as mixed methods research. All these limitations can be rationalized by the novelty of the mixed methods research paradigm in special education, superficial understanding of its philosophy and aims, the competence boundaries of researchers and supervisors, and the scarcity of resources.

Furthermore, lack of manuals that would navigate researchers when conducting mixed methods research may account for such limitations (Corrigan & Onwuegbuzie, 2020; O'leary, 2004; Onwuegbuzie & Poth, 2016). However, the literature lists five fundamental reasons to conduct mixed methods research: data triangulation, complementarity, development, initiation, and expansion (Greene et al., 1989). The most frequent reasons in the thesis studies under investigation are data triangulation, complementarity, development, and expansion. It is worth noting that none of the mixed



methods graduate thesis studies in Turkish special education programs was conducted for “initiation”. The very reason for this finding could be the scope of this research is limited with graduate thesis studies. Since thesis studies have a deadline, it may not be plausible to design a thesis study for “initiation”, which stipulates reformulation of the research question(s). Therefore, one can infer that there is a research need in Turkey to uncloak inconsistencies and contradictions in special education that lead to a reformulation of the research question(s).

The methodology is one of the most critical chapters where the foundation and background of mixed methods research is explained. Together with specifying the design and providing the rationale, it is also strongly advised to include information regarding quantitative and qualitative data collection techniques and about validity and reliability measures for each method (Onwuegbuzie & Poth, 2016; Creswell & Plano-Clark, 2018; Corrigan & Onwuegbuzie, 2020). Lack of detailed explanation about validity and reliability measures for each method is common for almost half the thesis studies. These findings indicate several problems in the method chapters of the thesis studies.

Mixed methods research is not a plain combination of quantitative and qualitative methods. Each method's data collection techniques should be employed to provide a reciprocal support. Research data should be integrated comprehensively, and this perspective should be reflected on the report (Cresswell, 2012; Creswell & Plano-Clark, 2018). One of the significant findings of this research yields that quantitative and qualitative findings in the thesis studies are reported under separate titles. To put it differently, a serious portion of the thesis studies does not provide a synthesis resulting from blending the quantitative and qualitative data. Those with a proper synthesis, on the other hand, are only the recent ones. These findings may serve as strong evidence suggesting that both researchers and supervisors in the national literature have not internalized the philosophy of mixed methods research.

Contemporary literature underlines that ethical issues in mixed methods research should comprehensively be discussed in accordance with the frameworks of quantitative and qualitative paradigms (Cresswell, 2012). Ethical issues and researcher's competence and roles are current issues of consideration in mixed methods research (Cresswell, 2012; Wachsmann et al., 2019). As cited in the literature, a researcher's knowledge and experience about both methods and belief in the mixed methods research paradigm cast a direct influence overdirectly influences the entire research process (Neupane, 2019; Wachsmann et al., 2019). Similarly, the research process becomes more manageable if a researcher is aware of her/his competencies, knows when cooperation is needed, and clearly defines the boundaries of her/his roles (Doyle et al., 2009; Wachsmann et al., 2019). Many findings of this research are interpreted in relation to not only the supervisor's methodological competence, but also to the supervisor's methodological competence and that of the researcher. More than half of the thesis studies do not reflect either the researcher's perspective about the research paradigms or her/his experience in research methods. Conversely, almost all the thesis studies handle ethical issues superficially, with few recent exceptions where due attention is paid to ethical matters.



These findings point out that mixed methods research's philosophical and theoretical foundations are not reflected in the thesis studies.

In conclusion, mixed methods research in special education is a current and developing issue. Although the number of mixed methods research projects in the field of special education has increased recently, it is noteworthy that several major problems prevail in the planning, implementation, and reporting phases. These include inadequate presentation of the theoretical and philosophical underpinnings of the method and relevant rationales in the various studies, confusion in terminology, lack of precise explanations of quantitative and qualitative data collection techniques, validity and reliability measures, the role of the researcher, and ethical issues in the method chapter, and inadequate presentation of quantitative and qualitative data without proper integration in the reporting phase. All the problems are related with a set of basic points discussed across the international literature. These basic points include absence of manuals about all the stages of mixed methods research, methodological incompetence of researchers and supervisors, and insufficient resources (Corrigan & Onwuegbuzie, 2020; Wachsmann et al., 2019).

The present findings are limited with the mixed methods graduate thesis studies in special education programs in Turkey. Considering both the limitations and the findings, following can be suggested for future research and practice:

### **Suggestions for Future Research**

- Studies can be designed to specify and define the nature, philosophy, and theory behind the mixed methods paradigm, emphasize its distinctive characteristics, and verify the need for this method.
- Studies can be designed to eliminate the terminological confusion, which could trigger steps to formulate a common terminology.
- Studies can be designed to explore the experience and opinions of researchers who conduct mixed methods research in Turkey, which may produce solutions for the challenges experienced in the field through detailed analyses.
- Studies can be designed with larger samples to include the stakeholders in each ecological system level, which can facilitate multi-perspective evaluation of the reflections that mixed methods research has in special education.
- Studies can be designed to generate a methodological comparison between special education and other disciplines.



## Suggestions to Improve the Quality of Practice

- An interdisciplinary or transdisciplinary academic society or counselling system can be established to conduct studies about mixed methods research, which can serve as a professional support network for researchers aspiring to improve their skills in mixed methods research.
- Manuals can be highly functional to guide mixed methods researchers.
- Teamwork is invaluable and compulsory in mixed methods research. Thus, relevant units can be founded at universities to promote and support the use of this method.
- Because mixed methods research is a long-term study through cooperation, researchers who complete their Ph.D. degrees can be encouraged to employ this method.
- Courses on mixed methods research can be incorporated into graduate programs
- Platforms can be formed to publicize good practice examples or models developed through mixed methods research.

**Endnote.** As the authors, we hope that mixed methods research should be employed not because it is popular but because it is expected to provide better answers for research questions. Our suggestion for researchers willing to conduct research via this method is to prepare a list of quality standards for mixed methods research and check with this list before starting the process.

**Ethics Committee Approval:** Since the method of this research does not include any human element, ethic committee approval has not been required.

**Informed Consent:** N/A.

**Peer-review:** Externally peer-reviewed.

**Authors' Contributions:** Concept – M.D., S.Ç., G.T.; Design – M.D., S.Ç.; Supervision – M.D.; Data Collection and Processing – S.Ç., G.T.; Analysis and Interpretation – M.D., S.Ç., G.T.; Literature Review – S.Ç., G.T.; Writing – S.Ç., M.D.; Critical Review – All authors.

**Conflict of Interests:** The authors have no conflict of interest to disclose.

**Financial Disclosure:** The authors declared that this study has received no financial support.

## References

\*Graduate thesis studies analyzed within this study.

- Amerikan Psikoloji Derneği (American Psychological Association) (APA) (2015). *APA Publication manual yayım kılavuzu* (6. Basımın Türkçesi). Kaktus Yayınları.
- Anguera, M. T., Camerino, O., Castañer, M., Sánchez-Algarra, P., & Onwuegbuzie, A. J. (2017). The specificity of observational studies in physical activity and sports sciences: Moving forward in mixed methods research and proposals for achieving quantitative and qualitative symmetry. *Frontiers in Psychology*, 8(2196), 1-13. <https://doi.org/10.3389/fpsyg.2017.02196>
- \*Anıl, A. (2019). *İsverenlerin engellilere yönelik tutumları ile engelli çalışanların çalışma alanına yönelik görüşlerinin incelenmesi [Examining attitudes of employers towards the disabled and opinions of employees toward their working area]* (Tez No. 542424) [Yüksek Lisans Tezi, Necmettin Erbakan Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- Askun, V., & Cizel, R. (2020). Twenty years of research on mixed methods. *Journal of Mixed Methods Studies*, 1, 28-43. <https://doi.org/10.14689/jomes.2020.1.2>
- Baim-Lance, A., Onwuegbuzie, A., & Wisdom, J. (2020). Project management principles for optimizing publication productivity of mixed methods studies. *The Qualitative Report*, 25(3), 646-661. <https://doi.org/10.46743/2160-3715/2020.4149>
- Balci, A. (2013). *Sosyal bilimlerde araştırma yöntem teknik ve ilkeler* (10. bs.). Pegem Akademi.
- Baloglu, B. (2009). *Sosyal bilimlerde araştırma yöntemleri* (4. bs.). Der Yayınları.
- \*Bayraklı, H. (2016). *Okul öncesinde kaynaştırma konulu Anne Eğitim Programının çıktılarının anne ve öğretmen görüşlerine göre değerlendirilmesi: Bir karma yöntem araştırması [Evaluating outcomes of a mother training program about inclusion in early childhood according to mothers' and teachers' views: A mixed method study]*. (Tez No. 432660) (Doktora Tezi, Ankara Üniversitesi). Yükseköğretim Kurulu Ulusal Tez Merkezi.
- \*Bilgic, E. (2018). *Kaynaştırma uygulamalarındaki öğretimsel uyarlamalar eğitiminin sınıf öğretmenlerinin öğretimsel uyarlamaların önemine ilişkin görüşlerine etkisi [The effects of training about instructional adaptations of importance for inclusive education on primary school teachers' opinions]*. (Tez No. 527289) [Doktora Tezi, Anadolu Üniversitesi] Yükseköğretim Kurulu Ulusal Tez Merkezi.
- Bowen, G. (2017). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27-40. <https://doi.org/10.3316/QRJ0902027>
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge: Harvard University Press.
- Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. In W. Damon & R. Lerner (Series Eds.) & R. M. Lerner (Vol. Ed.), *Handbook of child psychology: Vol 1: Theoretical models of human development* (pp. 793-828.) (6th ed.). Wiley.
- Bryman, A. (2006). Integrating quantitative and qualitative research: How is it done? *Qualitative Research*, 6(1), 97-113. <https://doi.org/10.1177/1468794106058877>
- \*Bural, B. (2020). *Zihin engelli öğrencilerle çalışan öğretmenlerin öğretim yöntem ve teknikleri ile ilgili yeterlik düzeylerinin geliştirilmesinde uygulanan eğitim programının etkililiği [The effectiveness of education programme adapted for improving the competency levels of teachers who work with students with intellectual disabilities in terms of teaching methods and techniques]*. (Tez No. 616657) [Doktora Tezi, Necmettin Erbakan Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- \*Cankuvvet, N. (2015). *Cocugu koklear implant adayı ebeveynlerin gereksinimlerine dayalı bilgilendirme programı geliştirilmesi [Development of an information program based on the needs of parents with cochlear implant candidate to child]* (Tez No. 385585) [Doktora Tezi, Anadolu Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- Collins, K. M., Onwuegbuzie, A. J., & Sutton, I. L. (2006). A model incorporating the rationale and purpose for conducting mixed methods research in special education and beyond. *Learning Disabilities: A Contemporary Journal*, 4(1), 67-100. <https://www.researchgate.net/publication/242218134>



- Corr, C., Snodgrass, M. R., Greene, J. C., Meadan, H., & Santos, R. M. (2019). Mixed methods in early childhood special education research: Purposes, challenges, and guidance. *Journal of Early Intervention, 42*(1), 20-30. <https://doi.org/10.1177/1053815119873096>
- Corrigan, J. A., & Onwuegbuzie, A. J. (2020). Toward a meta-framework for conducting mixed methods representation analyses to optimize meta-inferences. *The Qualitative Report, 25*(3), 785-812. <https://doi.org/10.46743/2160-3715/2020.3579>
- Creswell, J. W., Shope, R., Plano Clark, V. L., & Green, D. O. (2006). How interpretive qualitative research extends mixed methods research. *Research in the Schools, 13*(1), 1-11. <https://www.lcwu.edu.pk/ocd/cfiles/Gender%20&%20Development%20Studies/GDS-502/Thevalidityissueinmixedresearch.pdf#page=8>
- Cresswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Pearson Publishing.
- Creswell, J. W., & Plano-Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). Sage Publications.
- Creswell, J. W., & Zhang, W. (2009). The application of mixed methods designs to trauma research. *Journal of Traumatic Stress, 22*(6), 612-621. <https://doi.org/10.1002/jts.20479>
- \*Celik, S. (2019). *Okuloncesi ogretmenlerine yonelik olarak gelistirilen yuz yuze ve web tabanlı dogal ogretim ogretmen egitimi programı (ODOP)'nın etkiliginin incelenmesi [Evaluating the effectiveness of teacher training program based face to face and web based naturalistic teaching (TPNT) developed for preschool teachers]* (Tez Numarası: 544399) [Yuksek lisans tezi, Anadolu Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.
- \*Deniz, S. (2019). *Ozel ogrenme guclugune sahip ogrencilerle calisan ogretmenler icin gelistirilen ogretmen yeterlikleri egitim programının etkililigi [Effectiveness of the teacher qualifications education program developed for teachers working with students with special learning deficiency]* (Tez No. 543749) [Doktora Tezi, Necmettin Erbakan Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.
- Doyle, L., Brady, A. M., & Byrne, G. (2009). An overview of mixed methods research. *Journal of Research in Nursing, 14*(2), 175-185. <https://doi.org/10.1177/1744987108093962>
- Dures, E., Rumsey, N., Morris, M., & Gleeson, K. (2011). Mixed methods in health psychology: Theoretical and practical considerations of the third paradigm. *Journal of Health Psychology, 16*, 332-341. <https://doi.org/10.1177/1359105310377537>
- \*Eker, A. (2020). *Ozel yetenekli ogrencilerin ogretmenlerinin mesleki yeterliklerini artırmaya yonelik gelistirilen ogretmen egitimi programının etkililigi [The effectiveness of training programme for gifted and talented students' elementary teachers in order to enhance their competencies]*(Tez No. 616539) [Doktora Tezi, Necmettin Erbakan Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.
- \*Erkaya, A. (2018). *Okul oncesi ve ilkokul donemindeki isitime kayıplı cocukların ev ve okul dışı ortamlardaki iletisim sorunlarının incelenmesi [An examination of communication problems of pre-school and elementary school aged children with hearing loss in environments other than home and school]* (Tez No. 523708) [Yuksek Lisans Tezi, Anadolu Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.
- Firat, M., Kabakçı Yurdakul, I., & Ersoy, A. (2014). Bir eğitim teknolojisi araştırmasına dayalı olarak karma yöntem araştırması deneyimi. *Eğitimde Nitel Araştırmalar Dergisi - Journal of Qualitative Research in Education, 2*(1), 65-86. <https://doi.org/10.14689/issn.2148-2624.1.2s3m>
- Foss, C., & Ellefsen, B. (2002). The value of combining qualitative and quantitative approaches in nursing research by means of method triangulation. *Journal of Advanced Nursing, 40*(2), 242-248. <https://doi.org/10.1046/j.1365-2648.2002.02366.x>
- Glesne, C. (2011). *Becoming qualitative researchers: An introduction* (4th ed.). Pearson Education.
- Greene, J. C. (2006). Toward a methodology of mixed methods social inquiry. *Research in The Schools, 13*(1), 93-98. <https://doi.org/10.1177/1558689807309969>
- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis, 11*(8), 255-274. <https://doi.org/10.3102/01623737011003255>

- Gunbayi, İ. (2020). Knowledge-constitutive interests and social paradigms in guiding mixed methods research (MMR). *Journal of Mixed Methods Studies*, 1, 44-56. <https://doi.org/10.14689/jomes.2020.1.3>
- Gorard, S., & Taylor, C. (2004). *Combining methods in educational and social research*. McGraw-Hill Education.
- Heward, W.L. (2009) *Exceptional Children. An Introduction to Special Education*. Pearson Education.
- \*Icyuz, B. S. (2019). *Otizm spektrum bozuklugu olan cocukların sosyal becerilerinin gelisminde yaratıcı drama yonteminin etkililiginin incelenmesi* [Investigating the effectiveness of creative drama method in the development of social skills of children with ASD](Tez No. 551296) [Yuksek Lisans Tezi, Necmettin Erbakan Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.
- \*Icyuz, R. (2016). *İsitime kayıplı cocugu kaynastırmaya devam eden ebeveynlerin sorunlarının ve gereksinimlerinin belirlenmesi* [Problems and needs of the parents of children with hearing loss attending inclusive education] (Tez No. 432660) [Yuksek Lisans Tezi, Anadolu Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.
- Johnson, R. B., & Christensen, L. (2010). *Educational research: Quantitative, qualitative, and mixed approaches* (7th ed.). Sage Publication.
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14-26. <https://doi.org/10.3102/0013189X033007014>
- Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed-methods research. *Journal of Mixed-methods Research*, 1(2), 112-133. <https://doi.org/10.1177/1558689806298224>
- \*Kahveci, G. (2015). *Birlestirilmis davranıssal konsultasyon programının gormeyen otizmli cocugun uygun olmayan davranıslarına ve iletisim/sosyal becerilerine etkisi* [The effect of conjoint behavioral consultation program on problem behavior and communication/social skills with a blind and autistic child] (Tez No. 397457) [Doktora Tezi, Gazi Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.
- \*Karaca, M. A. (2018). *Kaynastırma eğitimi programının öğretmenlerin kaynastırma uygulamalarındaki mesleki yeterliliklerine etkisi* [The effect of integration training program on the professional competencies of teachers about integration interventions] (Tez No. 509031) [Yuksek Lisans Tezi, Necmettin Erbakan Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.
- \*Karahan, S. (2019). *Okul oncesindeki özel gereksinimli cocukların sosyal becerilerine iliskin anne, baba ve öğretmen gorusleri: Karma yontem çalışması* [Mother, father and teachers' views on social skills of pre-school children with special needs: A mixed method study] (Tez No. 593767) [Yuksek Lisans Tezi, Hasan Kalyoncu Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi'nden edinilmiştir.
- \*Karaslan, O. (2010). *Etkilesime dayalı erken eğitim programının (edep) gelismsel yetersizlige sahip cocuklar ve anneler üzerindeki etkililigi* [The effectiveness of responsive teaching early intervention program on children with developmental disabilities and their mothers] (Tez No. 265733) [Yuksek Lisans Tezi, Anadolu Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.
- \*Kaya, D. (2011). *Yetiskin zihin engelli bireylerin sosyal becerilerinin gelisminde yaratıcı drama yonteminin etkililiginin incelenmesi* [The analysis of the efficiency of creative drama method on the development of social skills of adults with mental disabilities](Tez No. 278833) [Yuksek Lisans Tezi, Bolu Abant İzzet Baysal Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.
- \*Kilic, M. (2020). *İsitime kayıplı cocukların dil gelisimlerinin desteklenmesine yönelik aile gereksinimlerinin belirlenmesi* [Determination of family needs for supporting the language development of children with hearing loss] (Tez No. 623792) [Yuksek Lisans Tezi, Anadolu Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.
- Klingner, J. K., & Boardman, A. G. (2011). Addressing the "research gap" in special education through mixed methods. *Learning Disability Quarterly*, 34(3), 208-218. <https://doi.org/10.1177/0731948711417559>
- Leech, N. L., & Onwuegbuzie, A. J. (2009). A typology of mixed methods research designs. *Qual Quant*, 43, 265-275. <https://doi.org/10.1007/s11135-007-9105-3>
- Li, S., Marquart, J. M., & Zercher, C. (2000). Conceptual issues and analytic strategies in mixed-method studies of preschool inclusion. *Journal of Early Intervention*, 23(2), 116-132. <https://doi.org/10.1177/105381510002300206>

- \*Melekoglu, M. (2017). *Erken cocuklukta okul capli olumlu davranis destegi modelinin etkililigi [The effectiveness of school-wide positive behavior support model in early childhood]* (Tez No. 463439) [Doktora Tezi, Anadolu Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.
- Morgan, D. L. (2014). Pragmatism as a paradigm for social research. *Qualitative Inquiry*, 20(8), 1045-1053. <https://doi.org/10.1177/1077800413513733>
- Neel, R.G. (1981). *Sosyal davranista arastirma yontemleri [Research methods in social behavior.]*. (Trans. Ayse Can Baysal). Fatih Yayınevi Matbaası.
- Neupane, N. (2019). Paradigm shift in research: Emergence of mixed methods research design. *Journal of NELTA Gandaki (JoNG)*, 1, 74-86. <https://doi.org/10.3126/jong.v1i0.24462>
- Newman, I., Ridenour, C. S., Newman, C., & DeMarco, G. M. P. (2003). A typology of research purposes and its relationship to mixed methods. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 167-188). Sage Publications Ltd.
- O'Relary, Z. (2004). *The essential guide to doing research*. Sage Publications Ltd.
- Odom, S. L., Brantlinger, E., Gersten, R., Horner, R. H., Thompson, B., & Harris, K. R. (2005). Research in special education: Scientific methods and evidence-based practices. *Exceptional children*, 71(2), 137-148. <https://doi.org/10.1177/001440290507100201>
- Onwuegbuzie, A. J. & Poth, C. (2016). Editors' afterword: Toward evidence-based guidelines for reviewing mixed methods research manuscripts submitted to journals. *International Journal of Qualitative Methods*, 15(1), 1-13. <https://doi.org/10.1177/1609406916628986>
- Onwuegbuzie, A. J., & Collins, K. M. T. (2017). The role of sampling in mixed methods-research enhancing inference quality. *Kolner Zeitschrift fur Soziologie und Sozialpsychologie*, 69(2), 133-156. <https://doi.org/10.1007/s11577-017-0455-0>
- Onwuegbuzie, A. J., & Leech, N. L. (2004). Post hoc power: A concept whose time has come. *Understanding Statistics*, 3(4), 201-230. [https://doi.org/10.1207/s15328031us0304\\_1](https://doi.org/10.1207/s15328031us0304_1)
- Onwuegbuzie, A. J., & Leech, N. L. (2007). A call for qualitative power analyses. *Quality and Quantity*, 41, 105-121. <https://doi.org/10.1007/s11135-005-1098-1>
- \*Ozdemir, E. (2016). *Kaynastırma uygulamalarına devam eden isitme kayıplı öğrencilerin sosyal uyumlarının incelenmesi [Investigating the social adaptation of students with hearing loss in inclusive education]* (Tez No. 438263) (Yuksek Lisans Tezi). Yuksekogretim Kurulu Ulusal Tez Merkezi.
- Punch, K. F. (2009). *Introduction to research methods in education*. Sage Publications Ltd.
- \*Sani-Bozkurt, S. (2016). *Otizm spektrum bozuklugu olan cocuklara sosyal beceri ogretiminde teknoloji destekli etkilesimli ortam tasarımı ve etkililigi [Design and effectiveness of technology enhanced interactive media in teaching social skills for children with autism spectrum disorder]*(Tez No. 432444) [Doktora Tezi, Anadolu Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.
- Schneider, B., & McDonald, S. K. (2007). *Scale-up in education: Issues in practice* (Vol. 2). Rowman and Littlefield.
- \*Sahin, C. H. (2019). *Otizm spektrum bozuklugu olan cocuga sahip anne-babalara ev ici guvenlik becerilerinin ogretimi: Karma arastırma [Training on home safety skills for parents of children with autism spectrum disorder: a mixed method research ]*(Tez No. 570280) [Doktora Tezi, Anadolu Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.
- Salehi, K., & Golafshani, N. (2010). Commentary: Using mixed methods in research studies: An opportunity with its challenges. *International Journal of Multiple Research Approaches*, 4(3), 186-191. <https://doi.org/10.5172/mra.2010.4.3.186>
- San, E. (2020). *Turkiye'de egitim alanında yayınlanan karma yonteme dayalı makalelerin incelenmesi [Based mixed methods study of the article published in the field of education in Turkey]* (Tez Numarası: 624474) [Yuksek lisans tezi, Maltepe Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.
- Tashakkori, A., & Teddlie, C. (2003). The past and future of mixed method research: From data triangulation to mixed model designs. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social & behavioral research* (pp. 671-701). Sage Publications Ltd.

- T.C. Resmi Gazete, 9 Mart 2019, sayı: 30709. <https://www.resmigazete.gov.tr/eskiler/2019/03/20190309.htm>
- Teddlie, C., & Tashakkori, A. (2009). Major issues and controversies in the use of mixed methods in the social and behavioral science. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 3-50). Sage Publications Ltd.
- Teddlie, C., & Yu, F. (2007). Mixed methods sampling: A typology with examples. *Journal of Mixed Methods Research*, 1, 77-100. <https://doi.org/10.1177/2345678906292430>
- \*Tomris, G. (2019). *Down sendromlu cocugu olan ebeveynlere yonelik gelistirilen dogal ogretime dayali erken mudahale (DODEM) programinin ebeveyn ve cocuklari uzerindeki etkililigi [The effectiveness of an early intervention program based on naturalistic teaching for parents of children with down syndrome on parents and their children]*(Tez No. 542844) [Doktora tezi, Anadolu Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.
- \*Toper-Korkmaz, O. (2015). *Eve dayali olarak gerceklestirilen etkilesim temelli erken cocuklukta mudahale programinin (ETECOM) otizm spektrum bozuklugu tanili cocuklar ve anneleri uzerindeki etkililigi [Effectiveness of home-based responsive teaching (RT) early intervention program on children with autism spectrum disorder and their mothers]*(Tez No. 385584) [Doktora tezi, Anadolu Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.
- Trainor, A. A. (2011). Commentary: Using mixed methods to transform special education research. *Learning Disability Quarterly*, 34(3), 219-221. <https://doi.org/10.1177/0731948711417560>
- \*Tunali, C. (2018). *Ozel yetenekli ogrencilerin sayi duyusu duzeylerinin belirlenmesi [The determination of gifted students' level of number sense]* (Tez No. 512940) [Yuksek lisans tezi, Dokuz Eylul Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.
- Turkish Higher Education Institution (2020). *Ozel Egitim Ogretmenligi Programi Bulunan Tum Universiteler [All Universities with Special Education Teaching Programs]*. <https://yokatlas.yok.gov.tr/lisans-bolum.php?b=20903>
- Vaughn, S., Klingner, J., & Hughes, M. (2000). Sustainability of research-based practices. *Exceptional Children*, 66(2), 163-171. <https://doi.org/10.1177/001440290006600202>
- Wachsmann, M. S., Onwuegbuzie, A. J., Hoisington, S., Gonzales, V., Wilcox, R., Valle, R., & Aleisa, M. (2019). Collaboration patterns as a function of research experience among mixed researchers: A mixed methods bibliometric study. *The Qualitative Report*, 24(12), 2954-2979. <https://doi.org/10.5296/jei.v3i1.10699>
- Yardley, L., & Bishop, F. L. (2015). Using mixed methods in health research: Benefits and challenges. *British Journal of Health Psychology*, 20(1), 1-4. <https://doi.org/10.1111/bjhp.12126>
- Yildirim, A., & Simsek, H. (2013). *Sosyal bilimlerde nitel arastirma yontemleri [Qualitative research methods in the social sciences]* (9. bs.). Seckin Yayıncılık.
- \*Yildirim-Hacıbrahimoglu, B. (2013). *Ozel gereksinimli ogrencilerin ilkogretime geciste yasadıkları gucluklerin belirlenmesi [Determination the difficulties of the students with special needs by teachers as transition to elementary school]* (Tez No. 449827) [Doktora tezi, Ankara Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.
- \*Yilmaz, B. (2014). *Okul oncesi kaynastırma sınıflarının kalitesinin degerlendirilmesi [Evaluating preschool inclusive classrooms' quality in Turkey]* (Tez No. 397446) [Yuksek lisans, Gazi Universitesi]. Yuksekogretim Kurulu Ulusal Tez Merkezi.



**Authors**

**Contact**

Murat DOĞAN  
Methodology, Cognition, Psychological Dynamics,  
Special Education, Families, Deaf Education.

Anadolu University, Faculty of Education, Department  
of Special Education, 26100  
Tepebaşı, Eskisehir

Secil CELİK  
Early Childhood Special Education, Inclusion in  
Preschool, Child Development, Evidence-Based  
Practices, Methodology

E-mail: [mudogan@anadolu.edu.tr](mailto:mudogan@anadolu.edu.tr)  
Anadolu University, Faculty of Education, Department  
of Special Education, 26100  
Tepebaşı, Eskisehir

E-mail: [secilcelik@anadolu.edu.tr](mailto:secilcelik@anadolu.edu.tr)

Gozde Tomris  
Early Childhood Special Education, Inclusion in  
Preschool, Child Development, Evidence-Based  
Practices, Methodology

Eskisehir Osmangazi University, Faculty of Education,  
Department of Special Education,  
Odunpazarı, Eskisehir

E-mail: [gtomris@ogu.edu.tr](mailto:gtomris@ogu.edu.tr)

# School Counsellors' Perceptions of School Justice and Awareness of Advocacy Duties

Sinem TARHAN\*

**To cite this article:**

Tarhan, S. (2022). School counsellors' perceptions of justice and awareness of advocacy duties. *Journal of Qualitative Research in Education*, 29, 33-55, doi: 10.14689/enad.29.2

**Abstract:** The purpose of this study is to examine school counsellors' awareness of their advocacy responsibilities in relation to distributive, procedural, and interactional justice. The participants in this case study were 14 school counsellors working in secondary schools. They were selected using criterion sampling and maximum variation. Research data were collected using a semi-structured interview form and analyzed using content analysis. According to the findings, school counsellors described their school environments as fair considering the democratic attitudes of principals and teachers. Participating counsellors reported that students complain about various issues regarding favoritism, discriminatory attitudes, problematic communication, and unfair grading. They also reported that when students experience injustice at school, they show emotional reactions such as anger, unhappiness, and helplessness, in addition to aggression towards teachers, school objects, or themselves. School counsellors stated that they encourage such students to share their feelings, claim their rights, and talk to their teachers. However, school counsellors who encouraged students to claim their rights rarely talked to teachers to solve such problems. It can be said that school counsellors who strive to prevent student victimization have played a mediating role rather than being an advocate. Future studies can explore the advocacy practices at private and public schools.

**Keywords:** School counselor, advocacy, school justice

**Article Info**

Received:  
05 Aug. 2020  
Revised:  
29 Jun. 2021  
Accepted:  
05 Oct. 2021

**Article Type**

Research

© 2022 ANI Publishing. All rights reserved.

 Corresponding Author: Bartin University, Turkey, [snmtarhan@bartin.edu.tr](mailto:snmtarhan@bartin.edu.tr)

## Introduction

The need for school counselling and guidance to improve student orientation and academic achievement has become increasingly evident today. However, school counsellors' roles, duties, and responsibilities are still discussed controversially. School counsellors' duties involve orientation, psychological counselling, parental guidance, individual recognition, consultancy, research and development, supervision and evaluation, orientation-placement, and gathering information (Yesilyaprak, 2013). It is also suggested that school counsellors should have different duties in the 21<sup>st</sup> century, such as removing the obstacles to academic success, acting as proactive leaders for the change and development of schools (House & Sears, 2002). In The Council for Accreditation of Counselling and Related Educational Programs (CACREP) (2019), school counsellors are expected to have the knowledge and skills to utilize the social, environmental, and institutional opportunities as well as to eliminate the barriers to students' academic success and personal, social, and career development. It is also emphasized that school counsellors should have a personal and professional profile, reasonable visions and missions, and well-defined roles, one of which is advocacy.

Advocacy refers to a counselor's professional activities towards eliminating or reducing the institutional or external barriers impeding a client's well-being (Toporek & Liu, 2001; as cited in Keklik, 2010). Advocacy is an empowerment strategy that counsellors use for social change by empathizing with their clients (Green, McCollum, & Hays, 2008) and one of the main themes of the American School Counselor Association Model (ASCA, 2012). School counsellors should support student advocacy by removing any kind of barriers that prevent student success, assisting students in benefiting from the programs optimally, and developing the necessary policies (ASCA, 2012; House & Martin, 1998). Advocacy is an integral result of the principle, which states that "School counselling services are for all students, and every person is unique and worthy of respect" (Erkan, 2017). Advocacy is also a requirement of empathy (Lewis, Ratts, Paladino, and Toporek, 2011).

Advocacy focuses on removing the barriers that lead to differences in academic success between the poor and disadvantaged students and others (House & Martin, 1998). For school counsellors, advocacy requires defending the rights of disadvantaged groups and ensuring educational equality (Erkan, 2017). Disadvantaged students (e.g., based on gender, language, ethnicity, social class, sexual orientation, physical disability, or family structure) may suffer from social conflict, academic failure, and discrimination. Therefore, school counsellors ensure that these students benefit equally from academic achievement (Bailey, Getch, & Chen-Hayes, 2003) and are prepared personally and professionally for the future. Advocacy services should be provided to families as well as students because families may not defend their children's rights due to such reasons as poverty, indifference, or lack of education and awareness. Therefore, school counsellors can help students and parents with such bureaucratic problems by teaching them how to communicate their demands to school officials, and providing parents with the necessary information and opportunities such as private courses to support children's academic success (House & Hayes, 2002).

Trusty and Brown (2005) stress the importance of knowledge, skills, and attitudes regarding advocacy. Advocacy knowledge can be grouped under four headings: the knowledge of resources (e.g., people, programs, institutions, NGOs), the knowledge of the system (e.g., school rules, students' and parents' rights, school counsellors' roles and responsibilities), the knowledge of dispute resolution mechanisms (e.g., the strategies to deal with conflicts and solve problems holistically), and the knowledge of systems change (e.g., the system and subsystems inherent in a school). Advocacy skills involve communicating, collaborating, assessing, and resolving problems. Correspondingly, advocacy dispositions are listed as being aware of advocacy roles, being autonomous in thinking and acting, empathetic, and willing to take risks for those in need. According to Gultekin (2004), school counsellors' awareness of their prejudices and positive/negative feelings for the groups they work with guarantees the objectiveness and effectiveness of the given services.

Multicultural counselling competencies, which have become more prominent in recent years, have drawn attention to advocacy practices in school counselling (Toporek, Lewis, & Crethar, 2009). Social advocacy, an inherent component of social justice (Holcomb-McKoy, 2007, as cited in Erkan, 2017), refers to eliminating the inequities or improving conditions for all (House and Martin, 1998). It is indicated that school counsellors working with different groups should have social justice dispositions. Social justice is a strategy that strengthens the relationship between the client and the counselor (Green, McCollum, & Hays, 2008). Social justice is associated with organizational justice (Greenberg, 1987, as cited in Cropanzano and Greenberg, 1997), which brings up the concepts of school and classroom justice (Kepekcioglu, 2015). Classroom justice, implying the perception of fairness regarding outcomes or processes in the teaching environment (Chory-Assad & Paulsel, 2004), has three dimensions: distributive, procedural, and interactional justice (Paulsel & Chory-Assad, 2005). Distributive justice is characterized by the equal distribution of rewards or opportunities; procedural justice refers to objective decision-making processes of school administration independent of person, time, or conditions; and finally, interactional justice refers to the fairness and equality of interpersonal relationships (Colquitt, Greenberg, & Zapata-Phelan, 2005). In this sense, advocacy is important to alleviate the injustice students may feel in school.

Advocacy is a rarely addressed issue in Turkey. School counsellors' tasks and activities regarding advocacy are underestimated despite the various challenges of education, such as frequently changing curricula and examination systems, the issues of child labor, domestic migration and emigration, the education of physically disabled or gifted students, seasonal workers, disadvantaged girls, and refugees. Kagnici (2017) stated that school counsellors should have multicultural counselling and advocacy competencies to work with refugee children effectively. Gultekin (2004) characterizes advocacy as a service for everybody, especially for disadvantaged groups. Equality of opportunity in education is considered important for the future of all children, especially those students from minorities and low-income families (House & Martin, 1998). Advocacy provides flexible education opportunities with alternatives for individuals with different characteristics (Svec, 1987; Stone and Clark, 2001) and



reduces the school dropout rate. Thus, it is acknowledged as one of the main components of prevention programs (Berkowitz and Chwast, 1971, as cited in Svec, 1987). In the "School Counselor Professional Standards" (MYK, 2017) prepared by the Turkish Counselling and Guidance Association, the item "A school counselor is the advocate of the client's rights" also underlines the importance and function of advocacy. Besides, advocacy is included in the support services in the "Guidance Services Planning Booklet (OERHGM 2018) prepared by the General Directorate of Special Education and Guidance Services. It can be interpreted as the promising future of advocacy in school counselling services.

In this study, I worked with school counsellors working in secondary education institutions. By nature, secondary school students are skeptical and curious individuals who strive to find and prove themselves cognitively, emotionally, and socially, are concerned about their personal rights and justice, and desire to plan a future career. Therefore, school counsellors in secondary schools should be very active in advocacy practices. There are a few studies on the advocacy duties of school counsellors in Turkey. For example, Gultekin (2004) informed about the advocacy roles of school counsellors, and Nazli (2007) emphasized their changing roles. Keklik (2016) introduced the concept and history of advocacy and the advocacy competencies defined by the ACA. Kose (2015) focused on the paradigm shift in school counselling services and the leadership role of school counsellors. Gokmen (2020) drew attention to the importance of school counsellors' advocacy practices in inclusive education. However, no research is found in the literature directly examining the advocacy duties of school counsellors, focusing on their opinions on advocacy and fairness.

This study aims to investigate the school counsellors' perceptions of school justice and advocacy duties at school. In this regard, this study addressed the following research questions:

1. What do school counsellors think about school justice and fairness?
2. What are school counsellors' attitudes towards injustice experienced by students?
3. How do the school counsellors perceive their awareness about advocacy duties?
4. What do school counsellors think about advocacy duties?

## Method

### The Study Design

This study was designed as a case study, one of the qualitative research methods. A case study investigates one or more personal situations in real life (Yin, 2009, as cited in Creswell, 2018). That given situation is limited by time, place, and parameters (Creswell, 2018) and involves analyzing the data obtained from interviews, observations, and documents (Denzin and Lincoln, 1998). The study is completed with the conclusions and implications of the researcher (Creswell, 2018). Case studies mainly address the questions of 'how' and 'why' and allow an in-depth examination of a phenomenon or case that the researcher cannot control (Yildirim and Simsek 2011). This study attempted to investigate school counsellors' perceptions of injustice in school, their opinions about the concept of advocacy, and their advocacy practices.

### The Study Group

The participants were selected using criterion sampling and maximum variation sampling methods. The criterion sampling method is used to select individuals who meet specified criteria regarding the research topic (Yildirim & Simsek, 2011). The criteria used in this study included working in a secondary education institution and performing advocacy practices at the school accordingly. The advocacy practices in the selected schools were determined following the observations and interviews with school counsellors, teachers, and administrators.

Maximum variation sampling is used to create a relatively small sample reflecting the maximum diversity of individuals in the sample. This study was conducted with school counsellors working in different types of secondary schools (e.g., Anatolian high school, science high school, vocational and technical high school, and imam hatip high school). The mentioned schools differed in terms of school climate, students' academic success and motivation, and parents' economic, social, cultural status. Thus, it was expected to obtain detailed and in-depth information about possible unfair situations in schools and the advocacy activities ccounsellors do against them.

14 school counsellors, eight females, and six males, participated in the study. Their professional seniority ranged from 1 year to 24 years. The participant school counsellors were kept confidential, so they were labeled as SC1, SC2. Ethics committee approval was granted by the university where the researcher works (No: 2020- SBB-0016)

### Data Collection

The research data were collected using a semi-structured interview form. Accordingly, school counsellors answered open-ended questions, and further inquiry questions were used to encourage detailed answers. The interview questions were created after reviewing the relevant literature on school justice and advocacy, and receiving the opinions of an expert panel. Experts were an academician working in the field of school counselling and guidance, advocacy and justice, and a qualitative research

expert. A preliminary interview was held with a school counselor to assess the comprehensibility of the questions. There were five interview questions and two inquiry questions in the form and the participants' demographic information questions. The intention to use a semi-structured interview form was to gather detailed responses from the respondents. Interviews were held after making appointments with the school counsellors and lasted approximately 30 minutes. The interviews were audio-recorded after getting the permission of the participants.

Interview questions are as follow:

1. Do you find student-teacher communication fair in this school (e.g., grading, school rules, communication behaviors)? Why?
2. Do students complain to you about being mistreated? What do students complain about the most?
  - a. How do children react when exposed to injustice?
3. Have you seen any students being mistreated in school? What kind of situations are they?
4. If a student is exposed to unfairness at school, who should stand up for their rights? Why?
5. Do you have any idea about the advocacy duties of school counsellors? Are you willing to fulfill advocacy duties?
  - a. How do people react when you do advocacy?

## **Data Analysis**

The data were analyzed using the content analysis method in which the initial attempt is to gather, categorize and interpret similar data according to specific concepts and themes. The analysis process involves coding and categorizing the data, developing the themes, and interpreting the findings (Yildirim & Simsek, 2011). The interviews with 14 school counsellors lasted approximately 7 hours. The transcription of the audio recordings was completed, and the 56-page document was examined in detail twice. Then, the necessary coding, labeling, categorizing, and theming procedures were completed. Direct quotations from the interviews were used to present the findings, which were interpreted considering the relevant literature.

## **Validity and Reliability**

Guba and Lincoln (Guba and Lincoln, 1981; Lincoln and Guba, 1985 as cited in Spencer and Ritchie, 2012) emphasize the credibility in qualitative research and determined four basic criteria: credibility, reliability, and confirmability, and transferability. Similarly, Creswell (2018) mentioned some methods to ensure credibility in qualitative inquiry, such as prolonged engagement in the field, peer debriefing, and collaboration. We used Creswell's methods to establish the credibility of our study.

According to Yildirim and Simsek (2011), in qualitative inquires, interviewees initially tend to be under the influence of researcher. However, as an atmosphere of trust is built, interviewees become more sincere in their responses. Long-term interactions between researcher and interviewee increase the credibility of the data. In this study, I visited school counsellors in their schools and extended my stay by conducting thorough interviews. Besides, my previous works with school counsellors played a supportive role in building an atmosphere of trust. Two experts, one of whom was a faculty member, and another was a doctoral student in counselling and guidance, supported the planning and implementation stages of the study. It served as peer debriefing method to increase credibility. Besides, the collaboration method was used to verify the analysis's accuracy, authenticity, and objectivity. Two or more people independently analyze the same qualitative data and compare the findings in the collaboration method. It also reduces potential biases that may arise from a single researcher in data collection (Patton, 2014, p. 560). Therefore, the mentioned experts also analyzed the data. The experts' statements that were agreed to be the most appropriate were presented in the findings section. Thus, "direct quotations" were also used to ensure validity.

Miles and Huberman's (1994) method was applied for the intercoder reliability in the data analysis. In this study, it was measured 90%, proving the reliability of the study. According to Miles and Huberman (1994), an 80% agreement between researchers is sufficient for reliability. It should be at least 70%, according to Hall and Houten (1983). A detailed description method is recommended for transferability/ generalizability in qualitative inquiry (Erlandson et al., 1993, as cited in Yildirim & Simsek, 2011). A detailed description is characterized by "the transfer of the revised data based on the given concepts and themes, without comments and by being faithful to the nature of the data as much as possible" (Yildirim & Simsek, 2011). In this study, a detailed description was used to ensure transferability. The questions were asked similarly and recorded in the interviews in order to ensure consistency. All the study data were kept for possible revisions in the future, which assures the confirmability of the study.

## Findings

The findings regarding school counsellors' views on school justice and the concept of advocacy are discussed below.

### 1. School Justice

Participating school counselors were asked to comment on whether they perceived communication between students and teachers to be fair or unfair, considering the three dimensions of equity in the classroom: Distributive Justice, Procedural Justice, and Interactional Justice.

Table 1.

*School as an Environment for Justice*

| Themes            | Sub-themes  |
|-------------------|---|
| School fairness   | Healthy/fair communication<br>Experienced teacher<br>Student participation<br>Transparency<br>Equality                                  |
| School unfairness | Showing favoritism<br>Bias/Prejudices/ Stereotypes<br>Unfair grading<br>Unhealthy/unfair communication<br>Frequently changing attitudes |

As seen in Table 1, some school counsellors found their schools fair, but some did not. Most school counsellors stated that experienced administrators' and teachers' communicative, clear, and consistent attitudes and their support for student participation played critical roles in school fairness, indicating a democratic attitude. Some school counsellors used the expression *democratic attitude*, but some mentioned those features to imply the democratic attitude.

Some statements of the counsellors who found their schools fair are presented below:

Our principal is an intellectual, understanding, democratic, and fair person who considers students as his children. (SC4)

Our school is a fair place. The teachers are very experienced and fair about communication with students, grading, and school rules. They strive to apply the school rules as much as they can consistently. (SC7)

Yes, there is a democratic atmosphere in our school. The student council can apply, by petition, to the school administration for any issue. (SC8)

On the contrary, some school counsellors did not find their school environments fair because some students were favored, academically unsuccessful students were mistreated, some were exposed to unfair grading, and there were disagreements about applying school rules between administrators and teachers. Example responses are given below:

It is a complicated issue with many dimensions, such as administrators, teachers, in-class and out-of-class practices. If an academically successful student misbehaves, it might be ignored. If you like a student or you are familiar with their parents, you might overlook the faults. (SC1)

Frankly, I do not find my school very fair. Students are not successful academically, and they do not want to learn anything. They misbehave, so teachers do not treat them fairly. (SC 5)

## 2. Unfairness in School

School counsellors were asked, "Do students complain to you that they are treated badly? What do they complain about most?" and "Have you seen students mistreated at school? What types of situations are these?" to understand how counsellors perceive injustice toward students. The analysis results showed a similarity between the students' statements and the unfair practices observed by the school counsellors. The findings are presented in the table below.

Table 2 shows the unfair situations that the school counsellors observed or reported from students' statements. Some students were favored because they were successful or an acquaintance of the teacher. However, some students were not tolerated for breaching the dress codes and using mobile phones at school. Besides, some students passed the class despite poor grades, while others experienced biased and inconsistent behaviors by teachers. Some statements from school counsellors are presented below.

Students mostly complain about the dress codes: "Teacher sees but ignores him, but he interferes with me." There are favored students. (SC1)

They usually complain about grades. They said: "My friend cheated, nobody saw him, and he got high grades. I study harder than my friend, but I cannot get it as I do not cheat in the exam" (SC2).

**Table 2.**

*Unfair Treatments in the School Environment*

| Themes            | Sub-themes              |
|-------------------|-------------------------|
| <b>Injustice</b>  | Favoring                |
|                   | Dress codes             |
|                   | Mobile phone            |
|                   | Exam/homework           |
|                   | Prejudice               |
|                   | Attitudinal differences |
|                   | Unhealthy communication |
| <b>Negligence</b> | Abuse                   |
|                   | Irresponsibility        |

They especially complain about teacher attitudes. There is no consistency among teachers. Even the same teacher behaves differently on different days (SC11).

School counsellors stated that some complaints stemmed from students' different perspectives or breaking the school rules.

Yes, they complain about dress codes. However, they break the rules. For example, girls wear much makeup or ripped jeans, so the principals react to such behaviors. When students complain about the dress code, I ask them, "Have they warned you before? Have you obeyed the rules?" (SC10)

They often complain about teachers' biased attitudes towards a specific student. A teacher tries to maintain the peace and security of the lesson, but when some children disrupt the lesson, they might be biased for those children (SC7).

The complaints are generally about dress codes and permissions. They come to take a tardy slip. They sometimes say, "The headmaster didn't give a tardy slip to me because he didn't care about me." For some students, being late has become habitual, so when the administrators realize, they behave accordingly and might not give them a tardy slip. (SC12)

Then, I asked an inquiry question to school counsellors: *"How do children react when exposed to injustice?"*

It was observed that students showed emotional and behavioral responses to injustice. Students who experienced an unfair situation felt anger, despair, intimidation, and unhappiness. Thus, they demonstrated certain behaviors such as self-harming, damaging school property, challenging and threatening the teachers, interrupting the lessons, and not attending the lesson. School counsellors' expressions are given below:

If a student is exposed to unfairness, s/he feels intimidated and despair. (SC1)

They get angry. (SC2)

Our students are mostly violent. When exposed to unfairness in the classroom, they harm themselves. (SC5)

They generally challenge teachers to demoralize them. For example, they do not listen to the teacher, chat with friends, and often distract others. (SC6)

**Table 3.**

*Students' Responses to Injustice*

| <b>Themes</b>               | <b>Sub-themes</b>   |
|-----------------------------|---|
| <b>Emotional responses</b>  | Anger, despair, intimidation, unhappiness   |
| <b>Behavioral responses</b> | Self-harming behaviors<br>Damaging school property<br>Standing up to/challenging the teachers.<br>Spoiling the lesson<br>Not attending the lesson |

We asked school counsellors, “What do you do if you see a student exposed to unfairness at school?” to understand better what they do in the face of an unfair situation.

**Table 4.**

*School Counsellors’ Interventions for Justice*

| Themes  | Sub-themes               |
|---------|--------------------------|
| Support | Allowing self-expression |
|         | Claiming their rights    |
|         | Peacemaking              |
|         | Informing the principals |
|         | Making self-assessment   |

As seen in Table 4, school counsellors listened to the mistreated students, allowed them to express their feelings and thoughts, and soothed them. They also encouraged them to talk to their teachers and claim their rights. Some school counsellors played the peacemaker role between the student and teacher. However, some counsellors stated that they had difficulty communicating with teachers, so they reported the problem to the school administrators. Some school counsellors wanted students to make self-reflection. Some statements are presented below.

I advise them to claim their rights legally. (SC1)

Especially when someone complains about a teacher, I report the problem to the administrators on behalf of the student. We never talk to that teacher; we just inform the administrators, assuming their responsibility. (SC6)

I objectively listen to students’ complaining and don’t favor a party. Then, I politely and carefully talk and listen to that teacher. Then, I advise both sides to talk together for a solution. I mean, I have a mediator role. (SC8)

I allow them to communicate their feelings, and I soothe them. Then, I try to learn their plans. I encourage them to make a self-assessment and talk to that teacher. (SC11)

### 3. School counsellors’ advocacy duties

The participant school counsellors were asked, “Who should claim a student’s right when exposed to unfairness at school? Why?” to determine their views on the advocacy duties by school counsellors.



**Table 5.**

*Student Advocacy*

| Themes | Sub-themes       |
|--------|------------------|
| Skill  | Student          |
| Duty   | School principal |
|        | Form teacher     |
|        | School counselor |

According to the school counsellors, students should claim their rights. However, some stated that it could not be confined to students or school counsellors, but school administrators and form teachers should also defend students' rights. Some sample statements are presented below.

Students should be able to claim their rights. As a counselor, we teach them problem-solving skills. (SC9)

I think form teachers should defend student rights. In case of a deadlock, the school counselor should interfere in the case. (SC7)

**School counsellors' opinions about advocacy duties**

The participant counsellors were asked: "Do you have any idea about the advocacy duties of school counsellors?" It was understood that none of them had a clear idea about the concept of advocacy and advocacy duties. However, after a brief introduction to the concept, school counsellors noted that some of their school-based activities already fall within the realm of advocacy, citing examples such as orientations, voluntary career counselling, providing free meals and tuition to needy students, interventions to reduce absenteeism and support students with special needs, parent interviews, probation services, and substance abuse interventions. Some school counsellors' opinions about advocacy duties are presented below:

After your explanations, I realize that I have already done my advocacy duties. For instance, I asked some teachers to stay after school or on their duty days to teach disadvantaged students who could not afford private lessons. It worked very well. If it is an advocacy duty, I mean in terms of the right to education, I do it. I try to support children. (SC2)

I had not known much about it, but I realized that I did when you explained it. For example, a 10<sup>th</sup> grade student came from a different city. He was mostly absent, making his family worried about it. Unfortunately, even parents did not know their rights. We talked to the family and the student and helped them submit a petition to support their attendance at school. (SC4)

I primarily advocate for the rights of inclusive students. Some teachers do not prepare individualized education programs for those students and cause them to fail the class. I raise my voice against such unfair treatment. (SC14)

School counsellors indicated that they sometimes had to defend the rights of teachers. In addition to parents' unfair demands and complaints about teachers, counsellors also mentioned the unfair treatment of disadvantaged students from broken families towards empathic and kind teachers. Some responses are given below:

Teachers sometimes complain about being mistreated by students or parents. For example, we witnessed a parent yelling at a teacher due to his child's low final exam grade. We reported that case and parent to BIMER. (SC2)

A very caring teacher taught well and talked to students personally and sincerely. However, that teacher was not rewarded for his efforts. As usual, the students acted out, so the teacher got disappointed and felt burnout. I also try to talk to students as calmly as possible, but they do not understand their mistakes. (SC5)

The participant counsellors were asked, "Are you willing to fulfill advocacy duties?" to encourage them to share their concerns about fulfilling a task described as "advocacy."

**Table 6.**

*Advocacy Barriers*

| Themes                   | Sub-themes   |
|--------------------------|--|
| <b>Advocacy Barriers</b> | Concerns about not being supported                     |
|                          | Concerns about balancing between teachers and students |
|                          | Problem-solving skill development                      |
|                          | Giving responsibility                                  |

As seen in Table 6, the school counsellors hesitated about fulfilling their advocacy duties for the fear of not being supported by their superiors and not balancing between teachers and students when they witness unfair treatment. They also stated that counselling services provided students with responsibility and improved their problem-solving skills, so they did not find it right to defend students' rights on their behalf. Some sample statements are as follows:

We explain that we must report sexual harassment and violence cases even though they do not want to report them. Nevertheless, we sometimes become helpless when nobody wants to shoulder the responsibility. (SC1)

We have challenging work; it is important to find the balance. (SC9)

We should not defend students' rights but teach them how to defend themselves. After all, children have rights, and encouraging self-defense by rights makes much sense. Teaching self-defense changes their perspectives and improves self-confidence. (SC3)

We help whoever needs help, but I think labelling this as "advocacy" might lead to problems in the future. When we defend someone, our relationships with others are damaged here. (SC13)

We asked, "How do people react when you do advocacy work?" to understand better the concerns of school counsellors regarding their advocacy duties.

**Table 7.**

*Reactions to Advocacy*

| <b>Themes</b>            | <b>Sub-themes</b>        |
|--------------------------|--------------------------|
| <b>Positive response</b> | Trust                    |
|                          | The time spent together. |
|                          | Goodwill and effort      |
| <b>Negative response</b> | Criticism                |

It was revealed that school counsellors received positive and negative reactions when they did advocacy work. The positive ones involved the trust relations between school counsellors and students and teachers. Besides, the school counselor's tenure at the school, professional experience, and the quality of the communication and bond of trust with teachers and students are considered goodwill and advocacy efforts. Some school counsellors' statements are given below:

...That is why students often visit me; they trust me and know that I care about them. We ask for help from teachers to encourage students to express themselves and defend their rights. Fortunately, most teachers are willing in this sense. Maybe, that is because I have been working here for a long time. (SC2)

If a teacher sees your goodwill and efforts, they will support you. Communication with the teacher is very critical. The more time we spend together, the better relationship we have. (SC10)

School counsellors admitted that they had problems fulfilling their advocacy duties when some teachers were unwilling to communicate or were too young and inexperienced. For example, a school counsellor mentioned a negative reaction as follows:

When you defend a student's rights against a teacher or the school administration, they might think you were a smart aleck and a wet blanket. For instance, you cannot talk to some teachers about grades, and they do not let you comment at all. (SC14)

### **Discussion, Conclusion, and Recommendations**

This study was conducted to find out how school counsellors perform their duties as advocates in the context of distributive, interactional, and procedural justice, which are three components of justice in schools. Some of the participant school counsellors perceived their schools as fair environments and stressed that school principals's and teachers' democratic and communicative attitudes contributed to school justice. On the contrary, the school counsellors, who perceived their school environments as unfair, complained about inconsistencies in applying the school rules, unhealthy communication, and discriminatory practices. In addition to their observations, school

counsellors indicated that students complained about dress codes, unfair grading, mobile phone use, communication problems, hostile and discriminatory attitudes of teachers and principals. Such complaints underscore the importance of three dimensions of school equity - namely distributive, procedural, and interactional equity (Paulsel & Chory-Assad, 2005 and Chory, 2007). Our findings are consistent with those of Tarhan (2018) who found that students were exposed to similar unfair practices in their schools, such as unfair grading and distribution of school/educational materials (distributive justice), dress code and school rules (procedural justice), and lack of communication and favoritism (interactional justice). In this sense, it can be inferred that school counsellors and students had similar views on unfair treatment in schools.

Dress code was the main complaint reported by school counsellors. Although with parents and student council permission, students were allowed to wear casual clothes (only school t-shirts) only on Fridays, they occasionally ignored that rule. Many researchers have studied dress codes in schools in Turkey. For example, Ugurlu et al. (2015) found that teachers, students, and parents made adverse comments about the free dress code. Kapucu and Sezgin (2015) indicated that although most students supported the free dress code, other stakeholders in education preferred school uniforms. In their study, Demir and Kose (2017) showed that some students were optimistic about free dress codes while others were pessimistic. Thus, it can be asserted that teachers, students, and parents had different opinions about free dress codes, which led to unfairness and discipline problems at school. School counsellors also emphasized that the complaints might have stemmed from students' different perspectives, disobedience to the rules, or misunderstanding them. It highlights the phenomenological perception that constitutes the reality of an individual, so the point is not the reality of the event but the perceptions of that event. Therefore, students should be informed about the school rules, the reward-punishment system, and regulations about passing a grade level. Besides, guidance activities should be provided to improve responsibility and self-awareness among students. Thus, misunderstandings and misperceptions can be prevented, and problem attitudes and behaviors can be eliminated by enriching students' perspectives.

School counsellors intervene in unfair treatment to students by calming them and allowing self-expression, reminding the school rules and their responsibilities, encouraging them to talk to teachers personally, or reporting the event to the school principals. The selection of appropriate intervention methods depends on the school atmosphere, teachers' communicative attitudes, and the age and experience of the school counselor. The school counsellors expressed that in schools with a strict atmosphere with very old teachers, student failure, and behavior problems, they could not communicate with teachers and only had to report the problem to the school administration. However, in democratic school climates, school counsellors' advocacy efforts are readily accepted, they are allowed to take initiatives, and healthy communication can be established with teachers of all ages and seniority.

School counsellors emphasized that students spoke out about the complaints and unfair treatment they were subjected to and strived to cope with them within the limits of the school environment. Tarhan (2017) argues that three of the primary duties of school counsellors are participating in school meetings to express their professional opinions, providing individual guidance services, and doing activities for individual recognition. This finding is important for school counsellors to fulfill their advocacy duties. When school counsellors attend the meetings and provide information on fair/unfair practices, it might raise awareness of teachers, administrators, and even parents on a given issue. It is necessary to recognize a student, his family and conditions, and the educational risks to advocate for him. Thus, student recognition programs should be expanded, and form teachers should be a part of such practices. Anyone related to a child can review their own attitudes and behaviors and cooperate for the sake of that child.

Students who are exposed to unfair treatment feel angry, desperate, intimidated, and unhappy. Some students consult school counsellors to reveal their problems kindly, but others might be very aggressive, verbally and behaviorally. Aggressive students sometimes do self-harm or disturb the classroom environment, damage school properties and create problems for the teacher, which overlaps with the findings of Horan, Chory, and Goodboy (2010) and Tarhan (2018). Both studies revealed that unfairly treated students experienced negative feelings such as sadness, anger, despair, anxiety, rage, and hatred, and they were alienated from school. Suppressed negative emotions might lead to increases in anger and anxiety, psychosomatic symptoms, and social maladjustment. Therefore, students should be encouraged and taught to effectively express their feelings and thoughts. Efficient and objective mechanisms should be established to help their self-expression and solve unfairness.

According to school counsellors, students exposed to unfairness should defend their rights. They believe that counsellors must teach students problem-solving skills and support them. Similarly, according to Field and Baker (2004), school counsellors aim to empower students by teaching them self-protection skills to overcome their academic, emotional, and social problems. They also play an essential role in students' career planning (Martin, 2002) that is defined as *developmental advocacy* in the literature and refers to supporting the healthy development of students by improving their knowledge, skills, and attitudes (Galassi & Akos, 2004).

School counsellors stated that although they did not have theoretical knowledge about "advocacy," they already provided advocacy services to students due to counselling and guidance's professional and ethical requirements. They considered their works, such as supporting economically disadvantaged students, integrating inclusive students to appropriate educational opportunities, and holding parent meetings to prevent school dropout and promote academic success in the scope of advocacy. In the literature, as a student advocate, school counsellors are expected to cooperate with teachers, principals, parents, and public organizations to promote students' academic, professional, and personality development (ASCA, 1997; Field and Baker, 2004; Baker, Robichaud, Westforth Dietrich, Wells and Schreck, 2009). School counsellors

stated that even teachers were sometimes subjected to unfair treatment by parents or students. In such cases, they listened to those teachers and supported them to defend their rights. Dixon et al. (2010) emphasized that school counsellors could also advocate on behalf of parents and teachers within the scope of their advocacy duties.

It was observed that although school counsellors protected the aggrieved students and strived to solve their problems, they were skeptical about the concept of advocacy. It might stem from the assumption that advocacy is to take sides and should be avoided school balances at school to not upset the school. Additionally, school counsellors especially emphasized their efforts to mediate between students and teachers while seeking solutions to unjust situations. There might be two reasons, one of which was that students were the real guilty ones in a problem. Secondly, school counsellors sought to balance the relationships with other teachers. Such attitudes of school counsellors remind Bemak and Chung's (2008) "good child syndrome." Counsellors displaying good child syndrome generally do not conflict with anyone, treat everyone with respect, mediate, and cooperate with others at school, which might be a barrier to the proper performance of duties. In this regard, school counsellors must use their skills to communicate, cooperate, recognize and solve problems, and organize efficiently, which are the critical advocacy competencies (Trusty & Brown, 2005).

Some issues challenge school counsellors' advocacy efforts, such as inclusion procedures and the students who abuse advocacy practices. Inclusion students mostly experience difficulty in almost all education settings due to crowded classrooms, teachers' inadequate knowledge of special education, orientation, and placement problems. The efforts to report and prevent sexual crimes against children are sometimes inconclusive due to bias, cultural values, family privacy, or the difficulty of legal acts. Hayli and Durmus (2005) remark that school counsellors are expected to undertake important duties in cases of sexual abuse, although they do not have the authority and responsibility to find solutions and are not supported by their schools. Besides, in Turkey, educational policies are developed without taking the opinions of school counsellors. Despite the high number of students, not enough counsellors work at schools, leading to less support for parents in solving problems. The lack of counselling and guidance lessons in the 1-7 grade levels also challenges to reach students. In this sense, school counsellors must reach all students and solve all problems, which is a utopian expectation. The reasons mentioned above led to no return on school counsellors' efforts, which disappointed and demotivated them. Trusty and Brown (2005) emphasize that school counsellors should make an effort to protect themselves against burnout, and they need to know that they cannot solve all cases. Therefore, school counsellors argued that advocacy duties might be fulfilled not only by counsellors but also by form teachers, who know students better, and school principals. The literature supports this finding. In addition to the fact that school counsellors do not have the necessary knowledge and skills on advocacy in education (Toporek, 2000; Field and Baker, 2004), advocacy duty is neglected due to conventional approach to counselling that should focus on clients' inner worlds (Erkan, 2017). Besides, professional organizations do not support advocacy, considering it

political in nature, so they prevent the popularity and prevalence of advocacy in schools (Erkan, 2017; Keklik, 2010).

In addressing the issues about advocacy, school counsellors' efforts to exist in school should not be ignored as well. School counsellors have to strive to maintain their position and be active members of the school community without combining their professional identity with a principal or teacher (Field & Baker, 2004). Despite the rapid changes in Turkey's social, economic and cultural structure and the challenges in education, it is also emphasised that school counsellors should see themselves as an essential part of the school system in the 21st century (Yalcin, 2006), as they are prominent advocates in schools today (Keklik, 2010). As change leaders, cooperation providers, and advocates, school counsellors must create new ways of communication and pioneer systemic changes, educational regulations, and social and economic globalization (Dahir, 2009). In this regard, school counsellors hold an optimum position to challenge the systemic barriers and other achievement-related factors (Martin, 2002). School counsellors who are aware of school events and better know and understand students, teachers, and parents contribute to students' achievement by drawing attention to educational equity, developmental school programs, and student support services (House & Hayes, 2002). They cooperate with students, teachers, principals, parents, other members of society. Thus, they improve students' academic, career, personal, and social competencies, respect for differences, and commitment to social justice (Galassi and Akos, 2004). The critical point here is to improve school counsellors' advocacy competencies that refer to the necessary knowledge, skills, and understanding to do advocacy ethically and effectively (Toporek, Lewis, and Crethar 2009). Thus, advocacy knowledge and skills, its basic philosophy, limits, and intervention methods should be taught to school counsellors during pre-service education. The counselling service programs should include activities that raise awareness about possible unfair situations in schools and should cover the school principals, teachers, parents, and students.

The following can be suggested for future studies on advocacy:

- Whether school counsellors prepare activities to determine possible unfair practices and conduct intervention programs within the scope of school counselling programs can be addressed.
- Qualitative and quantitative studies can be carried out to assist school counsellors to be informed about the concept of advocacy and their advocacy duties.
- Future studies can compare support and advocacy practices provided by school counsellors in private schools and public schools.



**Ethics Committee Approval:** Ethics committee approval was received for this study from the Social and Human Scientific Research Ethics Committee Bartın University (Ref.=2020-SBB-0016)

**Informed Consent:** Informed consent was obtained from the participants.

**Peer-review:** Externally peer-reviewed.

**Conflict of Interests:** The authors have no conflict of interest to disclose.

**Financial Disclosure:** The authors declared that this study has received no financial support.



## References

- ASCA (2012). *The ASCA National Model: A framework for school counselling programs* (3rd ed.). Alexandria, VA: Author.
- Bailey, D. F., Getch, Y. Q., & Chen-Hayes, S. F. (2003). Professional school counselors as social and academic advocates. In B. T. Erford (Ed.), *Transforming the school counseling profession* (pp. 411-434). Upper Saddle River, NJ: Merrill Prentice-Hall.
- Baker, S.B., Robichaud, T.A., Westforth Dietrich, V.C., Wells, S. C., & Schreck, R.E. (2009). School counselor consultation: a pathway to advocacy, collaboration, and leadership. *Professional School Counselling*, 12(3), 200-206.  
[https://www.jstor.org/stable/42732777?seq=1#metadata\\_info\\_tab\\_contents](https://www.jstor.org/stable/42732777?seq=1#metadata_info_tab_contents)
- Bemak, F., & Chung, R.C.Y. (2005). Advocacy as a critical role for urban school counselors: working toward equity and social justice. *Professional School Counseling In Urban Settings*, 8 (3), 196-202.  
<https://www.jstor.org/stable/42732459>
- CACREP (2019). *Core standards for rehabilitation counselor education programs*.  
<https://www.cacrep.org/directory/>
- Chory, R. M. (2007). Enhancing student perceptions of fairness: the relationship between instructor credibility and classroom justice. *Communication Education*, 56(1), 89-105.  
<http://dx.doi.org/10.1080/03634520600994300>
- Chory- Assad, R.M., & Paulsel, M. L. (2004). Classroom justice: student aggression and resistance as reactions to perceived unfairness. *Communication Education*, 53(3), 253–273.  
<https://www.tandfonline.com/doi/abs/10.1080/0363452042000265189>
- Cropanzano, R., & Greenberg, J. (1997). Progress in organizational justice: Tunneling through the maze. *International Review of Industrial and Organizational Psychology*, 12, 317-372.  
[https://www.researchgate.net/publication/261286563\\_Progress\\_in\\_Organizational\\_Justice\\_Tunneling\\_Through\\_the\\_Maze](https://www.researchgate.net/publication/261286563_Progress_in_Organizational_Justice_Tunneling_Through_the_Maze)
- Creswell, J. W. (2018). *Nitel araştırma yöntemleri* (4. Baskı) (Cev. Edts. M. Butun ve S. B. Demir). Siyasal Kitabevi
- Colquitt, J. A., Greenberg, J., & Zapata-Phelan, C. P. (2005). What is organizational justice? A historical review. In J. Greenberg & J. A. Colquitt (Eds.), *Handbook of Organizational Justice*. USA: Lawrence Erlbaum Associates.
- Dahir, C. A. (2009). School counselling in the 21st century: where lies the future? *Journal of Counselling & Development*, 87, 3-5.
- Demir, E. ve Kose, M. (2017). Okullarda kıyafet serbestliğine ilişkin öğrenci görüşleri.  
*The Journal of International Lingual, Social and Educational Sciences*, 3 (2), 159-176.
- Denzin, N. K., & Lincoln, Y.S. (1998). *The landscape of qualitative research: theories and issues*. Sage Publications, Inc.
- Dixon, A. L, Tucker, C. & Clark, M.A. (2010). Integrating social justice advocacy with national standards of practice: implications for school counselor education. *Counselor Education & Supervision*, 50, 103-118.
- Erkan, S. (2017). *Psikolojik danışma ve rehberlikte program geliştirme*. Pegem Akademi

- Field, J. E., & Baker, S. (2004). Defining and examining school counselor advocacy. *Professional School Counselling, 8*(1), 56-63.
- Galassi, J.P. & Akos, P (2004). Developmental advocacy: twenty-first century *School Counselling. Journal of Counselling & Development, 82*, 146-157.
- Green, E. J., McCollum, V.C., & Hays, D. G. (2008). Teaching advocacy counselling within a social justice framework: implications for school ccounsellors and educators. *Journal for Social Action in Counselling and Psychology, 1*(2), 14-30.
- Gokmen, G. (2020). The role of school counselor in inclusive education: advocacy. *Journal of Inclusive Education in Research and Practice, 1*(1), 55-73.
- Gultekin, F. (2004). Bir savunucu olarak okul psikolojik danıřmanı. *Eurasian Journal of Educational Reseach, 4*(15), 56-65.
- Hall, R. V., & Houten, R. V. (1983). *Managing behavior, behavior modification: The measurement of behavior*. Austin: Pro-ed.
- Hayli, R.G. ve Durmus, E. (2015). *Cinsel istismar vakalarında rehber öğretmen rolü*. 20. Ergen Gunleri Konferansı, Malatya.  
[https://www.researchgate.net/publication/322197123\\_Cinsel\\_Istismar\\_Vakalarinda\\_Rehber\\_Ogr\\_etenin\\_Rolu](https://www.researchgate.net/publication/322197123_Cinsel_Istismar_Vakalarinda_Rehber_Ogr_etenin_Rolu)
- Horan, S.M., Chory, R. M., & Goodboy, A. K. (2010). Understanding students' classroom justice experiences and responses. *Journal Communication Education, 59*(4), 453-474.
- House, R. M., & Hayes, R. L. (2002). School ccounsellors: becoming key players in school reform. *Professional School Counselling, 5* (4), 249-256. <http://www.biomedsearch.com/article/School-ccounsellors-becoming-key-players/86059885.html>
- House, R. M., & Martin, P. J. (1998). Advocating for better futures for all students: A New Vision for *School Ccounsellors. Education, 119*, 284-91.
- House, M. R., & Sears, S. J. (2002). Preparing school ccounsellors to be leaders and advocates: A critical need in the new millennium. *Theory into Practice, 41*(3), 154-162. doi:10.1207/s15430421tip4103\_3
- Kagnici, D. Y. (2017). Suriyeli multeci çocukların kültürel uyum sürecinde okul psikolojik danıřmanlarına duřen rol ve sorumluluklar. *İlkogretim Online, 16*(4), 1768-1776.  
<http://ilkogretim-online.org.tr> doi: 10.17051/ilkonline.2017.342990
- Kapucu, S., & Sezgin, F. (2015). Liselerde serbest kıyafet uygulamasının çok perspektifli analizi. *Pegem Egitim ve Ogretim Dergisi, 5*(5), 681-704, <http://dx.doi.org/10.14527/pegegog.2015.037>.
- Keklik, İ. (2010). Psikolojik danıřma alanının hak savunuculuđu bağlamında birey otesi sorumlulukları. *Türk Psikolojik Danıřma ve Rehberlik Dergisi, 4* (33), 89-99.
- Kepekcioglu, E. S. (2015). Üniversite öğrencilerinin öğretim elemanlarının inanılrlığı algısı ve sınıfta adalet algısı arasındaki ilişki (Yayınlanmamış doktora tezi, Bolu Abant İzzet Baysal Üniversitesi).  
<https://tez.yok.gov.tr/UlusalTezMerkezi/>
- Kose, A. (2015). Okul psikolojik danıřmasında liderlik arařtırmaları için yeni bir analitik çerçeve: dağıtımcı liderlik. *Türk Psikolojik Danıřma ve Rehberlik Dergisi, 5*(43) 137-146.
- Lewis, J. A., Ratts, M. J., Paladino, D. A., & Toporek, R. L. (2011). Social justice counselling and advocacy: Developing new leadership roles and competencies. *Journal for Social Action in Counselling and Psychology, 3*(1), 5-16.

- Martin, P.J. (2002) Transforming school counselling: a national perspective. *Theory into Practice*, 41(3), 148-153, DOI: 10.1207/s15430421tip4103\_2
- Miles, M.B., & Huberman, A.M. (1994). *Qualitative data analysis: An expanded sourcebook*. London: Sage
- MYK (2017). *Ulusal meslek standardı okul psikolojik danışmanı seviye 7*. Mesleki Yeterlilik Kurumu. Ankara.
- Nazlı, S. (2007). Psikolojik danışmanların değişen rollerini algılayışları. *Balıkesir Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 10 (18), 1-17.
- OERHGM (2018). Rehberlik hizmetleri plan hazırlama kitapçığı. Ankara: MEB  
file:///C:/Users/hp/Desktop/Haksavunuculugu/Egitim%20ve%20bilim/01135552\_rehberlik\_plan\_hazirlama\_kitapcigi.pdf
- Paulsel, M. L., & Chory-Assad, R. M. (2005). Perceptions of instructor interactional justice as a predictor of student resistance. *Communication Research Reports*, 22, 283-291.
- Patton, M.Q. (2014). *Nitel araştırma ve değerlendirme yöntemleri*. (M. Butun ve S. B. Demir, cev. eds.), Pegem Akademi
- Spencer, L., & Ritchie, J. (2012). In Pursuit of Quality. In D. Harper and A.R. Thompson (Eds.) *Qualitative research methods in mental health and psychotherapy* (pp. 227-242). Willey - Blackwell
- Stone, C., & Clark, M. (2001). School counsellors and principals: Partners in support of academic achievement. *NASSP Bulletin*, 85(624), 46-53.
- Svec, H. (1987). Youth advocacy and high school dropout. *The High School Journal*, 70 (4) 185-192.
- Tarhan, S. (2017). İhtiyac, yeterlik ve mesleki doyum bağlamında rehber öğretmenlerin görev algıları. *Bartın Üniversitesi Eğitim Fakültesi Dergisi*, 6(3), 1385- 1408.
- Tarhan, S. (2018). Turkish secondary education students' perceptions of justice and their experiences of injustice. *Journal of Education and Learning*, 7(2), 247-260. doi:10.5539/jel.v7n2p247  
<http://doi.org/10.5539/jel.v7n2p247>
- Toporek, R. L., Lewis, J. A., & Crethar, H. C. (2009). Promoting systemic change through the ACA advocacy competencies. *Journal of Counselling and Development*, 87 (3), 260-268.
- Trusty, J. & Brown, D. (2005). Advocacy competencies for professional school counsellors. *Professional School Counselling*, 8 (3), 259- 265.
- Uğurlu, C. T., Doğan, S., Togcu, İ., & Demir, A. (2015). Serbest kıyafet uygulaması: Kim ne söyledi? *Kuram ve Uygulamada Eğitim Yönetimi*, 21(2), 213-246.
- Yalçın, İ. (2006). 21.yy da psikolojik danışman. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, 39 (1), 117-133.
- Yesilyaprak, B. (2013). *21.yüzyılda eğitimde rehberlik hizmetleri*. Nobel Yayınevi
- Yıldırım, A., & Şimşek, H. (2011). *Sosyal bilimlerde nitel araştırma yöntemleri*. Seckin Yayıncılık



**Author**

*Contact*

Sinem TARHAN

Assoc. Prof. Dr. Sinem TARHAN

Guidance and Psychological Counseling,  
Higher Education

Bartın University Faculty of Education  
Department of Educational Science  
Kutlubey Campus 74100 Bartın

E-mail: [tarhansinem@gmail.com](mailto:tarhansinem@gmail.com)

# The Examination of Special Education Teachers' Views On Teaching Play Skills to Children With Autism Spectrum Disorders

Ayşe Cigdem GULVEREN\* Serife YUCESoy OZKAN\*\* Nuray ONCUL\*\*\*

## To cite this article:

Gulveren, A. C., Yucesoy Ozkan, S., & Oncul, N. (2022). The examination of special education teachers' views on teaching play skills to children with autism spectrum disorders. *Journal of Qualitative Research in Education*, 29, 56-77, doi: 10.14689/enad.29.3

**Abstract:** The current study aims to understand how the special education teachers define play skills, examine their views on the teaching of play skills to children with ASD, and determine their experiences in teaching play skills to children with ASD. The phenomenological design, one of the qualitative research methods, was used in the study. The participants were 14 special education teachers working in a special education school. A semi-structured interview was used to collect data. The findings reveal that the special education teachers defined the play skills as entertaining and teaching activities; they found the play skills are essential and should be taught to children with ASD. They also think that the play affects the psychomotor, language and communication, social-emotional, and cognitive development of children with ASD positively, play skills can be taught in any age and anywhere by teachers, parents, and caregivers. The findings also indicate that most of the teachers involved play skills training in individualized education programs of their students. They used peer tutoring, in-vivo and video modelling, dramatization, response prompt strategies, and incidental teaching as an intervention. Based on the results, it can be suggested that teachers should receive training and seminars on teaching play skills to children with ASD and that teachers should be encouraged and supported to include play skills goals when designing an individualized educational program for children with ASD.

**Keywords:** Autism spectrum disorder, play skills, special education teachers, teacher opinions




## Article Info

Received:  
12 Jun. 2020  
Revised:  
16 Feb. 2021  
Accepted:  
14 Jan. 2022

## Article Type

Research

©2022 ANI Publishing. All rights reserved.

\*  Corresponding Author: Special Education Practice School/Ogretmen/MEB  
\*\*  Osmangazi University, Turkey; [serife.yozkan@ogu.edu.tr](mailto:serife.yozkan@ogu.edu.tr)  
\*\*\*  Anadolu University, Turkey, [noncul@anadolu.edu.tr](mailto:noncul@anadolu.edu.tr)

## Introduction

Play is an enjoyable activity that allows children to learn, improve their creativity, burn their energy and initiate social interactions (Gunes & Tugrul, 2012; Taylor, Rogers, Dodd, Kaneda, Nagasaki, Watanabe, & Goshiki ; Tekin & Tekin, 2007). Labelling an activity as “play” requires the fulfilment of the following criteria: the child should start the play himself; he should be willing to play; he should accept the rules of the play; and he should have fun while playing (Ingersoll, 2012; Warreyn, Van der Baelt & Royers, 2014). Although “play” is defined in various literature, some common points stand out in these definitions. Among these commonly stated points are a) to support physical, mental, social-emotional and language development, b) to give a sense of pleasure and relaxation, c) to have unique rules, d) to allow making free choices, e) to take place in a specific place and time, f) to join on a voluntary basis, g) to contribute to socialization and learning, h) to facilitate to take part in natural environments (Kasari, Chang & Patterson, 2013; Nelson, Nelson, McDonnell, Johnston, & Crompton, 2007; Oncul, 2015; Tufekcioglu, 2013; Wolberg & Schuler, 2006; Wong & Kasari, 2012). These common issues mentioned in the definitions clearly indicate the importance of “play” in educational environments. In addition, preschool teachers often highlight its role and significance in the development of children, especially during pre-school period (Ingersoll, 2012; Trawick-Smith, Swaminathan & Liu, 2016).

Apparently, “play” has a significant role in education since it favorably supports child development (Aras, 2015; Aronstam & Braund, 2015; Bowdon, 2015 ). The following findings listed in the related literature also support this opinion by emphasizing that plays contribute to children’s a) cognitive skills such as creative thinking, problem-solving and imagination b) social skills such as collaboration, sharing, and conflict solution, c) motor skills such as hand-eye coordination, assembling, walking and running, d) communication skills such as initiating the communication, turn-taking and chatting (e.g., Aronstam & Braund, 2015; Bowdon, 2015; Dilekmen & Bozan-Tuzun, 2018; Marais, 2016; Oncul, 2015; Sandberg & Samuelsson, 2005; Singer, Golinkof & Hirsh-Pasek, 2013; Turkoglu & Uslu, 2016). Since it contributes to all development areas and meets children’s need for learning, play is one of the basic components of a well-organized educational process, so teachers inevitably make use of plays in their teaching (Aronstam & Braund, 2015; Kocyigit, Tugluk & Kok, 2007; Marais, 2018). The approach suggesting that children develop and learn through plays suggests that designing educational environments by integrating plays into teaching process is one of the responsibilities of a teacher (Aronstam & Braund, 2015; Bowdon, 2015; Dilekmen & Bozan-Tuzun, 2018; Marais, 2016; Sandberg & Samuelsson, 2005; Turkoglu & Uslu, 2016). Since play is an important tool for development, teachers can effectively employ plays while teaching and supporting children’s development by doing so (Broadhead, 2006; Dilekmen & Bozan-Tuzun, 2018; Durualp & Aral, 2010; Ozdemir & Ramazan, 2012; Pehlivan, 2005; Ulutas, 2011). In addition, teachers can have the opportunity to discover hidden talents of their students and make valuable contributions to their education (Sandberg & Samuelsson, 2005).

Autism Spectrum Disorder (ASD) is a developmental deficiency characterized with difficulties in social communication and social interaction as well as repetitive and restrictive behavior, interest and activity patterns (Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition [DSM-5], 2013). These diagnostic symptoms affect play skills development of autistic children; thus, their play activities considerably differ from those of children displaying typical development (Rutherford, Young, Hepburn & Rogers). Play is important for development of children with autism spectrum disorder just like it is for that of the development of children with autism spectrum disorder just like it is for normal children (Patterson & Arco, 2007). Children with ASD experience problems in initiating and maintaining a conversation as well as adapting to different social environments. They prefer to be alone, are interested in objects instead of people, are excessively interested in some objects and prefer not to share his interests and emotions (Cardon, 2007; DSM-5, 2013; Hobson, Hobson, Malik, Bargiota, & Calo, 2013; MacDonald, Clark, Garrigan, & Vangala, 2005; Paterson & Arco, 2007; Sucuoglu, 2009; Terpstra, Higgins, & Pierce 2002; White & Roberson-Nay, 2009). Therefore, autistic children might encounter problems in making friends and learning how to play due to above mentioned potential problems in their social interactions (Boutot, Guenther & Crozier, 2005; Kircaali-Iftar, 2013; Mazurek, 2014; Sucuoglu, 2013; Terpstra & Tamura, 2007). In addition to these general characteristics, autistic children experience constraints in their play skills, including taking part in a play, initiating the play by grasping a toy, using toys for their original purposes and playing with other children (Boutot Guenther & Crozier, 2005; Kircaali-Iftar, 2007; Ulke-Kurkcuglu, 2012).

Plays differ according to children's ages, and the skills required for a specific play change as age increases (Ingersoll, 2012; Warreyn, Van der Baelt & Royers, 2014). Although typically developing children spontaneously learn how to play and acquire the necessary skills for specific play by themselves or by observing adults and peers in their environment (Hobson & Hobson, 2007; Hobson, et.al., 2013; Warreyn, Van der Baelt & Royers, 2014), autistic children may need systematic instruction enriched by games and toys in structured environments and contexts to help them learn how to play effectively (Cardon, 2007; Lifter, Foster-Sanda, Arzamarski, Briesch & McClure 2011). However, teaching autistic children how to play is often a neglected practice in educational contexts (Holmes and Willoughby, 2005) and these children can suffer from staying behind their peers in terms of development (Lifter, Mason & Barton, 2011). Because "play" helps autistic children establish communication with peers, acquire new skills, and gain social acceptance as members of a particular group (Baker, 2000), it is important for teachers to teach autistic children to play or to teach them play skills as a learning outcome in individualized instructional programs (Lydon, Healy & Leader, 2011; Murdock, Ganz & Crittendon, 2013).

It is possible to access many studies focusing on autistic children's need to learn how to play in the related literature. These studies specifically deal with the teaching of the following skills: functional play (Lee, Lo & Lo, 2017); play builder (Besler & Kurt, 2016), plays with rules (Odluyurt, 2013) and symbolic play (D'Ateno, Mangiapanello & Taylor, 2003; Oncul 2015; Reagon, Higbee & Endicott, 2006; Sani-Bozkurt & Ozen, 2015; Ulke-Kurkcuglu, Bozkurt & Cuhadar, 2015). In addition, the following methods were

reported to be commonly employed in teaching autistic children how to play: discrete trial teaching (Garfinkle & Schwartz, 2002); teaching through activity schedules (Dettmer, Simpson, Myles, & Ganz., 2000; Rao & Gage, 2006), and teaching through live or video modeling (Besler & Kurt, 2016; Odluyurt, 2013; Oncul, 2015; Reagon, Higbee & Endicott, 2006; Sani-Bozkurt & Ozen, 2015). The common finding concluded in these studies is that the methods used in teaching autistic children how to play are remarkably effective and autistic children successfully acquire targeted play-related skills and behaviors at the end of the systematic teaching employed during this teaching.

Although there are numerous studies examining the effectiveness of play instruction for autistic children and many meta-analyses examining the results of similar studies on this topic (Saral & Ulke-Kurkcuoglu, 2018; Kossyvaki & Papoudi, 2019), few studies-both in the national and international literature-focus on the opinions of teachers working with autistic children on play instruction (Senturk-Cesur & Odluyurt, 2019). The literature lists many studies dealing with perceptions, attitudes and opinions of preschool and primary school teachers regarding teaching play skills. In addition, the recent studies focus on teachers' opinions about definition of "play", the contribution of "play" to child development and learning, the role of teachers in plays and the use of play as a teaching tool (Aldhafeeri, Ioanna & Aderonke, 2016; Aras, 2015; Baker, 2014; Baker, 2015; Ebbeck, Yim, & Warriar 2019; Fesseha & Pyle, 2016; Pyle & Bigelow, 2015). However, the studies conducted with special education teachers are limited only to the national literature. Only three studies conducted with special education teachers - regardless of the students they work with - were accessible in the national literature: two studies examine self-efficacy of teachers in relation to teaching how to play (Celep, 2020; Pistav-Akmese & Kayhan, 2017), and one study focuses on the use of plays and songs in lessons (Yikmis, Terzioglu, Mehtap & Aktas, 2017). Only one study directly determines opinions of teachers teaching autistic children about plays and teaching how to play (Senturk-Cesur & Odluyurt, 2019).

The study conducted by Senturk-Cesur and Odluyurt (2019) aims to determine opinions of teachers teaching autistic children (3-7 years old) and their parents about "play" and play skills, teaching play skills to autistic children and materials needed for teaching. 15 parents and 15 teachers participated in the study, which was carried out by using "descriptive method". The data were collected by conducting semi-structured interviews and analyzed descriptively. The findings show that both teachers and parents define "play" as an activity supporting child development, they believe that plays can be used while teaching various skills and concepts to autistic children. They need visual materials while teaching play skills to children with ASD.

Unfortunately, only one study focused on examining teachers' opinions dealing with autistic children about teaching play skills to these children. Given the importance of teaching autistic children to play, it is necessary to obtain information on how teachers of autistic children perceive and define "play," what opportunities they provide for their students in terms of "play," to what extent they integrate play into individualized instructional programs and, if so, how they implement them, and how they teach playful skills so that we can efficiently and effectively plan such an instructional process. If



teachers are unaware of the importance of play in child development and ignore play skills in individualized instructional programs by focusing more on academic skills (Lydon, Healy, and Leader, 2011; Murdock, Ganz, and Crittendon, 2013), autistic children may not benefit from the potential positive contributions of "play" to teaching and learning (Wolfberg & Schuler, 2006; Wong & Kasari, 2012), which could delay child development. Defining the existing situation is the first indispensable step before designing educational environments to support development of autistic children and preparing individualized teaching programs. Therefore, there is a growing need to conduct studies examining the opinions of teachers teaching autistic children about teaching play skills. Based on the above, this study aims to investigate how special education teachers working with autistic children define play skills, to determine their opinions on how to structure the teaching of play skills, and to determine their experiences in teaching play skills to autistic children so that it can make a valuable contribution to the literature by extending previous findings. The findings to be obtained are believed to provide valuable insights and guidance for teachers working with autistic children and researchers in this field.

## Method

The current study uses phenomenology, which is a qualitative research method. Phenomenology aims to explore participants' experiences related to a phenomenon, their perceptions and meanings they attribute to these experiences. In this design, data are collected from individuals who have experiences about the phenomenon, and these experiences are described in a holistic way (Creswell, 2013; Ersoy, 2017).

This study was designed according to the principles of phenomenology to understand how special education teachers define play skills, determine their opinions about how to structure teaching autistic children play skills, and investigate their experiences in teaching play skills to children with ASD. The phenomenon was conceptualized and defined during the data analysis, and the findings were interpreted through references to the data collected from the participants (Yildirim & Simsek, 2011)

## Participants

The study participants are 14 special education teachers working at a private special education application center located in a city in Marmara Region. The researchers applied to this special education application center to obtain the necessary permissions to collect the data and informed the teachers working in this school about the purpose of the study. Later, the teachers who volunteered to participate in the study were identified, and the interviews were conducted with these teachers. A bachelor's degree from the Department of Teaching Cognitive Impairment at any university was determined to be a prerequisite for interviewing as part of the study. The demographic information about the participant teachers are displayed in Table 1.

**Table 1.**

Demographic Information about the Participants

| Demographic Variables | F |
|-----------------------|---|
| <b>Gender</b>         |   |
| Female                | 9 |
| Male                  | 5 |
| <b>Experience</b>     |   |
| 1-5 year              | 5 |
| 6-10 year             | 7 |
| 11-15 year            | 2 |
| <b>Age</b>            |   |
| 21-25                 | 4 |
| 26-30                 | 3 |
| 31-35                 | 4 |
| 36-40                 | 2 |
| 41-45                 | 1 |

According to Table 1, nine participant teachers are female, and five are male. The number of teachers with 1 to 5 years experience is 5 five while 7 teachers have worked 6 to 10 years and only two teachers have 11 to 15 years of experience in this occupation. The majority of teachers (n=11) are in the age range of 21-35.

### Data Collection Instrument

The data collection instrument used in this study is semi-structured interviews, consisting of written open-ended questions. For the purposes of the study, an interview form involving semi-structured questions was developed to carry out the interviews. Before the development of the interview form, the studies using interviews conducted with teachers of children displaying typical developments as a data collection instrument were examined from the literature. Accordingly, a data collection instrument, which consists of 8 open-ended questions, was developed based on the purpose of the study. Later, the instrument's content validity was also examined to determine whether the instrument measures the construct it is supposed to measure (Gay, Mills & Airasian, 2012). To achieve this purpose, the developed data collection instrument was submitted to three experts in the field who have conducted studies focusing on teaching play skills to children with ASD so that they could provide feedback about the questions used in the instrument. Later, the instrument was finalized by making revisions based on the feedback received from these experts. These revisions included minor changes in the content of the questions and some revisions and corrections in spelling and meaning. The purpose of content validity analysis is to avoid researcher bias. This data collection instrument also included an information form involving questions asked to the participant teachers to obtain demographic information about them. The questions in the data collection form are as follows:

1. "What comes to your mind when you are told "play skills"?"
2. What do you think about teaching play skills to children with ASD?

3. Which development areas do you think are affected by play skills teaching to children with ASD? Why do play skills, do you think, affect these areas?
4. Do you think there is a critical age limit in teaching play skills to children with ASD? If so, what is this critical age limit?
5. Where should play skills be taught to children with ASD? Why?
6. Who should be responsible for teaching play skills to children with ASD? Why? Could you explain your reason?
7. Should play skills be integrated into individualized teaching programs prepared for children with ASD? Could you explain your reason?
8. Do you integrate learning outcomes related to play skills into the individualized teaching programs of your students? If so, which methods do you employ while teaching play skills to children with ASD?

## **Data Collection**

The steps followed in data collection process are as follows: obtaining necessary permissions, determining data collection principles, preparing a data collection manual according to these principles, and data collection. Firstly, the school principal where the data would be collected were interviewed face-to-face and informed about the purpose of the study and the demand to conduct interviews with several teachers working at the school and meeting the predetermined criteria. The principal was also told that the participation in the study would be on a voluntary basis, the data obtained will be used only for scientific purposes within the scope of the study, and the name of the participants and the school as well as other related information will be kept confidential.

After obtaining the necessary permissions, the researcher planned the schedule for the interviews he would conduct with the participating teachers. The data collection principles used in this study are as follows: (a) handing out the data collection form in written form, (b) obtaining written permission from the participants, (c) explaining the confidentiality agreement, (d) informing the participants that participation is on a voluntary basis, (e) asking for further clarification and information if any question is not answered satisfactorily, and (f) answering the participants' questions whenever necessary. The data were collected in the environments determined together with the participants such as teachers' room, classroom or workshop. Only written data were collected in the interviews since the first researcher had no experience and was not competent enough to conduct interviews.

The data were collected face-to-face between April 18 and 20, 2016 in the predetermined places with each participant. Prior to the data collection, the participant teachers were briefly informed about the aim of the interview. Later, they were reminded about the confidentiality statement and that participation is on a voluntary basis so that their voluntary participation could be reconfirmed at this step. All the teachers signed the written informed consent form. The data collection form was given to the participant teachers as a written form, and they were asked to provide written replies to the questions in the form. The researcher was physically present near the participant during the data collection phase in order to make clarifications whenever necessary. The data collection

procedure lasted 4 hours and 16 minutes; each interview taking 13 to 18 minutes in average. The participants were coded by giving each of them a number used during the data analyses instead of their real names. The data collection procedure was the same for each participant.

## **Data Analysis**

The collected data were analyzed descriptively. Since the data was written data, the researchers did not need to transcribe it. First, the answers given by the teachers were read twice and for each answer some meaningful units were formed and these units were explained conceptually. For the purposes of descriptive analysis, a thematic framework was established in parallel with the questions and the data were analyzed according to this framework. During this analysis, some revisions were made to the framework, e.g., some themes were merged or separated when necessary.. At the end of the analysis, the findings were defined and interpreted accordingly (Yildirim & Simsek, 2013). The replies provided by the participants were quoted while reporting the findings. Two researchers did the analysis in order to enhance the credibility of the results.

## **Research Credibility**

The study's credibility was enhanced by doing an extensive literature review and obtaining expert opinion to ensure content validity after the preparation of the draft questions. Having read the data collected from the interviews, the first researcher asked the participants to confirm the data. At this point, the researcher shared the findings in a summary format with the participants and asked them to confirm that their replies were comprehended correctly. In addition, they were told whether they would like to add to or exclude any statement from these summarized findings. Moreover, the findings were presented directly without adding any comments and supported through direct quotations from the original replies of the participants. The data were also analyzed by the second researcher, who is experienced in qualitative research methods. The similar themes suggested by both researchers were kept as original, and they negotiated over the different themes they suggested and they eventually agreed on a common theme. To increase the repeatability of the study, the researchers made detailed descriptions, and the findings were presented in such a way that they can be checked for their consistency by using the participant codes.

## **Research Ethics**

The appropriate ethical principles were followed in all phases of this study, from planning to publication. After the planning phase was completed, the necessary institutional approvals were obtained. Only written data were collected since the researcher did not have any experience and competence in conducting interviews. The participants were told that the participation in this study is voluntary and they were also informed about confidentiality statement as well the purpose of the study. Later, they were asked to sign

the informed consent form. The name of the school where participating teachers work was kept anonymous, and participants were coded with numbers when reporting results rather than using their real names. Finally, the participants were asked to confirm the collected data and all the findings obtained were presented in the research report.

## **Findings**

This section contains the results of opinions from special education teachers working with children with ASD about the definition of play skills, teaching play skills to children with ASD, the developmental areas that are affected when play skills are taught, and when, where, and by whom play skills should be taught.. The other findings also present information about whether these teachers teach play skills to their children or not and, if so, which methods they employ while teaching.

### **Definition of Play Skills**

Of the 14 participant teachers, 12 replied the question “What comes to your mind when you are told “play skills”?” by defining “play skills” in their own words. The teachers define play skills as activities that allow children to have fun and to learn while having fun. 2 teachers emphasized the importance of communication skills while making their definitions of play skills and 3 teachers mentioned about “children’s ability to express themselves freely” in their definitions. In other words, these teachers defined play as “a functional skill” as we can understand from the following excerpts from the interview data:

What comes to mind is developing emotional and motor skills, learning social roles, and improving communication skills (Teacher 1), activities that involve interacting with peers, effective time management, and some skills such as taking responsibility and self-expression... (Teacher 2), I think it is an area where the child can express himself, discover his abilities and improve all the developmental areas (Teacher 12), and The skills based on certain rules or not structured with rules that contribute positively to child development in terms of the teaching process. that allow children to learn while having fun, and that are needed in the performance of a task or tasks-without being labeled as an activity just to fill free time-are called play skills (Teacher 14).

### **The Importance of Teaching Play Skills to Children with ASD**

When the participant teachers were asked about their opinions regarding teaching play skills to children with ASD, they reported that teaching play skills to children with ASD is important due to socialization problems of autistic children. They also highlighted the importance of developing imitation skills for these children and the possibility of using plays while teaching them various skills especially communication and social skills and the challenging nature of these attempts. Teacher 2 emphasized that plays should be embedded into the daily life activities of autistic children, and their specific developmental features should be taken into account while doing this.

The plays designed in relation to different situations and environments are very beneficial for autistic individuals, especially for early age groups; however, there should be a variety of plays due to some obsessions of individuals with ASD. Teacher 2 also pointed out the importance of plays in the lives of every child by saying: Plays should play an important role in the lives of autistic children as they do in the lives of all other children. Both Teacher 3 and Teacher 9 focused on how plays contribute to learning as we can understand from the following sentences: The individuals who need play skills the most are autistic children (Teacher 3) and I believe that it might be easier to teach children through plays. Because they are audio and based on experience (Teacher 9).

Similarly, Teacher 4 and Teacher 13 pointed out the effect of play skills teaching on social and emotional development by saying:

The most important problem of children with ASD is insufficient socialization. Teaching play skills to these children will help them socialize (Teacher 4), It is absolutely essential since it supports social development and helps them express themselves (Teacher 13).

Finally, Teacher 7 emphasized the importance of play for children with ASD with the following words:

When we consider the fact that autistic children are not interested in inanimate objects and living creatures, unwilling to participate in social activities, have insufficient eye-contact and imitation skills - which are basic concepts-, play skills are essential.

## **The Effects of Play Skills on the Development Areas of Children with ASD**

When the teachers were asked which developmental areas teaching play skills to children with ASD affects, seven teachers told that all areas are affected, while five teachers said that social-emotional development is affected. Language and communication development was mentioned by three teachers, psychomotor development by three teachers and cognitive development area by one teacher. The following excerpts clearly reflect the idea that play skills affect all development areas of children with ASD.

It affects social, psychomotor and cognitive, in fact, all development areas. All the movements directly and positively affect psychomotor development. The plays played in groups help children to socialize. And all these together contribute to children's cognitive development. (Teacher 4), I witnessed that play skills have effects on all areas; mainly cognitive development as well as psychomotor, language and affective development areas. (Teacher 6), I believe it affects psychomotor, social, language, and cognitive development, in short, all areas of development (Teacher 7), and I believe it improves certain skills, such as learning rules for social life, getting to know oneself and one's immediate environment, being able to use one's body and express oneself (Teacher 9).

## **When, Where and by Whom to Teach Play Skills to Children with ASD**

Twelve teachers replied the question "Where, when and by whom should play skills be taught to children with ASD?" by stating that teaching these skills during the early child period would be the most appropriate option, regardless of the age, while two teachers clearly opined that there should not be any critical age limitations for teaching play skills to children with ASD. Some excerpts regarding this issue from the interview data are as follows:

Although play skills are commonly taught during early childhood period, there is not an age limit for play skills and, in fact, there should not be. (Teacher 2), I do not think education, regardless of its type and form, could be limited by biological age, and, as for play, individual and social development of individuals should be taken into account (Teacher 6), It might not be appropriate to tell a certain age limit. Each individual may have a unique readiness level and individual characteristics. On the whole, however, it is likely to be more productive in early childhood. (Teacher 14). In short, they suggested that play skills should be taught during early childhood period and not be delayed until later periods.

All the teachers provided similar responses to the question asking about the environments where play skills should be taught to children with ASD. The participant teachers stated the following ideas related to these environments: play skills might be taught to autistic children in every environment during their daily life; the play skill or skills to be taught are a determinant factor in the choice of the environment; it will be more appropriate to choose environments where they can be together with their peers; teaching environments should be safe; and principles of incidental teaching in natural environments should be implemented as much as possible. For instance, Teacher 1 emphasized incidental teaching by saying

The following participants suggested using natural environments for teaching and stressed the importance of "making generalisations for autistic children: In addition to the child's natural environment and daily surroundings, a structured environment should also be preferred. *There should be a variation in environments. The child should make generalizations. You know making generalizations is a difficult skill for our children to develop. The skill he learns should not be confined to one single environment* (Teacher 2), *The child's natural environments would be appropriate* (Teacher 8), and *Natural environment should be created* (Teacher 10). Teacher 4 and Teacher 6, on the other hand, thought that the lesson can be conducted in any environment, giving the following answers, *It can be conducted in any environment, but the necessary precautions should be taken* (Teacher 4) and *The decision may depend on the type of game, it will be conducted in any suitable environment* (Teacher 6).

When teachers were asked who should be responsible for teaching play skills to children with ASD, eleven teachers said that the teaching should be done by experts, teachers, as well as people close to them, such as family members or caregivers, while three teachers suggested that only experts and teachers should be responsible for this teaching. To illustrate, teacher 1, teacher 2, and teacher 7 said that these lessons should be conducted by experts, teachers, and people close to them, such as family members or caregivers.

Teaching autistic children play skills should be done by everybody in a child's life, expert, family, caregiver, immediate family.. (Teacher 1), and *Family, educator, caregiver should provide this teaching*" (Teacher 2), *In play skills teaching, family members should also play a role under the supervision of special education teachers in order to minimize limitations* (Teacher 7). On the other hand, the following excerpts report that these lessons should only be taught by experts and teachers: *Play skills should be taught by experts in the field so that they can serve their purpose.* (Teacher 11) and *The lessons should be taught by professional educators who have experience with autistic children - I mean those who have at least a bachelor's degree in special education.* (Teacher 14).

## **The Necessity to Integrate Play Skills to Individualized Teaching Programs of Children with ASD and the Reasons lying behind this Necessity**

All the participant teachers replied the question related to the necessity to use play skills in individualized teaching programs of children with ASD and the reasons lying behind this necessity by telling that the skills should be a part of educational programs. The following excerpt clearly underlined the idea that play skills should absolutely be embedded in individualized teaching programs and listed some reasons about it.

Play skills affect other areas as well, play skills suitable for each development areas should be embedded in individualized teaching plans (Teacher 5), To me, play skills should be in an individualized teaching plan more than other learning goals (Teacher 6), Yes they should be, because the most important problem is lack of imagination and inadequacy of social areas. Therefore, play skills should be embedded in the plan to improve these areas. (Teacher 9), and Teaching through play skills should be well-planned and systematic. It should be embedded in individualized teaching programs (Teacher 12)

## Integration of Play Skills in Individualized teaching Programs of Children with ASD and the Methods used in Teaching

Among the teachers replying to the question asking whether they include learning outcomes related to play skills in individualized teaching programs of autistic children, eleven teachers reported that they integrate play skills into these programs and three teachers said they do not. The following excerpts are from the replies of teachers reporting that they integrate play skills into these programs:

I have incorporated the results of play-based skills into the individualized instruction programs. Colors, rhythmic counting, money, shopping. For example, I used playful skills for some topics, such as how much a notebook costs (Teacher 1), I tried to incorporate them as much as the curriculum of the Ministry of National Education allows (Teacher 7), I incorporated playful skills when I worked for the private sector, but not for the Ministry of National Education (Teacher 10).

In contrast, Teacher 3 and Teacher 13 reported that they did not include play skills in individualized teaching programs of children with ASD and explained their reasons for that situation:

I could not do it because I do not consider myself competent in terms of playing skills. I am still improving (Teacher 3), I did not teach play skills as part of a planned individualized instruction program. I have mildly autistic children in my class, my class is overcrowded and we have limited instructional time (Teacher 13). Ten participant teachers provided answers to the questions asking which methods they employ if they include play skills in individualized teaching programs while other teachers did not answer this question since they do not include play skills in such programs. Of the teachers who responded to this question, seven teachers indicated that they use peer teaching, five teachers teach through video modeling, five teachers teach through dramatization, three teachers teach through live modeling, two teachers teach error-free, and two teachers teach incidentally. Some of the responses related to the methods used are as follows: I think the answer changes from student to student... While video modeling is used for a student, another student is taught these skills through dramatisation and peer teaching. We cannot talk about a certain method (for all) (Teacher 14), In the previous semester, my students were severely autistic. It was challenging but I managed to cope with the problem by using video modeling. (Teacher 10), I use dramatization model (Teacher 11), I teach through modeling. Peer teaching is also effective in reaching the objectives. I also often use drama method. I mean it depends on the level of each student (Teacher 4), It might be incidental teaching or in his natural environment. It does not matter. In my opinion, it is an effective method and I used it with my students in the past. Also, errorless teaching methods are used (Teacher 5).



## Conclusion, Discussion and Suggestions

It is commonly acknowledged in education world that plays are an indispensable part of children's lives. Teachers participate in many trainings throughout their education which emphasize the importance of plays in children's lives. Unfortunately, the literature about plays, which are believed to be a way to understand a child's world, is limited to the studies focusing on determining the contribution of plays to child development. This study explores how teachers of children with ASD define play skills, to determine their opinions about teaching play skills to autistic children and how to structure this teaching. The findings revealed that the teachers define play skills as activities that allow children to have fun and to learn while having fun, they find teaching play skills to children with ASD important and necessary and think that plays positively affect autistic children's development in psychomotor, language and communication, social-emotional and cognitive areas and it is possible for teachers, parents and caregivers to teach these skills in every environment regardless of their ages. The findings also showed that the majority of teachers integrate play skills into individualized teaching programs and employ the following methods while teaching these skills: peer teaching, teaching through video modeling or live modelling, dramatization, errorless teaching and incidental teaching.

The study's first finding is about teachers' definitions regarding play skills. The participant teachers defined play as "activities that allow children to have fun and learn while having fun" just like in the literature. They also emphasized the importance of communication skills and expressing oneself freely and plays as functional activities that support social development. These findings are consistent with the definitions made by primary school or preschool teachers in the previous studies. Teachers define plays as "activities that provide opportunities for learning and development and allow children to explore the natural world and support areas of development (Baker, 2000; Taylor et.al., 2004; Machalicek, Shogren, Lang, Rispoli, O'Reilly, Franco & Sigafos, 2009; Nelson et.al, 2007; Senturk-Cesur & Odluyurt, 2019); they also consider plays as "a natural need of children" and associate plays with "positive feelings such as happiness, freedom, comfort, and excitement" (Baker, 2015; Boutot, Guenther & Crozier, 2005; Tekin & Tekin, 2007). It is clear that definitions and perceptions of teachers are quite similar to those reported in the previous studies and the current study. For example, teachers perceive play as fun and educational activities that support development and consider it a need for children.

The study's findings show that teachers find teaching of play skills important and believe that a lot of skills can be taught through plays. This finding is well supported by the findings of the previous studies reporting that teachers think that lack of plays might lead to emotional and cognitive problems for children (Gunes & Tugrul, 2012). It is also parallel with the study's finding, which suggests that play is significant since it supports development areas of children (Senturk-Cesur & Odluyurt, 2019). When the findings from the current study and the previous studies are concerned, we can conclude that teachers consider plays as a need and a tool to support development; therefore, it can be said that embedding play in teaching children with ASD just like other children displaying normal development is important and essential.

According to the results of the study, the teachers believe that teaching play skills to children with ASD positively affect all development areas, especially social-emotional, psychomotor, language and communication. This finding is consistent with the theoretical knowledge which suggests that each play activity contributes to child's development areas, children whose need for playing plays are successfully satisfied will be individuals that are strong enough in terms of knowledge, skill and personality in the future, and children lacking play activities might encounter physical, mental and psychological problems (Duralp & Aral, 2010; Pehlivan, 2005). In addition, the findings obtained from the current study are parallel with those of the previous studies examining the effects of playing has on each development area separately or its overall effects on these areas (Aras, 2015; Ayan, Memis, Eynur & Kabakçı., 2012; Aronstam & Braund, 2015; Bowdon, 2015; Dagbasi, 2007; Durualp & Aral, 2010; Ersan, 2006; Gozalan, 2013; Marais, 2016; Pyle Danniels, 2017; Senturk-Cesur & Odluyurt, 2019; Turkmenoglu, 2005; Turkoglu & Uslu, 2016). Teachers can have the opportunity to support students' learning and development by providing feedback and reinforcements when they observe and take part in while children are playing. Moreover, they help children to solve problems or conflicts encountered during the play in a collaborative way, which is essential in terms of solutions to problems without disturbing the nature of plays and supporting and reinforcing children's learning and development (Aras, 2015; Broadhead, 2006; Tarman & Tarman, 2011; Tsai, 2015; Tugrul, Aslan, Erturk & Altinkaynak 2014). In summary, plays should be considered as activities that positively affect all children's development and contribute to their learning.

According to another finding of the study, the teachers think there is no critical age limit for teaching play skills to children with ASD; however, they believe that preschool period might be the most suitable time for this teaching. This finding is well supported by theoretical knowledge suggesting that learning how to play occurs in early childhood period and there is not an age limit for playing or teaching play skills (Dilekmen & Bozan-Tuzun, 2018; Turkoglu & Uslu, 2016). The teachers opined that play skills can be taught in every environment, which is consistent with the findings stated in the related literature, and this teaching should be done in natural environments as much as possible (Kircaali-lftar, Kurkcuglu & Kurt, 2014), and play skills teaching should be taught by experts and teachers as well as family members and caregivers. In addition, teachers can provide opportunities for their students and use plays for "learning" purposes when they are aware of its importance in child development and competent enough in supporting learning and development through plays (Tufekcioglu, 2013). Therefore, all pre-service teacher training programs should offer courses with a content related to play skill teaching. Also, the role of family members and caregivers of children with ASD in play skills teaching cannot be ignored although their teachers are primarily responsible for this teaching. The finding that the teaching of play skills could be taught by experts and teachers as well as family members and caregivers is consistent with the findings in the literature that family members and caregivers are responsible for teaching and should help children with ASD to develop appropriate behaviors as they are responsible for supporting their children's development and learning as they know them best and spend the most time with them in daily life (Oezdemir & Ramazan, 2012; Tugrul et.al., 2014).

Still another finding of the study shows that all the teachers believe that play skills should be embedded into individualized teaching programs of autistic children; however only some of these teachers include play skills in these programs. The teachers who do not have play skills in individualized teaching programs provide the following reasons for this situation: not being competent enough, inappropriate student profile and crowded classroom. In fact, there are special courses for this issue in special education programs (Tugrul, Aslan, Erturk, & Altinkaynak). Moreover, it should be considered that playful skills should be one of the basic skills to be taught to children with ASD, just like other skills such as psychomotor, daily living, language and communication, social-emotional or cognitive skills (Kircaali-lftar et.al., 2014).

The last finding of the study revealed that teachers use or might use more than one teaching methods while teaching play skills to autistic children. In parallel with the findings stated in the literature, the participant teachers use the following methods while doing this type of teaching: natural teaching (Garfinkle & Schwartz, 2002), teaching through activity schedules (Dettmer et.al., 2000; Rao & Gagie, 2006) and teaching through video or live modeling (Besler & Kurt, 2016; Odluyurt, 2013; Oncul, 2015; Reagon et.al., 2006; Sani-Bozkurt & Ozen, 2015; Ulke-Kurkcuglu, Bozkurt & Cuhadar, 2015). Teachers also indicated that the methods they use depend on certain factors-in a manner appropriate to the nature of special education-such as the characteristics of the students, their age, and the extent to which they are affected by an ASD condition, implying an emphasis on individualized instruction. This study is believed to contribute to the literature by rediscovering the importance of play in supporting development and learning of children with ASD. The findings obtained in the study not only provided valuable insights for the literature, but also supported the findings reported in previous similar studies by expanding their scope as they showed that special education teachers consider play important, integrate play skills instruction into their programs, and use evidence-based practices in teaching play skills (Senturk-Cesur & Odluyurt, 2019). Taking the findings of this study into consideration and teaching play skills in frequently revised and updated education programs prepared for children with ASD might be an important step to take. One limitation of the study is that the only written data were collected instead of conducting interviews because it is likely to collect more in-depth data through interviews.

It is evident that plays have a remarkable effect on learning through experience. Teachers should be aware of this problem and strike an appropriate balance in the classroom. In other words, they should present the lesson like a play, but not plays as a lesson. When we consider the importance of this balance as well as the findings of the current study and the previous studies, it is possible to make some suggestions for similar implementations or studies to be carried out in the future. Firstly, in-service training sessions or seminars can be organized to inform teachers about teaching play skills to children with ASD. Secondly, teacher can be encouraged and supported to include learning outcomes related to play skills while preparing individualized teaching programs for autistic children. Thirdly, pre-service teachers of special education can be given more opportunities for practical applications related to play skill teaching in both theoretical and practical courses offering content related to teaching play skills. In



addition, this study can be repeated with different groups of experts such as teacher's aides, teachers teaching different subjects (physics, biology, maths etc) and pre-service teachers or with other groups of participants such as parents, caregiver or siblings etc. Finally, action research can be designed to provide guidance for special education teachers while planning and teaching play skills.

**Ethics Committee Approval:** Ethics committee approval was not required for this study. Therefore it was not taken.

**Informed Consent:** Informed consent was obtained from the participants.

**Peer-review:** Externally peer-reviewed.

**Authors' Contributions:** Concept – S.Y.O., A.C.G.; Design S.Y.O., N.O.; Supervision – S.Y.O.; Data Collection and Processing – A.Ç.G.; Analysis and Interpretation – S.Y.O., N.O.; Literature Review – A.C.G., N.O., S.Y.O.; Writing – N.O., S.Y.O.; Critical Review – All authors.

**Conflict of Interests:** The authors have no conflict of interest to disclose.

**Financial Disclosure:** The authors declared that this study has received no financial support.

## References

- Aldhafeeri, F., Ioanna P., & Aderonke, F. (2016). Integration of digital technologies into play-based pedagogy in Kuwaiti early childhood education: Teachers' views, attitudes and aptitudes. *International Journal of Early Years Education* 24(3): 342–360. <https://doi.org/10.1080/09669760.2016.1172477>
- American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders-5 [DSM-5]*, Arlington: American Psychiatric Association.
- Aras, S. (2015). Free play in early childhood education: A phenomenological study. *Early Childhood Development and Care*, 186(7), 1173-1184. <https://doi.org/10.1080/03004430.2015.1083558>
- Aronstam, S., & Braund, M. (2015). Play in grade R classrooms: Diverse teacher perceptions and practices. *South African Journal of Childhood Education*, 5(3), 1-10.
- Ayan, S., Memis, U. A., Eynur, B. R., & Kabakçı, A. (2012). Özel eğitime ihtiyaç duyan çocuklarda oyuncak ve oyunun önemi. *Uluslararası Hakemli Akademik Spor Sağlık ve Tıp Bilimleri Dergisi*, 2(4), 80-89.
- Baker, M. J. (2000). Incorporating the thematic ritualistic behaviors of children with autism into games: Increasing social play interactions with siblings. *Journal of Positive Behavior Interventions*, 2(2), 66-84. <https://doi.org/10.1177/109830070000200201>
- Baker, F. S. (2014). Teachers' views on play-based practice in Abu Dhabi kindergartens. *International Journal of Early Years Education*, 22(3): 271–286. <https://doi.org/10.1080/09669760.2014.944884>
- Baker, F. S. (2015). Challenges presented to personal theories, beliefs and practices of play in Abu Dhabi kindergartens: The English medium teacher perspective. *Early Years*, 35(1), 22-35. <https://doi.org/10.1080/09575146.2014.958982>
- Besler, F., & Kurt, O. (2016). Effectiveness of video modeling provided by mothers in teaching play skills to children with autism. *Educational Sciences: Theory & Practice*, 16(1) 209-230. <https://doi.org/10.12738/estp.2016.1.0273>
- Boutot, E. A., Guenther, T., & Crozier, S. (2005). Let's play: Teaching play skills to young children with autism. *Education and Training in Developmental Disabilities*, 40(3), 285-292. <https://www.jstor.org/stable/23879722>
- Bowdon, J. (2015). The common core's first casualty: Playful learning. *Phi Delta Kappan*, 96(8), 33-37.
- Broadhead, P. (2006). Developing an understanding of young children's learning through play: The place of observation, interaction and reflection. *British Educational Research Journal*. 32(2), 191–207. <https://doi.org/10.1080/01411920600568976>
- Cardon, T. A. (2007). *Initiations and interactions: Early intervention techniques for parents of children with autism spectrum disorders*. Autism Asperger Publishing, APC, Kansas.
- Celep, M. U. (2020). *Okul öncesi özel eğitimde çalışan öğretmenlerin oyun öğretimine ilişkin öz yeterlikleri ve yaratıcı kişilik özelliklerinin incelenmesi* (Yayımlanmamış Doktora Tezi). Marmara Üniversitesi, Eğitim Bilimleri Enstitüsü, İstanbul.
- Creswell, J. W. (2013). Beş nitel araştırma yaklaşımı. M. Büğün & S. B. Demir (Eds.). *Nitel araştırma yöntemleri içinde* (ss. 69-110). M. Aydın (çev.). Ankara: Siyasal Kitabevi.
- Dagbasi, G. (2007). *Oyun tekniği ve Arapça öğretiminde kullanımı*. (Yayımlanmamış Yüksek Lisans Tezi) Gazi Üniversitesi, Eğitim Bilimleri Enstitüsü, Ankara.
- D'Ateno, P., Mangiapanello, K., & Taylor, B. A. (2003). Using video modeling to teach complex play sequences to a preschooler with autism. *Journal of Positive Behavior Interventions*, 5(1), 5-11.

- Dettmer, S., Simpson, R. L., Myles, B. S., & Ganz, J. B. (2000). The use of visual supports to facilitate transitions of students with autism. *Focus on Autism and Other Developmental Disabilities, 15*(3), 163-169.
- Dilekmen, M., & Bozan-Tuzun, N. (2018). Okul oncesi eğitimde oyunun öğretmen görüşlerine göre değerlendirilmesi. *Atatürk Üniversitesi Kazım Karabekir Eğitim Fakültesi Dergisi, 37*, 43-56.
- Durualp, E., & Aral, N. (2010). Altı yaşındaki çocukların sosyal becerilerine oyun temelli sosyal beceri eğitiminin etkisinin incelenmesi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 39*(39), 160-172.
- Ebbeck, M., Yim, H. Y. B., & Warrier, S. (2019). Early childhood teachers' views and teaching practices in outdoor play with young children in Singapore. *Early Childhood Education Journal, 47*(3), 265-273. <https://doi.org/10.1007/s10643-018-00924-2>
- Ersoy A. F. (2017). Fenomenoloji. A. Saban ve A. Ersoy (Ed.), *Eğitimde nitel araştırma desenleri* içinde (s. 82-138). Ankara: Anı Yayıncılık.
- Ersan, S. (2006). *Okul öncesi eğitim kurumlarına devam eden altı yaş grubundaki çocukların oyun ve çalışma (is) ile ilgili algılarının incelenmesi*. (Yayınlanmamış yüksek lisans tezi). Gazi Üniversitesi, Eğitim Bilimleri Enstitüsü, Ankara.
- Fesseha, E., & Pyle, A. (2016). Conceptualising play-based learning from kindergarten teachers' perspectives. *International Journal of Early Years Education, 24*(3), 361-377. <https://doi.org/10.1080/09669760.2016.1174105>.
- Gay, L. R., Mills, G. E., & Airasian, P. (2012). *Educational research: Competencies for analysis and applications*. (10<sup>th</sup> edition). Upper Saddle River, NJ: Pearson Education, Inc.
- Garfinkle, A. N., & Schwartz, I. S. (2002). Peer imitation: Increasing social interactions in children with autism and other developmental disabilities in inclusive preschool classrooms. *Topics in Early Childhood Special Education, 22*(1), 26-38.
- Gozalan, E. (2013). *Oyun temelli dikkat eğitim programının 5-6 yaş çocuklarının dikkat ve dil becerilerine etkisinin incelenmesi*. (Yayınlanmamış yüksek lisans tezi). Selçuk Üniversitesi Sosyal Bilimler Enstitüsü, Konya.
- Gunes, G., & Tugrul, B. (2012). A play tens of teachers, and hundreds of their ideas about child' who doesn't play. *Procedia Social and Behavioral Sciences, 47*(2012), 2025-2030. <https://doi.org/10.1016/j.sbspro.2012.06.943>
- Hobson, J. A., & Hobson, R. P. (2007). Identification: The missing link between imitation and joint attention? *Development and Psychopathology, 19*(2), 411-431. <https://doi.org/10.1017/S0954579407070204>
- Hobson, J., Hobson, R. P., Malik, S., Bargiota, K., & Calo, S. (2013). The relation between social engagement and pretend play in autism. *British Journal of Developmental Psychology, 31*(1), 114-127. <https://doi.org/10.1111/j.2044-835X.2012.02083.x>
- Holmes, E., & Willoughby, T. (2005). Play behaviour of children with autism spectrum disorders. *Journal of Intellectual and Developmental Disability, 30*(3), 156-164. <https://doi.org/10.1080/13668250500204034>
- Ingersoll, B. (2012). Brief report: Effect of a focused imitation intervention on social functioning in children with autism. *Journal of Autism and Developmental Disorders, 42*(8), 1768-1773. <https://doi.org/10.1007/s10803-011-1423-6>
- Kasari, C., Chang, Y. C., & Patterson, S. (2013). Pretending to play or playing to pretend: The case of autism. *American Journal of Play, 6*(1), 124.
- Kircaali-Iftar G., Ulke-Kurkcuoglu, B., & Kurt, O. (2014). *Otistik çocuklar için davranışsal eğitim programı 1-2*. Ankara: Anı Yayıncılık.
- Kircaali-Iftar, G. (2013). Otizm spektrum bozukluğuna genel bakış. E. Tekin-Iftar (Ed.). *Otizm spektrum bozukluğu olan çocuklar ve eğitimleri*. Ankara: Vize Yayıncılık.

- Kircaali-Iftar, G. (2007). *Otizm spektrum bozuklugu*. İstanbul: Daktylos Yayınları.
- Kocigit, S., Tugluk, M. N., & Kok, M. (2007). Cocugun gelism surecinde egitsel bir etkinlik olarak oyun. *Ataturk Universitesi Kazım Karabekir Egitim Fakultesi Dergisi*, 16, 324-340.
- Lee, S. Y., Lo, Y. Y., & Lo, Y. (2017). Teaching functional play skills to a young child with autism spectrum disorder through video self-modeling. *Journal of Autism and Developmental Disorders*, 47(8), 2295-2306. <https://doi.org/10.1007/s10803-017-3147-8>
- Lifter, K., Foster-Sanda, S., Arzamarski, C., Briesch, J., & McClure, E. (2011). Overview of play: Its uses and importance in early intervention/early childhood special education. *Infants Young Children*, 24(3), 225-245. <https://doi.org/10.1097/IYC.0b013e31821e995c>
- Lifter, K., Mason, E. J., & Barton, E. E. (2011). Children's play: Where we have been and where we could go. *Journal of Early Intervention*, 33(4), 281-297. *Young Children*, 24(3), 225-245. <https://do.org/10.1177/1053815111429465>
- Lydon, H., Healy, O., & Leader, G. (2011). A comparison of video modeling and pivotal response training to teach pretend play skills to children with autism spectrum disorder. *Research in Autism Spectrum Disorders*, 5(2), 872-884. <https://doi.org/10.1016/j.rasd.2010.10.002>
- MacDonald, R., Clark, M., Garrigan, E., & Vangala, M. (2005). Using video modeling to teach pretend play to children with autism. *Behavioral Interventions*, 20(4), 225-238. <https://doi.org/10.1002/bin.197>
- Machalicek, W., Shogren, K., Lang, R., Rispoli, M., O'Reilly, M. F., Franco, J. H., & Sigafos, J. (2009). Increasing play and decreasing the challenging behavior of children with autism during recess with activity schedules and task correspondence training. *Research in Autism Spectrum Disorders*, 3(2), 547-555. <https://doi.org/10.1016/j.rasd.2008.11.003>
- Marais, K. (2018). Translation and development. J. Evans & F. Fernández (Ed.), *The Routledge handbook of translation and politics* icinde (ss. 95-109). New York: Routledge.
- Mazurek, M. O. (2014). Loneliness, friendship, and well-being in adults with autism spectrum disorders. *Autism*, 18(3), 223-232. <https://doi.org/10.1177/1362361312474121>
- Murdock, L. C., Ganz, J., & Crittendon, J. (2013). Use of an iPad play story to increase play dialogue of preschoolers with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 43(9), 2174-2189. <https://doi.org/10.1007/s10803-013-1770-6>
- Nelson, C., Nelson, A. R., McDonnell, A. P., Johnston, S. S., & Crompton, A. (2007). Keys to play: A strategy to increase the social interactions of young children with autism and their typically developing peers. *Education and Training in Developmental Disabilities*, 42(2), 165-181. <https://www.jstor.org/stable/23879993>
- Odluyurt S. (2013). Kaynastırmaya devam eden otistik ozellikler gosteren cocuklara kurallı oyun ogretiminde akranları tarafından dogrudan model olma ve videoyla model olma ogretiminin etkilerinin karsılastırılması. *Kuram ve Uygulamada Egitim Bilimleri*, 13(1), 536-540.
- Oncul, N. (2015). *Otizm spektrum bozuklugu olan cocuklara sembolik oyunların kucuk grupla ogretiminde canlı modelle ve video modelle ogretim karsılastırılması*. (Yayınlanmamış Doktora Tezi). Abant İzzet Baysal Universitesi, Egitim Bilimleri Enstitusu, Bolu:
- Ozdemir, A., & Ramazan, O. (2012). Oyuncaga cocuk, anne ve ogretmen bakıs acısı. *Egitim Bilimleri Arastırma Dergisi*, 2(1), 2-16.
- Papoudi, D., & Kossyvakı, L. (2019). *Play and children with autism: Insights from research and implications for practice*. In P. K. Smith & J. L. Roopnarine (Eds.), *Cambridge handbooks in psychology. The Cambridge handbook of play: Developmental and disciplinary perspectives* (p. 563–579). London: Cambridge University Press

- Paterson, C. R., & Arco, L. (2007). Using video modeling for generalizing toy play in children with autism. *Behavior Modification*, 31(5), 660-681. <https://doi.org/10.1177/0145445507301651>
- Pehlivan, H. (2005). *Oyun ve Ogrenme*. Ankara: Anı Yayıncılık.
- Pistav-Akmese, P., & Kayhan, N. (2017). Özel eğitim öğretmenlerinin oyun öğretimine ilişkin öz-yeterlik düzeylerinin incelenmesi. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Özel Eğitim Dergisi*, 18(01), 1-26. <https://doi.org/10.21565/ozelegitimdergisi.274303>
- Pyle, A., & Bigelow, A. (2015). Play in kindergarten: An interview and observational study in three Canadian classrooms. *Early Childhood Education Journal*, 43(5), 385-393. <https://doi.org/10.1007/s10643-014-0666-1>
- Pyle, A., & Danniels, E. (2017). A continuum of play-based learning: The role of the teacher in play-based pedagogy and the fear of hijacking play. *Early Education and Development*, 28(3), 274-289. <https://doi.org/10.1080/10409289.2016.1220771>
- Rao, S. M., & Gagie, B. (2006). Learning through seeing and doing: Visual supports for children with autism. *Teaching exceptional children*, 38(6), 26-33.
- Reagon, K. A., Higbee, T. S., & Endicott, K. (2006). Teaching pretend play skills to a student with autism using video modeling with a sibling as model and play partner. *Education and Treatment Of children*, 29(3)517-528. <https://www.jstor.org/stable/42899899>
- Rutherford, M. D., Young, G. S., Hepburn, S., & Rogers, S. J. (2007). A longitudinal study of pretend play in autism. *Journal of Autism and Developmental Disorders*, 37(6), 1024-1039. <https://doi.org/10.1007/s10803-006-0240-9>
- Sandberg, A., & Samuelsson, I. P. (2005). An interview study of gender differences in preschool teachers' attitudes toward children's play. *Early Childhood Education Journal*, 32(5), 297-305. <https://doi.org/10.1007/s10643-005-4400-x>
- Sani-Bozkurt, S., & Ozen, A. (2015). Effectiveness and efficiency of peer and adult models used in video modeling in teaching pretend play skills to children with autism spectrum disorder. *Education and Training in Autism and Developmental Disabilities*, 50(1) 71-83. <https://www.jstor.org/stable/24827502>
- Saral D. & Ulke-Kurkcuglu B. (2018). Bakıma gereksinimi olan bireyler için hedef davranış belirleme ve tanımlama. FF. Aksoy (Ed.), *Etkili davranış yönetimi* içinde (ss. 29-55). Eskişehir: Acık Öğretim Fakültesi Yayınları
- Singer, D. G., Golinkof, R. M, & Hirsh-Pasek, K. (2013). Play Learning: How play motivates and enhances children's cognitive and social-emotional growth. Erisim tarihi: 22 Mayıs 2021 <http://udel.edu/~roberta/play/book.html>
- Sucuoglu, B. (2009). Otizm ve otistik bozukluğu olan çocuklar. A. Ataman, (Ed.). *Özel eğitime giriş* içinde (2. Baskı). Gündüz Eğitim ve Yayıncılık.
- Sucuoglu, B. (2013). Engelli çocuklarda oyun gelişimi: Otistik çocuklar. U. Tufekcioglu, (Ed.) *Cocukta oyun gelişimi* içinde. Anadolu Üniversitesi Yayınları.
- Senturk-Cesur, M., & Odluyurt, S. (2019). An investigation of the opinions and suggestions of parents and teachers about the teaching of play skills to children with autism spectrum disorders. *International Journal of Early Childhood Special Education*, 11(2) 128-140. <https://doi.org/10.20489/intjecse.670469>
- Tarman, B., & Tarman, İ. (2011). Teachers' involvement in children's play and social interaction. *Elementary Education Online*, 1(10), 325-337.
- Taylor, S. I., Rogers, C. S., Dodd, A. T., Kaneda, T., Nagasaki, I., Watanabe, Y., & Goshiki, T. (2004). The meaning of play: A cross-cultural study of American and Japanese teachers' perspectives on play. *Journal of Early Childhood Teacher Education*, 24(4), 311-321. <https://doi.org/10.1080/1090102040240411>



- Tekin, G., & Tekin, A. K. (2007). Meanings of child's play according to Turkish early childhood educators: A phenomenological study. *Journal of Instructional Psychology*, 34(4), 207-213.
- Terpstra, J. E., Higgins, K., & Pierce, T. (2002). Can I Play?: Classroom-based interventions for teaching play skills to children with autism. *Focus on Autism and Other Developmental Disabilities*, 17(2), 119-126. <https://doi.org/10.1177/10883576020170020701>
- Terpstra, J. E., & Tamura, R. (2008). Effective social interaction strategies for inclusive settings. *Early Childhood Education Journal*, 35(5), 405-411. <https://doi.org/10.1007/s10643-007-0225-0>
- Toth, K., Munson, J., Meltzoff, A. N., & Dawson, G. (2006). Early predictors of communication development in young children with autism spectrum disorder: Joint attention, imitation, and toy play. *Journal of Autism and Developmental Disorders*, 36(8), 993-1005. <https://doi.org/10.1007/s10803-006-0137-7>
- Trawick-Smith, J., Swaminathan, S., & Liu, X. (2016). The relationship of teacher-child play interactions to mathematics learning in preschool. *Early Child Development and Care*, 186(5), 716-733. <https://doi.org/10.1080/03004430.2015.1054818>
- Tsai, C. Y. (2015). Am i interfering? Preschool teacher participation in children's play. *Universal Journal of Educational Research*, 3(12), 1028-1033. <https://doi.org/10.13189/ujer.2015.031212>
- Tugrul, B., Aslan, O. M., Erturk, G., & Altinkaynak, S. O. (2014). Anaokuluna devam eden alti yasındaki cocuklar ile okul oncesi ogretmenlerinin oyun hakkındaki goruslerinin incelenmesi. *Inonu Universitesi Egitim Fakultesi Dergisi*, 15(1), 97-116. <https://doi.org/10.17679/iuefd.05509>
- Turkmenoglu, F. (2005). 60-72 aylık cocukların matematik becerilerini kazanmalarında, "oyun yoluyla matematik becerilerini kazandırma programı"nın etkisinin incelenmesi. (Yayınlanmamış Yuksek Lisans Tezi). Gazi Universitesi, Egitim Bilimleri Enstitusu, Ankara.
- Turkoglu, B., & Uslu, M. (2016). Oyun temelli bilissel gelism programının 60- 72 aylık cocukların bilissel gelismine etkisi. *Uluslararası Egitim Bilimleri Dergisi*, 3(6), 50-68.
- Ulke-Kurkcuoglu, B. (2012). Otizm spektrum bozuklugu olan cocuklara oyun becerilerinin ogretimi. E. Tekin-İftar (Ed.). *Otizm spektrum bozuklugu olan cocuklar ve egitimleri icinde*. Vize Yayıncılık.
- Ulke-Kurkcuoglu, B., Bozkurt, F., & Cuhadar, S. (2015). Effectiveness of instruction performed through computerassisted activity schedules on on-schedule and role-play skills of children with autism spectrum disorder. *Educational Sciences: Theory & Practice*, 15(3) 671-689. <https://doi.org/10.12738/estp.2015.3.2432>
- Ulutas, A. (2011). Okul oncesi donemde drama ve oyunun onemi. *Adıyaman Universitesi Sosyal Bilimler Enstitusu Dergisi*, 4(6), 233-242. <https://doi.org/10.14520/adyusbd.116>
- Warreyn, P., Van der Paelt, S., & Roeyers, H. (2014). Social-communicative abilities as treatment goals for preschool children with autism spectrum disorder: The importance of imitation, joint attention, and play. *Developmental Medicine & Child Neurology*, 56(8), 712-716. <https://doi.org/10.1111/dmcn.12455>
- White, S. W., & Roberson-Nay, R. (2009). Anxiety, social deficits, and loneliness in youth with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 39(7), 1006-1013. <https://doi.org/10.1007/s10803-009-0713-8>
- Wolberg, J. K., & Schuler, A. L (2006). Promoting social reciprocity and symbolic representation in children with autism spectrum disorders. T. Charman & W. Stone (Eds.). *Social and communication development in autism spectrum disorders: early identification, diagnosis, and intervention*. The Guilford Press.

- Wong, C., & Kasari, C. (2012). Play and joint attention of children with autism in the preschool special education classroom. *Journal of Autism and Developmental Disorders*, 42(10), 2152-2161. <https://doi.org/10.1007/s10803-012-1467-2>
- Yikmis, A., Terzioglu, N. K., Mehtap, K. O. T., & Aktas, B. (2017). Ozel Egitim Ogretmenlerinin Derslerde Oyun Ve Sarkiyi Kullanma Durumları. *Abant İzzet Baysal Universitesi Egitim Fakultesi Dergisi*, 17(3), 1567-1583.
- Yildirim, A., & Simsek, H. (2011). *Sosyal bilimlerde nitel araştırma yöntemleri* (8.baskı). Seckin Yayınevi.

Authors

Contact

Ayse Cigdem GULVEREN

Special Education Practice School  
Ministry of Education  
Special Education, Istanbul, Turkey

Serife YUCESoy OZKAN

Osmangazi University,  
Faculty of Education, Eskisehir, Turkey.

E-mail: [serife.yozkan@ogu.edu.tr](mailto:serife.yozkan@ogu.edu.tr)

Nuray ONCUL

Anadolu University,  
Faculty of Education, Eskisehir, Turkey.

E-mail: [noncul@anadolu.edu.tr](mailto:noncul@anadolu.edu.tr)

# An Action Research on the Use of Collaborative Teaching Techniques\*

Sinan ARI\*\* Sabahattin CIFTCI\*\*\*

## To cite this article:

Ari, S., & Ciftci, S. (2022). An action research on the use of collaborative teaching techniques. *Journal of Qualitative Research in Education*, 29, 78-110, doi: 10.14689/enad.29.4

**Abstract:** This research aims to develop the educational process and its applications by bridging theoretical knowledge and practice with action plans prepared and implemented based on collaborative teaching methods. In addition, this research aimed to emphasize that learning together based on solidarity by coming together in line with the knowledge and skills of students can be more effective. The research was conducted in action research design, one of the qualitative research designs. In this study conducted in the 2018-2019 school year with 4th grade students of a bus school in Sarıkaya district in Yozgat and their teachers, ten lessons were initially observed before implementation and an attempt was made to understand the current situation through semi-structured interviews and observations. Then, action plans were prepared and thirty-two hours of implementation was carried out. Descriptive analysis was used to analyse the data obtained within the scope of the study, and the data obtained before and after the application were interpreted by making comparisons. According to the findings obtained at the end of the study, it was found that the use of collaborative teaching techniques in social studies classes broke the competitive classroom climate, reduced some negative student behaviors, increased interest in the classroom, and contributed to the professional development of the classroom teacher. The research will shed light on future research by transferring the experiences gained through action research into the literature.

**Keywords:** Collaboration, action research, professional development, primary school.

## Article Info

Received:  
05 Oct. 2021

Revised:  
01 Jan. 2022


Accepted:  
14 Jan. 2022


## Article Type

Research

© 2022 ANI Publishing. All rights reserved.

\* This article was produced from the doctoral thesis completed in 2020 by the first author under the supervision of the second author.

\*\*  Corresponding Author: Ministry of National Education, Yozgat, Turkey, [dr.sinanari@gmail.com](mailto:dr.sinanari@gmail.com)

\*\*\*  Necmettin Erbakan University, Turkey, [sabahattinciftci@hotmail.com](mailto:sabahattinciftci@hotmail.com)



## Introduction

The modern world, which makes change inevitable, has brought many innovations to the field of education and many other fields. Knowledge is no longer an immobile solid; it has been liquefied, actively moving in all society's events (Dewey, 2019, p. 37). In the age of information and technology, where a transformation from industrial society to information society occurs, both the object and the subject of information are human beings. Countries that produce, use, distribute, and transform information into an economy are at the forefront of international competition. In information societies founded on human beings, institutions are organized based on knowledge, and administrations are based on well-equipped people (Ince & Gul, 2006, p. 221). Countries constantly update their education systems and programs in the light of scientific developments and in line with the needs of the age.

For this reason, in education systems, a profile in which students' active participation, and learning through trials and experiences is essential, and students are not only dependent on the teacher but they also research, question, and learn has been adopted (Babadogan, 2005, p.102). The education world has moved away from the traditional approach and adopted a constructivist one. As in other countries, there has been a transformation from teacher-centred education to student-centred education in our country's education system. In environments where active learning is enabled, the teacher is a designer who gives ideas to students, directs, guides, and facilitates learning (Acikgoz, 2008, p. 34). Therefore, classroom teachers implementing the primary school programs have to renew and update themselves in the education-training processes in line with the needs.

In today's world where talent wars are taking place, a good learning environment, learning process and teaching techniques are needed to realize the purpose of the Social studies lesson. Teachers should know what teaching techniques are, and the functions and roles of these techniques (Bilen, 2010, p. 247). Because, according to Toffler, the information age is nothing but the restructuring of life (Toffler, 1992, p. 76). At this point, teachers who train the basic source and capital of knowledge should restructure their teaching methods and techniques in developing world conditions and update themselves following their professional competencies. Demirkan and Saracoglu (2016) emphasize that teachers should use student-centered, contemporary teaching techniques in their learning-teaching processes. Based on the research, Bilgili (2008) stated that using methods to make students active in classes increases academic achievement.

In active learning environments, students are able to understand, absorb, produce and use what they learn. For this, students should constantly research, establish a cause and effect relationship, question and analyze the data they obtain. While doing all these, they should cooperate with their peers by using their knowledge and skills effectively (Sonmez, 2008, p. 360). In line with these needs, many learning approaches have been developed that make the student active. One of these approaches is the collaborative learning approach. Simsek (2007) expresses this approach as a method in which students help



their peers to learn, are constantly active, increase their problem-solving power, and develop social skills while performing their own learning with heterogeneous groups towards a common purpose in a subject with heterogeneous groups in classroom and outside of the classroom.

Many definitions have been made on cooperative learning. While Demirel (2003) explains collaborative learning as a method where students learn in small groups to solve a problem with a common goal, Senemoglu et al. (2001) state that small heterogeneous groups should learn by helping each other on a scientific subject in line with a common goal. They expressed it as a method in which the learning is realized and group success is generally rewarded. Siegel (2005), on the other hand, explains it as a method in which a group of students work together for a common purpose and thus student interaction is provided. In another definition, "Collaborative learning is a classroom learning method used to increase motivation and retention, to help students develop a positive image of themselves and their friends, to develop problem-solving and critical thinking, and to encourage cooperative social skills" (Christison, 1990).

Based on the findings of other studies (Slavin & Karwein, 1981; Moskowitz et al., 1983 and Lazorowitz et al., 1985), Yilar (2015) stated in his research that the collaborative learning approach has positive effects on many skills as well as students' academic achievement. Acikgoz (1996) states that collaborative learning positively affects affective characteristics such as motivation, attitude, and anxiety, creating a positive learning environment. The benefits of collaborative learning have been listed in different ways in many scientific studies. Some of these benefits are;

Sharing knowledge and experiences in the collaboration process (Wessner & Pfister, 2007, p. 22), sharing the ideas of the groups and creating new products (Ingram & Hathorn, 2004, p. 218), ensuring peer learning (Slavin, 1987, p. 1161), integrating students with different abilities, providing intra-group interaction (Demirel, 2003, p. 124), increasing the participation of passive students in the course (Bilgin & Akbayır, 2002), and providing a high level of motivation in students (Tauer & Haravkievicz, 2004).

Primary school is the first education step in which basic knowledge and skills are acquired and the foundations of attitudes and values are laid. It is very important to know primary school students' basic characteristics and needs in the concrete operational period. These students want to move freely in learning environments, interact with their friends and participate actively in learning (Celik, 2002, p. 61). In addition, students have an active and questioning attitude rather than passivity, dealing actively in the process of problem solving, discussing with their peers and teachers (Philips & Soltis, 2005, p. 51). Yesilyurt (2009) emphasizes that collaborative learning has a significant positive effect on behaviors in cognitive, affective and psychomotor domains in his study, which examines the effect of collaborative learning on student behavior. It is stated in the updated curriculum (Turkish, Social Studies, etc.) that cooperative learning provides an environment to respect differences, to perceive differences as wealth, to share ideas freely and to form new ideas on the basis of collaboration and communication (MEB,

2017). The purpose of this study is to contribute to the professional development of teachers, on the one hand, and to examine the classroom climate created by teaching social studies in terms of cooperative learning and its effects on students, on the other. For this purpose, before and after the application; "What are the thoughts of classroom teacher on cooperative teaching techniques? How is the classroom ambiance like after the lessons taught with these techniques? What are the students' thoughts on social studies lessons taught with cooperative teaching techniques?" Some answers have been sought for such questions.

## Method

This research is designed as action research using qualitative research methods to improve the educational process and practice by bridging theoretical knowledge and practice to contribute to teachers' professional development on the one hand, and to see how the classroom climate develops when social studies classes are conducted with an understanding of cooperative learning and its impact on students on the other. Action research is applied research that treats knowledge as a form of power and lifts the line between research and social action (Neuman, 2006, p. 42). In another definition, action research is a practice-oriented research approach that aims change to improve the action within a social event (Taylor, 2002). Derince and Ozgen (2015, p.146) state that action research is commonly used in the field of education, and action researches can be made for the problems faced by administrators, counsellors, and especially teachers, in classroom practices or to improve these practices and solutions can be produced. The point on which the definitions agree is that even if there is no problem, action research is a scientific research approach that focuses on improving an existing situation, is applied, planned and carried out with systematic steps. Action research models such as Piggott-Irvine, Stringer, Kemmis, and McTaggart's model are mentioned in the literature (Gurgur, 2016). In this study, Stringer's spiral action research was used, which consists of the steps of seeing, thinking, and acting. The process in this study is shown in the figure 1.

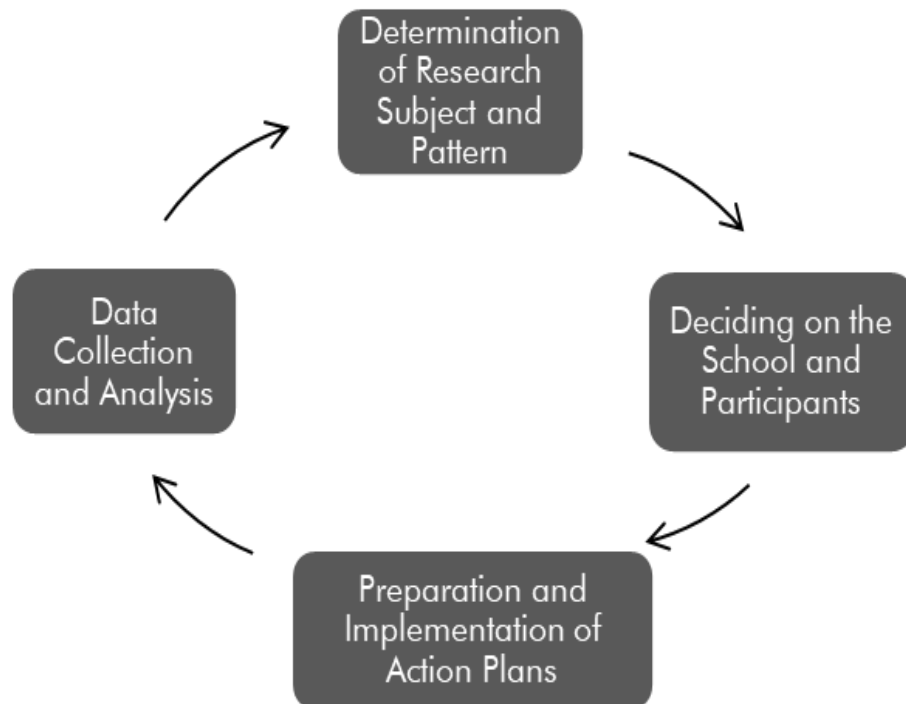
## Determination of Research Subject and Pattern

In the determination of the research topic, the researcher's determinations in the school environment where he was working, his own experiences and thoughts, as well as his interviews with competent people, especially his consultant, were effective. Since the researcher is an administrator, this issue has attracted more attention of him after what a parent told in a parents' meeting at the school. During the interview, the mother stated that her child became angry because he could not win gifts in the competitions that took place during class, that his behavior changed at home, that he became angry, that he started hitting his younger sibling at home, and that he even became delirious at night. As a result, the focus on the subject increased. The information obtained by the researcher in the Qualitative Research Patterns and Applications course during the doctoral process, the goal of action research to develop school and classroom related applications, the fact that the researcher is part of the research and is trying to solve a

problem and improve it at its core and provide the opportunity for application are the main factors that determine the "pattern" as an "action research pattern".

Figure 1.

Action Research Process



### Deciding on the School and Participants

The study group of this research consists of 4<sup>th</sup> grade students and substitute classroom teachers studying in a transportation-based village school in Sarikaya district of Yozgat in the academic year of 2018-2019. The classroom teacher has experience outside of primary school. He worked as a substitute teacher at various levels for five years. The reasons that push the researcher to his school stem from the fact that administrators and teachers in other schools avoid such practices, the researcher has detailed information about students and parents because he has been working in this school for four years and is willing to do the application himself and doing it in another school has some difficulties. In this context, easily accessible situation sampling was preferred from purposeful sampling methods in sample selection. Easily accessible case sampling is the method that gives speed and practicality to the research and in which the researcher chooses the situation that is easy to access (Yildirim&Simsek, 2006, p.113).

The study group consists of 15 girls and 10 boys. Eighteen of these students come to the school with a shuttle bus. Nineteen of the mothers are primary school graduates, 6 of them are secondary school graduates and all housewives. Eighteen of the fathers were

primary school graduates, 5 were secondary school graduates, one was high school graduate, and one was illiterate. Students and their families are socio-economically similar.

### **Preparation and Implementation of Action Plans**

Prior to the creation of the action plans, a series of discussions were held with the classroom teacher regarding the topics to be covered and their duration. The outcome of these discussions, the topics to be covered, the techniques to be used, and the duration of the actions are listed in the table below.

**Table 1.**

*Topics to be Covered, Techniques Used and Their Durations*

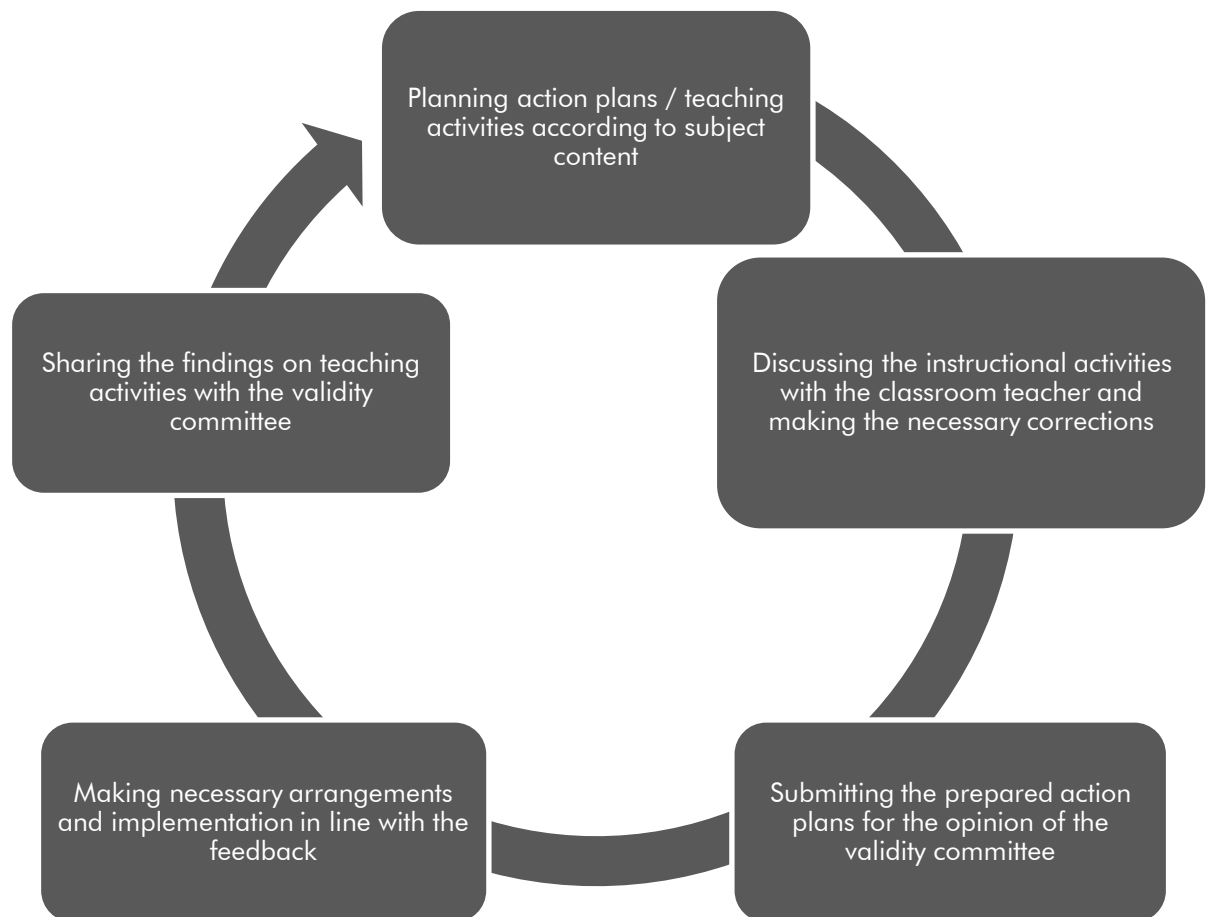
| UNIT                                    | TECHNIQUE USED             | DURATION        |
|---|----------------------------|-----------------|
| Production Distribution and Consumption | Team Game Tournament (TGT) | 12 lesson hours |
| Active Citizenship                      | Learning Together          | 10 lesson hours |
| Global Connections                      | JIGSAW-II                  | 10 lesson hours |

After planning the lesson, as shown in Table 1, draft action plans were prepared according to the researcher's observations and the opinions of the classroom teacher and the validity committee, deciding to make changes for new situations that might arise during implementation, and making necessary changes as needed. The validity committee consists of two faculty members from the same department and the researcher's advisor. The weekly cyclical process for preparing and implementing action plans (instructional activities) is summarized in Figure 2.



Figure 2.

*Cyclical Process for the Preparation and Implementation of Action Plans*



### Collection, Analysis and Ensuring Credibility of Data

During the research researcher diary, participant observation, student-teacher personal information forms, study and activity sheets in action plans, camera recordings, observer notes, semi-structured interviews were used as data collection tools in line with the purpose and pattern of the research. A semi-structured interview, which is widely used for data collection in qualitative research, is a method predetermined by the researcher or by which new questions can be asked according to the issues raised during the interview (Guler et al.2013, p.113). These interviews can provide both fixed-choice answers and deeper research into the relevant issue. The interviewees' opportunities to express themselves, delving into the subject, the ease of analysis, etc. are the advantages of this method (Buyukozturk et al., 2013). In accordance with the ethical rules, the necessary permissions were obtained from the interviewees and it was explained to them that the obtained data would not be used outside the research. In addition, interviewees were informed that their names would not be mentioned at any stage of the research



and that a code would be used instead. During the investigation, the students and the class teacher were asked open-ended additional questions, and depending on the course of the interview, some additions were made as needed, provided that the core of the main question was kept. This method was used especially in order to get more detailed answers from the students. The interviews were conducted one-on-one in the vice principal's room in an environment where the interviewees could be comfortable.

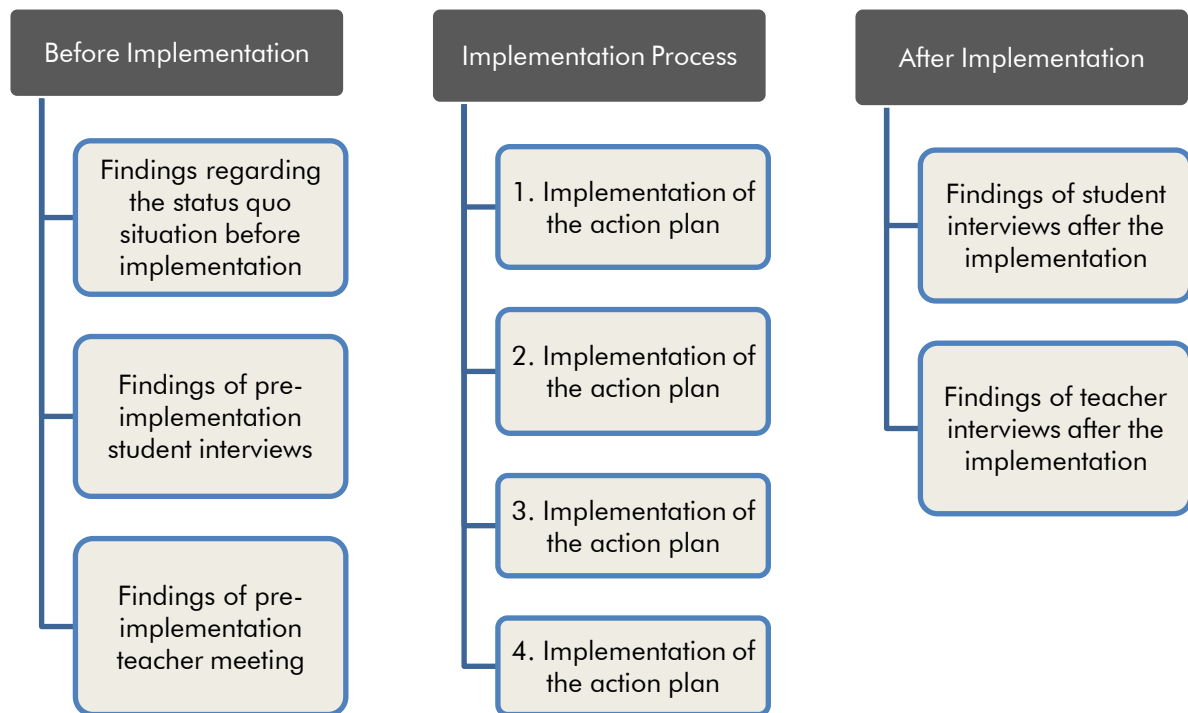
Descriptive analysis was used to analyse the data obtained within the scope of the research. According to Yildirim and Simsek (2006, p. 224), descriptive analysis is mainly used in studies where the conceptual structure of the research is clearly formulated in advance. The data are interpreted and summarized according to the predetermined themes or the framework revealed by the research questions. Establishing cause-effect relationships between findings and making comparisons are factors that increase the quality of interpretations. According to the explanation made by Buyukozturk et al. (2013, p. 245) in line with the explanations of McMillan, taking detailed field records in a qualitative study, providing accurate and comprehensive information by the researcher, making quotations from the participants and transferring these quotations without adding them increases the reliability. In addition, the data obtained during the research were analyzed by another expert in the field. Guler et al. (2003, p. 135) state that each of the different approaches used in qualitative research has its analysis method, but there are still many points overlapping. Based on Engel and Schutt (2005), these common points are explained in five stages as writing down the collected data, organizing the data around the main concept, revealing the relationship of the concepts with each other, legitimizing the concepts by evaluating the data, and presenting the data analysis within a certain logic. In this context, the data collected during the research process were written down, and codes were created by organizing them around thematic frames formed from the interview questions. These procedures, performed by the researcher, were also carried out by another field expert, after it was understood that they were consistent, the findings phase was initiated and care was taken to associate the findings with all the data obtained in the context of cause and effect relationship.

## **Results**

The research findings were presented in three categories: before the application, during the application process, and after the application. The systematic of the research findings is as follows.

**Figure 3.**

*Systematic of Research Findings*



**Findings Regarding Status quo before Implementation**

The researcher made 10-hours classroom observations for two months before the implementation and kept a diary; he took field notes and made video and audio recordings. In lesson observations, more attention was paid to the general process of the lesson, the methods and techniques used, teacher-student communication, skills such as social participation, empathy, collaboration, values such as solidarity, responsibility, love, respect, and student behavior. It has been observed that the teacher generally teaches by presentation.

In the observations made on student behavior, it was seen that the lesson was listened carefully, and the participation in the lesson was in the form of answering the questions asked by the teacher. After the teacher finishes the subject, he makes the students take notes from time to time. Considering that students like to write, writing short notes is positive for students, but apart from that, there is no environment where students will be active and participate actively. This situation is reflected in the observation form as follows:

... Naturally, students are not very active except answering questions asked by teacher or asking questions to the teacher. The students who went to the restroom in the previous lesson went out again. I observed that some of the students who were not attending class laid their heads on the

table and were almost asleep. Although there was a slight humming while the teacher was making them take notes, there were no students who did not take down notes... (Researcher’s Observation Form, 19.12.2018)

## Findings of Pre-Implementation Student Interviews

Students were first asked about their general thoughts on the social studies lesson. When the answers given were examined, most of the students stated that they liked social studies lesson and a small part of them sometimes liked and sometimes disliked it. It is important to note that most students liked the lesson because it accomplished the intended goals. With the exception of four students, almost all other students have an opinion about the content of the lesson. When students' opinions were asked about the activities in the social studies class, the activities that students mentioned most often are listed in the table below.

**Table 2.**

*Activities in Social Studies Lesson*

| Theme                               | Codes                   | F ( ) |
|-------------------------------------|-------------------------|-------|
| Activities in Social Studies Lesson | Photocopies –worksheets | 14    |
|                                     | Writing                 | 14    |
|                                     | Multiple choice test    | 10    |
|                                     | Reading                 | 6     |
|                                     | Questions-Answers       | 6     |
|                                     | Direct Instruction      | 4     |

From the students' expressions, it is understood that in the social studies lesson, the classical activities and practices brought about by teaching are generally performed, but in most of these activities, there is no situation where students will communicate and cooperate with each other. Some of the student statements are as follows;

We test with points. For example, we look for who found the bike and come, we say it the next day. While the lesson is taught, we read the texts in the book and do the activities in the book. Sometimes the teacher brings paper. There are multiple-choice questions, there are true-false, there are matching questions, there is fill-in-the-blank. (S3)

The teacher tells at first, then gives a photocopy with points about that subject. He makes us writes, he makes us take notes. (S6)

We read from the book, do the activities, solve the questions. The teacher asks us questions, we answer them. (S9)

After receiving student comments on the activities in the lesson, students were asked for their thoughts on the things they liked and disliked in the lesson. The majority of the students stated that generally there is nothing they did not like, but rather liked writing and activities performed with photocopy papers. After these reflections, the students were asked how they would like to teach the lesson. The expressions in the responses received are coded and indicated in the following table.

**Table 3.***Students' Opinions on How They Would Like The Social Studies Lesson to be Taught*

| Theme  | Codes  | F ( ) |
|--|--|-------|
| Opinions of Students Regarding How They Want Social Studies Lesson To Be Processed | By making it fun (puzzle test, joke, riddle, etc.) | 13    |
|  | By writing more                                    | 10    |
|  | With Games   | 9     |
|  | With projection                                    | 6     |
|  | By asking each other questions                     | 6     |
|  | From the book                                      | 3     |
|  | With the teacher's explanation                     | 3     |

As seen in Table 3, the students stated that they wanted the lessons to be taught by making them more fun and by writing. When the previous table is examined, it is seen that most of the students like to write. This situation reveals the consistency in the answers given by the students. Some students' views on the subject are as follows:

I want us to write more in the notebook. I want to be given puzzle tests. There is no smart board but I want lessons to be shown from the projection. I want the teacher to show by drawing on the blackboard. (S1)

Lessons should be fun and everyone should have more say. Everyone should read more. The teacher should call me to the blackboard, I like it more when I stand up and show it when we learn the right and left. Sometimes I ask questions to our teachers and sometimes to my friends, which is also nice. (S5)

By projecting on to the board. Questions and activities related to the subject we deal with should be projected. It should be fun... We should do activities, writing, games, making and presenting projects. (S16)

Each of the students has different expectations from the lessons. However, their thoughts that the lessons should be fun are seen as a common point.

### Findings about the Pre-Implementation Teacher Interview

The researcher held a meeting with the teacher about the methods and techniques in the course and on collaborative teaching techniques, as required by the research subject. In the interview, firstly, the teacher asked a question about which methods and techniques he used in social studies lesson and how often. The teacher's answer is presented below:

Before teaching the social studies lesson, I look at the plan, I read the book; I am reviewing the book beforehand to see what subjects are there. I highlight the important places. I am planning ahead of time in my mind. I also have an auxiliary resource. I also benefit from there... I'm creating a template in my head. The subject that I will tell later is guided by what will work for children in daily life. For example, I am teaching land forms, let's say mountains, plains or maps. Before that,

it is useful to find out what this will do in daily life, let's say, when we get lost in a forest. Later, I am telling the topics, saying that we will hear and learn these for the first time. I write important headings on the board. After writing it, I explain it well. Then I ask if there is any place they do not understand, there is anything on their mind. Then I make them keep a note in their notebooks. Then I ask again if there is any place you do not understand. Then I give them a photocopy. I do gap-filling, true-false, answer tests, tests with points. Then we answer them.

The researcher posed the question of whether the teacher used another technique in order to avoid deficiencies in his explanations and received the following answer:

For example, I use the map when describing landforms and so on. Then, when I tell about a place, I say interpret the image if there is a photograph or something in the book. I use this.

From the answers given by the teacher, it is understood that a pre-lesson planning and preparation work is done, he motivates the students at the beginning of the lesson, and the lesson is usually taught through presentation and he does not use collaborative teaching techniques. Thereupon, the researcher asked the teacher what he knew about collaborative teaching methods and techniques, and which of these techniques he used and how often. The teacher answered this question as follows:

Generally, group work is done. For example, let's say we did a study about directions, namely east-west, north-south. For example, I got these done with two or three students. Someone made a drawing, someone painted, and someone wrote the directions. Like this.

In response to this answer, the researcher asked if collaborative teaching was the same as group work and received the following answer.

In the group work, students can do it themselves, but they can also benefit from the other side, but there are many sub-stages of collaborative learning. I do not use these techniques. There is no need to lie, but it works when we do group work. We make groups of three, four, and so on. Collaborative teaching has many steps, but I don't use it. I have used the diagonal method in cooperative learning several times.

It is understood from the teacher's expressions that he did not use collaborative teaching and rarely did group work. It is also seen that he has some incomplete and incorrect information on collaborative teaching. The teacher was then asked about his observations of the students, the students' interest in class, and their learning success, and received the following response:

We have students who are willing to learn. For example, I talked about the Muslim inventors in the inventions topic, but they asked if there was any Turkish among them, they questioned it. They questioned why there are always strangers. So they were not very interested in symbolic matters in general, but very interested in directions and geographic subjects. Their interest in social studies lesson is generally at a medium level. When I compare, Mathematics outweighs. In general, they listen to the lectures calmly and well. There is no problem. They help each other. I think it depends on the subject. The subject of inventions did not attract much attention among them, but the topic of landforms attracted a lot of attention. They were very interested in these, such as east-west, how we can find direction by looking at the ant, how our position concerning the sun.

The teacher thinks that the students' interest in the lesson varies from subject to subject. He stated that the students helped each other and listened well to their lectures, but based on the observations and notes of the researcher, it is seen that there was no

environment in which the students would be active. In this case, it does not seem possible to see students' skills such as collaboration, effective communication, empathy, and problem solving. Finally, the teacher was asked about the advantages and limitations of using collaborative teaching techniques in social studies lesson.

It will be useful if used. It provides effective learning, but I think the student should definitely work individually and be prepared beforehand. It enables teachers to teach students better. I think the student will learn better. But it should not be used all the time. If you do this constantly, it will be a waste of time. For example, if you always learn about a subject through cooperative learning, all the topics may not be covered up this time. I think social studies lesson should be given much importance in my opinion. It is not something that can only happen with reading. I highlight the important places. When I make them read it from the book, I make them underline some sentences because these are important.

The teacher thinks that using collaborative teaching techniques will be beneficial, but has some anxieties about time with the thought that the subjects will not be covered. In this anxiety, it is thought that the teacher's incomplete and incorrect information on cooperative teaching may have an effect.

## **Implementation of Action Plans**

Within the scope of the research, action plans were prepared based on the data obtained before the application, the interviews with the validity committee and the classroom teacher. This has been reflected in the researcher's note as follows;

...The teacher-student communication in the pre-practice lessons was mostly in the form of the students answering the questions asked by the teacher. Students often respond without being allowed to speak. Also, the students seem to be trying to outdo each other rather than learn. A collaborative environment where students can learn together is important in planning. All these situations should be discussed with the class teacher and the validity committee before the plans...  
(Researcher Note)

### **Action plan-1**

In line with the first action plan, the Team Game Tournament Technique (TGT) aims to enable students to acquire the gains of the "Production, Distribution and Consumption" unit and improve their skills such as communication individual responsibility, and positive commitment. For this purpose, the students were divided into four groups of six people. According to the technique, the teacher presents the topic and distributes study materials to the groups. Students teach each other the subjects, and at the end of the study, students at the same level from each team compete at the same table. The group with the highest score at the end of the competition is rewarded (Slavin, 1991). In line with the planning mentioned above, the first action plan was aimed to cover the subjects during 12 class hours, but a new action plan was prepared by taking the opinions of the validity committee and the classroom teacher upon the need seen at the end of 4 class hours. The reasons for preparing a new action plan are:



It was observed that there were cliques in groups of six students, which caused a lot of noise.

- It is thought that effective face-to-face communication will be stronger in groups of four students.
- The groups were found to be equivalent in terms of academic performance, but not in affective and behavioral aspects. In some groups, silent students were in the majority; in other groups, active students who increased group dynamics were in the majority. While this situation deadened some groups, it kept other groups active. -In groups of 6 students, the researcher missed the individual follow-up of the students while following the group. It will be easier in groups with fewer numbers to notice the silent and passive student within the group.
- When teaching each other's subjects, it was observed that the time was prolonged and the subjects were not covered. One of the reasons for this is probably the high number of students in the groups.

## **Action plan-2**

After the reasons as mentioned above, the remaining subjects and achievements were taught with the same technique (TGT) in eight lessons with heterogeneous student groups of four. The findings of the researcher after the lessons are as follows:

- In groups of 4, the students' communication was stronger and the students were observed more easily. It was observed that group dynamics increased and problems decreased with the formation of groups by paying attention to affective and behavioral characteristics and academic success.
- While students work more comfortably and communicate effectively during group work, this situation changes during the tournament time. Students are in a competitive mood, which can hurt the sense of cooperation.
- In a part of the study, the tournament game part of the TGT technique was carried out outside the classroom, in the school garden. Thus, it was observed that collaborative work can be applied effectively in outdoor environments.

The classroom teacher, on the other hand, expressed his views in the evaluation meeting as follows:

We saw the benefits of reducing the number of students in groups in this study. Maybe in the later stages, when the students grasp the logic of studying, the number of students in the groups can be increased. A much healthier communication was established at this stage, but it was as if the competition sense prevailed. As I said before, this situation is a habit from previous years. I guess it will take time to overcome this. I mean, some students seem to be dominant in groups, but this dominance can also make passive students active. Of course, this situation should be under the control of the teacher. Otherwise, behaviors up to fighting can be seen in students. I think it will get better in the future.





As can be understood from the classroom teacher's expressions, changing the students' habits and behaviours does not happen all at once.

### **Action plan-3**

In this action plan, not only will students be ensured to acquire the achievements of the Active Citizenship Unit using the collaborative learning technique, but also skills such as communication, ownership, positive engagement, ensuring everyone participates in group work, listening attentively to other group members, criticizing thoughts rather than people, and completing the task set in the group development will be targeted. According to this technique, teaching materials are planned to create positive commitment and distributed to groups. Desired behaviors (ensuring everyone's participation in group work, listening carefully to other group members, criticizing thoughts rather than people, doing the task given in the group) are explained. Students are directed and guided in the direction of the above-mentioned desired behaviors. Discussions are made on what was done well in group work, how effective collaboration was made, and which ones could be improved, and the lesson is concluded with feedback and evaluation (Kagan & Kagan, 2009).

In line with the planning, the "Active Citizenship" unit was taught for 10 lesson hours using the "Learning Together" technique. Here, the ratings resulting from the interviews with the classroom teacher and the validity committee are as follows:

1. Students established closer relationships, interacted more and became more active in their learning with the "Learning Together" technique.
2. During the lesson, attention should be paid to teacher guidance and time management. Teachers have great responsibilities in matters such as solving small problems that arise within the group without letting them grow and changing tasks in their distribution.
3. In this technique, it is important to make changes in student groups from time to time. Otherwise, there is a possibility that the feeling of group belonging and group cohesion due to the constant work in the same group will prevent the unity of the class. Although the students had a problem of adaptation at first, it was observed that this situation did not last long and the students got used to the new groups very quickly.
4. It is thought that students' being responsible for each other's learning in group work and performing learning in the way they want in this process strengthens students' values such as independence, diligence, solidarity and responsibility.
5. It is thought that allowing students to evaluate their strengths and weaknesses in the process of working together in group work during the evaluation process contributes to students' skills such as observation, critical thinking, and self-control.

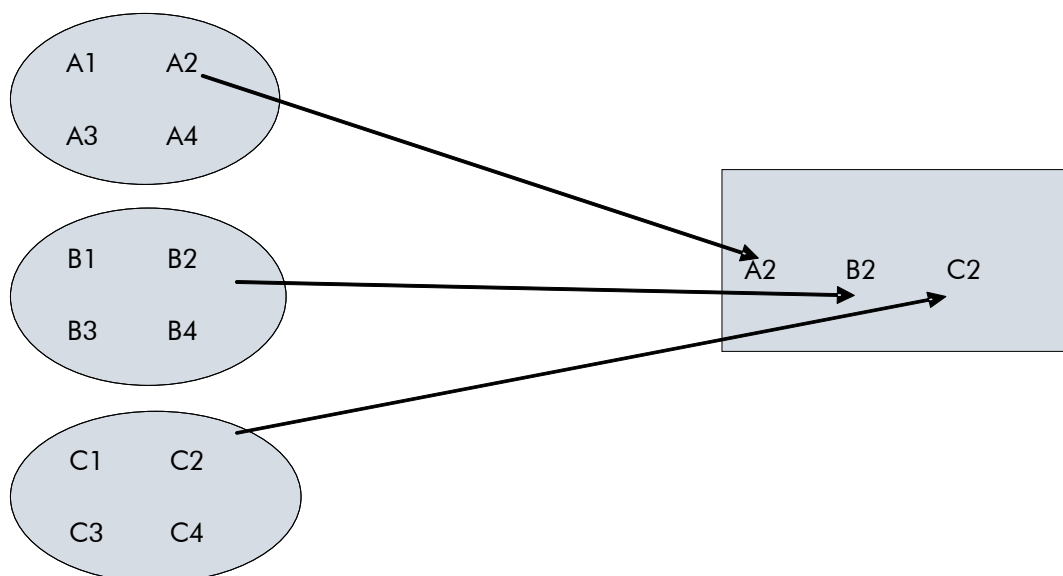
### Action plan-4

With the Jigsaw-II technique, it aims to enable the students to acquire the "Global Connections Unit" gains and improve their skills such as communication, individual responsibility, and positive commitment. In addition, it is aimed to internalize values such as peace, solidarity, equality, love, respect, responsibility and benevolence into behavior. The students were divided into four heterogeneous groups of six people for these purposes. In the Jigsaw-II technique (Kagan, 1985), the following is done:

- Subjects are divided into parts according to the number of students in the groups, heterogeneous groups are created.
- Students who take the same subject in different groups come together.
- The subject is studied in the expertise groups created, discussed in depth, and the students return to the original group after it is fully learned.
- Experts of each subject try to teach the group members their subject.
- After the students have taught all parts of the subject to each other, evaluations are made.
- Evaluation is done by both individual score and group score.

Figure 4.

Process of Creating Jigsaw Groups





In accordance with the planning, the unit "Global Connections" was taught for ten lessons using the "Jigsaw- II" technique. This resulted in the following evaluations from the interviews with the classroom teacher and the validity committee:- In the Jigsaw- II technique there were no problems while the students were working on the topics in the regular groups, but in the expert groups some problems occurred because they wanted to be in the same group with their friends and the topics were not divided according to the levels. As a result, the problem was solved with small interventions. At this point, the guidance from the class teacher is very important.-It was noticed in student studies that students communicate with each other more frequently; they can ask each other more questions and try to help. For example, while the student with low academic success could easily express the points s/he did not understand, the successful student tried to explain in different ways like a teacher.

- The students worked by having more fun and enthusiastically on subjects that are not far from daily life and are related to other lessons. During the enjoyable studying moments of the students, sometimes a noise disturbing other groups was heard, and the problem was solved with the warnings and reminders of the classroom teacher (researcher).
- -Students in group work mostly used the expressions in bold font, capital letters, underlined and italicized in the materials given while telling each other and asking questions. However, it was noticed that the students memorized and transferred the expressions on the worksheet as they were. Upon this, they were asked to express the topics they learned in their own sentences.
- In group studies, methods such as telling each other, question and answer, taking short notes, showing the important points underlined to each other, reading, and explaining were frequently used. In addition, it was observed that questions were asked at the level of knowledge and comprehension in the question-answer technique. They had difficulty asking questions at the level of analysis and synthesis. It aimed to develop high-level thinking skills by putting sample questions on the worksheets given.
- In the evaluation part, an evaluation activity prepared on the subject was applied to the students, and the results determined both the individual and the group scores. The fact that the mean scores of the groups are close to each other shows that the groups are created equal.
- During the reward, behaviors such as insulting each other, calling each other names, excessive anger, and accusations against friends between groups and within the group were observed in students. For this reason, it is believed that it is necessary to be sensitive to the issue of reward in the studies to be conducted, that behavior change is a long-term process, and that it is necessary to patiently and persistently continue the studies at each stage of such studies.

## Findings of Post-Implementation Student Interviews

Action plans were implemented in line with the planning made during the research, various evaluations were made through the researcher notes, observations, teacher interviews, meetings with the validity committee, and interviews were made with the students at the end of the process. In this way, an attempt was made to understand the effect of the process on students before and after implementation by making comparisons with other data.

**Table 4.**

*Thoughts About the Social Studies Lesson After the Implementation*

|  |    |
|--|----|
| I love it; it was a nice and fun lesson.               | 23 |
| I didn't like it at first, but now I love it a little. | 1  |
| So-so, sometimes I liked and sometimes I did not.      | 1  |

Before implementation, 18 students indicated that they liked the lesson, 5 students sometimes liked the lesson, and 2 students disliked the lesson. After implementation, 23 students indicated that they liked the lesson, 1 student indicated that he did not like it before but now he liked it a little, and 1 student indicated that he sometimes liked it and sometimes did not. Some of the students who indicated that they liked the lesson made the following comments:

I love the lesson. Now I got used to social studies more, and that's why I learned more. (S1)

I love it because we learned things we didn't know in fun. As such, we were both happy and learned. (S6)

Almost all of the students (23) gave very similar answers and when the answers were examined in general, it was seen that they liked the lesson more because the lesson was fun and enjoyable. The word emphasized the most by the students who stated that they liked the lesson was "fun".

The student who said I did not like it at first but now I love it a little shared his views as follows:

It tells about our culture, tells about countries; it describes our connection with our world. It's a good lesson. Previously, the lesson would be boring, it wouldn't be smooth. Frankly, we had a very good lesson. Now I like it a little, that's why. (S25)

The thought of the student stating that he sometimes liked the lesson but sometimes did not:

Teacher, I don't like when there are difficult questions, I like when there are easy questions. That's why it's changing so, sometimes I liked it and sometimes I didn't. (S17).

When the thoughts on the activities in the social studies lesson were examined during the implementation process, all of the students stated that the activities were very nice and liked. It was observed that tournament games and competitions are the most liked in the implementations. Some of the student statements are as follows:

It was good. We spent precious time. It was fun with games and stuff. (S3)

Teacher, we are working together. It is very beautiful. We feel good when we are a group. I am happy when we work together with the activities we do, that is, I am happy. (S8)

We did group work. We learned how to teach each other in group work. (S18)

Students emphasized that they liked competitions and tournaments more during the implementation process. It is thought that the previous contestant structure in the classroom also affects this situation.

**Table 5.**

*Thoughts on Likes and Dislikes During the Implementation Process*

| Theme                                  | Codes   | F () |
|--|---|------|
| Likes in the Implementation Process    | Contests  | 8    |
|  | Working with the group, sharing, learning together  | 9    |
|  | Activity and worksheets   | 5    |
|  | Evaluating each other   | 3    |
|  | Making presentation   | 2    |
| Dislikes in the Implementation Process | No dislikes, all good   | 13   |
|  | Some problems experienced in group work (crying of friends, in-group discussion, not listening to each other, etc.) | 9    |
|  | Long time study and some lesson subjects  | 3    |
|  | Making presentation   | 1    |

The students stated that they mostly liked working with the group and learning together and competitions during the implementation process. Some of them stated that they liked the activity and worksheets, while others stated they liked the opportunities to evaluate each other in the group. Some of the student statements are as follows:

Competitions and activities were good. We were generating ideas with my friends, we were telling each other; that's why it was enjoyable. (S22)

It was nice to answer the questions we asked each other. Working with friends was nice. (S21)



Of course the contests I like the most. The activities we did were very good, we enjoyed it very much. You did it so that we could learn better. Thank you. (S1)

When the dislikes during the implementation process were examined, more than half of the students (13) stated that there was not anything they did not like, and they liked all. In contrast, 9 students stated that they did not like the situations experienced in the group such as conflict between friends, not listening to each other, in-group discussion and crying. Some of the student statements are as follows:

Sometimes our group mates yell at us. Then another one cries. For example, they do tons of work, I do one thing. Then there is a dispute. (S8)

What I didn't like didn't happen much, but sometimes my friends didn't listen to me, sometimes I didn't like him. (S16)

Very difficult questions. Someone crying or something. Interrupting someone in the group. (S17)

When asked to compare social studies lessons taught together with other lessons, all of the students stated that social studies lessons were more fun in this process. They learned better than other lessons, and that these implementations could be done in other lessons. It was observed that the students, who stated that they wanted the next social studies lessons to be taught with such group work similarly, emphasized the word entertaining the most. This situation shows that children who are in the concrete operational stage in the basic education process need to learn more by having fun. Some of the student statements are given below:

Social studies lesson is better. It was fun; it was funny, competitions, games and so on. If this happens in the other lessons, they will also go well. (S4)

Other lessons are also good actually. The subjects are nice but not fun, so classic. Let it work again by forming groups, but without being too crowded. If the groups are crowded, then the problem arises. Let the group levels be equal. (S3)

Social studies lesson is better because we learn the world once. For example, when I did not understand anything, I could ask my friend. I wouldn't be able to do it alone. (S9)

Social studies are better. Studying with the group is good because when there is only one opinion, no other ideas are produced, but ideas are produced when there is another opinion. Other lessons are a bit boring compared to this lesson; we always want to do social studies lesson. (S16)

When the statements given above are examined, it is understood that there is awareness among students about working together, they can see other ideas thanks to collaboration, and there is a perception of achieving some things together.



## **Findings about the Post-Implementation Teacher Interview**

During the study, the class teacher was informed at each stage and his opinion was taken into account in the prepared action plans. The class teacher participated in class and made observations during the implementation. In addition, evaluations were made at the end of the course and his opinion was asked again as a result of the research. In the interview, he was first asked about the implementation of the collaborative teaching techniques and his opinion if he would use these techniques in the classroom. The teacher's answer is:

Dear teacher, let me state as follows: Collaborative teaching techniques are absolutely essential. So mutual learning is a good thing, but children need to be prepared for it beforehand. For example, in primary schools, it is necessary to inform children about this issue in advance because when we start practicing, it seems like a game to children at first, it doesn't matter for them. Children should be ready first. Of course, we are lacking of it here. We have never done this kind of practice before. However, even if not in all lessons, such practices can be done from time to time. Thanks to this study, we have seen that it can also be done. I think it will be very difficult in crowded classrooms. I believe it will bring success in situations where the class population is low. Also, I definitely realized that lectures should not be taught with just lectures. Because after a certain period, everything becomes stable. So this is true not only for students, but also for us teachers. We shouldn't make the lessons monotonous. For this, I think we must show the courage to renew ourselves. As we discussed in our previous interviews, some of our fellow teachers may avoid participating when they encounter such studies. However, even if we knew these things before, at least in theory, we can forget over time. In this regard, it was a productive study not only for the students but also for me. In this respect, I would like to thank you as well. I would also like to state that in the next period, I will include such practices, even if not always, in the lessons.

After his remarks, the teacher was thanked for this approach and his contributions. His opinions on the benefits and limitations of using collaborative teaching techniques in the social studies classroom and teaching with an understanding of collaboration for both teachers and students were then solicited, and the responses are reproduced below:

Children first learn to share, learn to help each other; they express themselves better. For example, okay, the student is successful but s/he doesn't help her/his friend. This is not a desired situation. We want them to be good both in success and morality and behavior. Then the students' harsh expressions towards each other softened considerably. This situation is noticed even from the sentences used by children. I think this is the biggest advantage. Students are more understanding to each other. The children's desire to class increased; I feel that they will be more successful in the future. Class attendance increased. By using these techniques occasionally, the course can be prevented from being ordinary. If it is not planned well, there may be a lot of time loss, the subject may not be covered, but it can be used, depending on the subject. Telling with this technique constantly may cause the subject not to be finished and lessons may prolong. In this respect, we need to plan well. Children's readiness is also very important in order to use this technique effectively. For example, when asked about Turkey's neighboring countries, "Yozgat," says the student. He is not even aware that Yozgat is a province. I think we cannot use these techniques

very effectively in such a situation. In other words, after the basics are laid, peer support will be better with the understanding of cooperation. That being said, it can be a time issue for teachers. In classrooms where teachers are not good at classroom management, there may be a lot of noise. There is mobility, after all, which requires good classroom management. Then it can be applied outside of the classroom, as you do in the tournament game. This can be used to attract and motivate students. In other words, communication and changes in students can be observed better with these techniques in general. For example, the situation of the student in group work and working with others can be evaluated. I think this can be a way to get to know the student better.

During the implementation process, the students were asked to make an assessment on their observations about the classroom climate and whether there was a change. Considering the interviews made with the classroom teacher before the implementation, it was understood that he had incomplete information on collaborative teaching techniques and did not use these techniques, but after the implementation, it was seen that the teacher became aware of it, his perspective on collaborative teaching changed and he wanted to use it in his lessons. Thereupon, the teacher made the following explanations:

I can say that it was partially successful for my own class. That is, in the last year, competitions were held repeatedly in class, bringing to the fore the personal-individual ambitions of the children. Their thoughts were like: I always want to win, be the first; I do everything. Therefore, there was a decrease in the feelings of sharing. The children were already saying this situation themselves. That is to say, there was an atmosphere of uneasiness in the classroom arising from individual-based competitions; they upset with each other, like you came first, I could not be, but mutual sharing is the basis of collaborative learning. At first, the children kept the information to themselves, and that was for reasons such as why, I'll be the first in the group, I'll take the gift. At first, the children did not embrace each other much, but now I see a change in the children. Recently, children have become more active in conveying information, sharing, and helping each other. Still, it can turn into individual ambition again due to reasons such as group championship and ambition. Despite this, the sharpness of the children's behavior towards each other also decreased. In this sense, it was very nice and useful. Considering that they have always grown up with the desire to be at the forefront on an individual basis, I think the point we have reached is quite good. Of course, the students' negative behaviors we talked about are not completely over. But at least that sharpness is less obvious. Frankly, I feel the reflection of this in other lessons as well. At least I think that the 'always me' understanding we see in successful students is broken. They realized that it wasn't just themselves. It has also been good for academically poor students. That is to say, they tried to make their contribution for a purpose; they saw that they were useful to something. It is actually here in all matters. Seeing themselves as part of a group and feeling precious. I think they will learn the subjects somehow in the future. But of course, it should not go without mentioning that the interest in the lesson has also increased.

From the teacher's expressions, it is understood that the social studies lesson, which is taught with collaborative teaching techniques, is effective in creating a positive classroom climate. It has been stated that the students were more understanding towards each





other and this situation was felt not only in social studies lessons but also in other lessons, and generally positive opinions were expressed about the study.

## **Discussion Conclusion and Recommendations**

First of all, before the action plans (teaching activities) are implemented, the students should be informed about the implementation and what is aimed with it should be explained. In action researches, active participation of the participants (those about whom data is collected), as well as those that may be affected by the results of the research, is important because the participants are directly involved in the research process as part of the research team (Buyukozturk et al., 2013, p. 20). Action research is transformative social learning with a change agenda. It shapes the world with others in a more desired direction. For action researchers in education, the practice/inquiry combination at the heart of the work aims at making a situation such as a classroom or whole school system better by responding to the continuous need for development or change (Bradbury et al., 2019, p. 7). Accordingly, before the research process, the school administration, classroom teachers, students, parents, school elements of the school and all the elements were informed. It was observed that the participants were informed in detail and consciously acted and worked willingly throughout the research.

Secondly, action plans should be changed without hesitation when deemed necessary, and new action plans should be prepared by making necessary adjustments in line with the needs because action researchers are insider researchers. They see themselves as part of the situation they are exploring and they ask "Is things going the way we want, and how can we improve it when needed?". This is what makes action research different (McNiff & Whitehead, 2006, p. 8). In this context, a new action plan was developed and implemented as part of the research, as the first action plan had shortcomings. With the decrease in the number of student groups in the new action plan, the researcher's individual follow-up of the students became easier, in-group cliques were prevented and student communication became more effective.

The third important point is that success in educational processes should be seen as academic success. To be seen as academic success but to be seen as academic success. The meaning attributed to success should go beyond quantitative data. Especially in basic education, the concept of success should not be based on the failure of others, but on the principle of togetherness. In this study, the reflection of the principle of togetherness with collaborative teaching techniques was seen with the breaking of the competitive classroom climate. Butera and Swiatkowski (2020), in their study examining competition in education, stated that a series of anti-social behaviors such as cheating and bullying



appear to be the result of competitive class structures and competitive values. It should not be forgotten that situations, where only academic success is prioritized, may cause irreparable results in the future. J. Krishnamurti (2012, p. 17), who was elected as the "world teacher" by the Theosophical Society at the age of 13, expresses this situation as follows: "The man who knows how to split the atom but has no love in his heart becomes a monster."

Similarly, Barskanmay (2020) in an article on success, states that success has become a kind of fetishism, referring to sociologist and writer Elias Canetti's saying "Success, the rat poison of mankind..." In the same article, the author states that, with the perception created, children with low academic achievement are seen as plague by both school and society, and their self-esteem is destroyed. In addition, he emphasizes that children are pushed to inhuman ways like "Success justifies all means," for the sake of being successful. At this point, students mustn't feel valued for their academic success by their families or teachers. Right here, Yavuz in his book (2020, p.88) states that a high school student saying "even my mother's hugs change when I get full marks in the test" is still ringing in his ears, and today people are subjected to a lot of success-oriented guidance in both school and home environments and people has zero tolerance for failure, even for themselves.

In the observations made before the implementation of the study, although their academic success was high, it was observed that some students displayed behaviors such as not sharing a simple article with a friend, hating the classmate who is at the top of the class, and crying out of fury. Considering that this situation is seen in children who are at the beginning of the road, the gravity of the situation will be better understood. Especially in the MEB 2023 Education Vision, these issues were emphasized, and the union of mind and heart was emphasized (MEB, 2018). The research was especially built on these points, and the students were mostly studied within this framework. In this context, together with academic success, values such as love, respect, solidarity, effective communication, cooperation, and social participation skills were emphasized. It was emphasized that every student's contribution is important, especially during the evaluation of group work. At the end of the study, it was understood from the teachers' expressions and observations that there was a decrease in these negative behaviors observed in students with good academic success.

In the interviews with the students after the implementation, the students stated that they wanted the lessons to be fun. In the positive environments that occurred, it was observed that the students approach the activities in the lessons more eagerly and with interest. By looking at many studies, Yildiz (2019, p. 47) states that the positive brain works 31% more efficiently, children will be successful if they are happy, and if they are successful,

they will work harder. In this context, it is thought that both happy and successful individuals will be reached with collaborative education. In a study, Bolat (2012) states that there is no difference between successful and unsuccessful students in terms of studying hours, intelligence level, paying attention to the lesson or class participation. The difference lies in the fact that none of the unsuccessful students do group work. Successful students first studied individually and did group work in the evening. In the same article, the author emphasizes that the feeling of competition often hurts people and that the students studying in the group learn about collaboration, not competition. On a collaborative classroom environment, Holt (2019, p. 71) used the following statements:

Then the kids formed a collaborative classroom, and then they taught me how to create a classroom that helps each other, teaches each other, and learns from each other. All I did here was to let them be themselves, I learned this by taking the time and space to see and be content for what will happen, and let the children see my satisfaction with what happened.

In this study, it was understood from the teachers' opinions and observations that students noticed the negative effects of the feeling of competition on them and that these students tried to behave more understanding towards their friends.

The fourth important point is that in many studies conducted, there have been results such as students getting bored and the interest in the lesson dropped in classrooms where an active learning environment is not created (Firat Durdukoca 2018, Demir and Ozden 2013, Utkur 2016). Before implementing this research, two students (S2 and S8) asked for permission to go to the toilet continuously during the lesson, but did not go out in any lesson during the practice process. From the interviews with other students before the implementation, it is understood that the students liked mobility rather than stagnation. Therefore, when classroom teachers can create an active learning environment where students can work together, it is thought that student requests such as going to the toilet unnecessarily during the lesson will end.

Fifth, collaborative teaching techniques should be put to work more often. According to the results of this study and many other studies on collaborative teaching techniques;

-With a collaborative learning environment, when students learn together in a group, when they consider their friends' ideas, when they value their friends, they develop (Karakus, 2020; Yildirim, 2010), in critical thinking (Uysal, 2009), in communication (Soysal, 2019), in democratic attitudes (Yilar, 2015; Shirtless, 1993), in problem solving (Serin, 2014; Altinkok, 2012; Uysal, 2010; Genc, 2007), and in other social skills (Araz, 2019; Palak, 2018). Especially after the Covid-19 process, in which students have to move away from each other, it will be beneficial in developing these skills to use collaborative learning.



Collaborative learning increases academic achievement and ensures permanent learning (Senturk, 2020; Durna, 2019; Alici, 2019; Celik, 2017; Koc, 2014; Akar, 2012). Throughout the research, students who studied in collaborative groups were able to be a part of the whole and realize their responsibilities in success and failure. It was observed that students who were not willing to study under normal conditions made an effort not to decrease group success.

Collaborative learning greatly impacts the acquisition of values such as responsibility, benevolence, respect for rights and freedoms (Kucukurtugut, 2018; Tarlakazan, 2010). One of the educational philosophies of the German educator Froebel is explained as follows: "The primary business of school is to train children in co-operative and mutually helpful living. It is to foster their understanding of cooperation and solidarity, and to help making the adjustments that will carry this spirit into overt deeds." (Dewey, 2019, p. 93).

Sixth, following the teaching, which is defined as a special profession in the National Education Basic Law No. 1739, teachers should constantly update and improve themselves by following the developing conditions. These issues shouldn't be considered only as a means of appointment in the Public Personnel Selection Examination (KPSS) process and what has been learned should be used. In a study conducted on the primary school teaching field knowledge exam, experts stated that these exams were insufficient to meet the need for qualified classroom teachers and measure the general teaching profession and the special field teaching competencies (Ari & Unal, 2016). In Finland, one of the countries shown as an example in educational success, the criteria such as teamwork, love for the profession, character and communication skills are sought as criteria in the selection process of teacher candidates (Bolat, 2018). The teachers chosen to update themselves by eliminating their deficiencies and are in constant development and change.

From the interviews made with the classroom teacher before the application, it is understood that direct instruction teaching method is generally used in social studies lessons, and collaborative teaching techniques are not used. This situation is reflected in the classroom as a teacher-learner model. However, in the literature on the subject, the role of teachers in guiding learning and preparing an active learning environment is now emphasized (Acikgoz, 2008, p. 34; Bilen, 2010, p. 247; Toffler, 1992 p. 76; Demirkan & Saracoglu, 2016). In the interview with the classroom teacher after the application, the classroom teacher stated that he now saw the positive reflections of the collaborative teaching approach; he definitely noticed its importance, would show the courage to renew himself and would like to use these techniques in the lessons. Reagan (2019), citing teacher professionalism criteria professionally, states the content of these criteria as follows:



- Based on subject area and pedagogical formation knowledge,
- In-class practical and empirical knowledge-based,
- Personal and collective expertise authority on issues such as curriculum, evaluation and decision-making,
- Professional ethical rules system,
- Commitment to continuous personal and professional development.

As a result of the above, it can be said that teachers who take the responsibility of teaching new skills and values to the whole society and especially to students in the long run should constantly update themselves by restructuring their teaching methods and techniques according to the evolving conditions in the world. The seventh important point is that the understanding of cooperation should prevail instead of competitive understanding in the education and training process. Many authors worry that the competitive environment can push people towards a continuous competition and winning-oriented understanding. (Covey, 2019, p.10; Gatto, 2016, p.165; Krishnamurti, 2012, p.68). During this study, it was observed that the competitive environment caused aggressive and combative behaviors in ambitious students. This situation was reflected in the quiet and timid students and caused a kind of oppression in those students. While such problems are frequently seen in TGT technique, these problems are encountered less in learning together and Jigsaw-II techniques.

In a study examining knowledge contests in the context of competitive education, most of the students focused on "winning" and "competition" phenomena instead of "learning" and most of the students who had positive opinions about the competition before the competition changed their opinions negatively after the competition. In the same study, it was found that some of the students who lost the competition had feelings such as greed and revenge; at the end of the competition, it was determined that both the winners and the losers were upset (Okmen, Sahin, Boyaci & Kilic, 2019, p. 253).

Care should be taken not to drag the games and group evaluations made in the studies using collaborative teaching techniques into an atmosphere of competition and rivalry. Care should be taken to emphasize behaviors, not personalities, in evaluations. Especially in environments where academic success is blessed, only this success is appreciated and other achievements are ignored; children may exhibit erroneous behaviors in order to get in the eyes of their social environment (their families, teachers, etc.). This situation was frequently observed in the observations made before the implementation of the study. Moreover, these types of problems occurred more frequently with the TGT technique than with the shared learning technique. The



perception of the tournament in the TGT technique as a competition is the main factor for this. In this respect, students must grow up to feel positive attachment to each other in collaborative learning environments without seeing each other as rivals.

The eighth important point is that “rewarding”, which is frequently used in education and training, should be used very carefully. If a reward used with good intentions is not used correctly, it may cause undesirable behaviors to occur and reinforce (Bolat, 2017). During the research process, various affective and behavioral problems were observed on both the winning and the losing sides during the research process. During the rewarding process, emphasis is placed on the students' ability to study together, and by explaining how the winning group deserves the reward, these problems can be alleviated. In this context, it is thought that it is necessary to focus on the issue of rewarding in the implementation of collaborative teaching techniques.

Ninth, with this study, the classroom teacher noticed his shortcomings, learned new things in the implementation process and had the opportunity to improve himself. At this point, at the end of the research, action research should be strengthened, where teachers are part of the research to improve its applications in the classroom. This is because action research is a systematic research approach that enables people to find effective solutions to the problems they face in their daily lives. Unlike traditional experimental/scientific research that seeks generalizable explanations that can be applied to all contexts, action research focuses on specific situations and local solutions (Stringer, 2007, p.1).

Moulin (2018, p. 229) says that Tolstoy's experimental school can be seen as a precursor to traditions in educational research that seek to understand children's experiences, as well as “practitioner” or “action” research, in which teachers are encouraged to change, explore, and evaluate the impact of their teaching practices. In this context, teachers who take part in scientific studies such as action research can be a part of the solution in the practices and difficulties encountered in the teaching process, as in this study.

As a result of the experiences gained throughout the research, the following recommendations can be made for practitioners and researchers:

1. In-service training can be organized to correct misinformation in teachers, which is the most important factor in the teaching process, and to complete missing information.
2. The meaning attributed to success can be examined through the eyes of families, classroom teachers and students, and a comparative analysis of these can be made.



3. Longitudinal studies on competitive and collaborative classroom environments can be conducted to reveal their reflection on students in more detail.
4. Studies on the reward can be diversified, and its advantages and disadvantages can be discussed.

**Ethics Committee Approval:** This research followed the protocols set by the Necmettin Erbakan University of the Ethics Review Committee (ERC). However, since the research was produced from the thesis of the author S.A. titled "An Action Research On The Use Of Cooperative Teaching Techniques In Social Studies For 4th Graders" in 2020 and there was no need for ethics committee approval for doctoral theses in that year, ethics committee approval was not available for this study.

**Informed Consent:** Informed consent was obtained from the participants.

**Peer-review:** Externally peer-reviewed.

**Authors' Contributions:** Concept –S.A., S.Ç.; Design –S.A.; Supervision –S.Ç.; Data Collection and Processing –S.A.; Analysis and Interpretation - S.A., Literature Review –S.A.; Writing –S.A ; Critical Review –All authors.

**Conflict of Interests:** The authors have no conflict of interest to disclose.

**Financial Disclosure:** The authors declared that this study has received no financial support.

## References

- Acikgoz, K. U. (1996). *Etkili ogrenme ve ogretme*. Kanyilmaz Matbaasi.
- Acikgoz, K. U. (2008). *Aktif ogrenme* (10. baski). Bilis Yayincilik.
- Akar, M.S. (2012). *Fen ve teknoloji ogretmenlerinin is birlikli ogrenme modeli hakkında bilgilendirilmesi, bu modelin sinifta uygulamalari ve elde edilen sonuclarin degerlendirilmesi: Kars il ornegi* (Yayimlanmamis doktora tezi). Ataturk Universitesi.
- Alici, B. (2019). *Jigsaw IV tekniginin 4. sinif Fen bilimleri dersinde ogrencilerin akademik basarisina ve kaliciligina etkisi* (Yayimlanmamis yuksek lisans tezi). Firat Universitesi.
- Altinkok, M. (2012). *Is birligi ile ogretim yontemine dayali beden egitimi derslerinin 9-10 yas grubu cocuklarin temel motor becerileri ile problem cozme becerilerinin gelismine etkisinin arastirilmesi* (Yayimlanmamis doktora tezi). Marmara Universitesi.
- Araz, H. (2019). *Jigsaw ve birlikte sorali birlikte ogrenelim yontemlerinin ogrencilerin akademik basarilarina ve duyusal gelismelerine etkisi* (Yayimlanmamis yuksek lisans tezi). Ataturk Universitesi.
- Ari, S. ve Unal, E. (2016). An examination of the content knowledge exam for classroom teaching in accordance with the opinions of the branch experts. *Collage Student Journal* 50 (4), 569-579.
- Babadogan, C. (2005). Stil odakli ogretim ve ders tasarimi. *Ozel Okullar ve Egitimde Yeni Yaklasimlar Sempozyumu*. (ss. 99-112). Antalya.
- Barskanmay, A. (2020, Agustos 27). Basari bir sehvetir. *Karar*. <https://www.karar.com/basari-bir-sehvettir-1582286>
- Bilen, M. (Ed.). (2010). *Ogretim, ogretme yontemleri. Egitimde ilke ve yontemler*. Betik Kitap.
- Bilgili, S. (2008) *Ilkogretim 7. sinif fen ve teknoloji dersinde cevre konularinin ogretiminde, yapilandirmaci yaklasima dayali is birlikli ogrenmenin ogrencilerin erisine etkisi* (Yayimlanmamis yuksek lisans tezi). Gazi Universitesi.
- Bilgin, T. ve Akbayir, K. (2002). Is birlikli ogrenmenin dizi ve serilerin ogretimindeki etkililigi. V. *Ulusal Fen Bilimleri ve Matematik Egitimi Sempozyumu*. (s.s 933-938). Ankara.
- Bolat, O. (2012, Subat 23). Is birligi ogrenmeyi ve basariyi artirir mi? *Hurriyet*. <https://www.hurriyet.com.tr/isbirligi-ogrenmeyi-ve-basariyi-artirir-mi-19979341>
- Bolat, O. (2018, Temmuz 21). Finlandiya'dan egitim adina ne ogrenebiliriz? *Hurriyet*. <https://www.hurriyet.com.tr/yazarlar/ozgur-bolat/finlandiyadan-egitim-adina-ne-ogrenebiliriz-40903821>
- Bradbury, H., Lewis, R. ve Embury, D.C. (2019). Education action research: with and for the next generation. C.A. Mertler (Ed.) *The wiley hand book of action research in education*. John Wiley&Sons Inc. Published.
- Butera, F., Swiatkowski, W., & Dompnier, B. (in press). Competition in education. In S. Garcia, A. Tor, & A. Elliot, (Eds.), *The Oxford handbook on the psychology of competition*. Oxford University Press.
- Buyukozturk, S., Kilic Cakmak, E., Akgun, O. E., Karadeniz, S., ve Demirel, F. (2013). *Bilimsel arastirma yontemleri*. Pegem Akademi Yayincilik.
- Christison, M.A. (1990). Cooperative learning in the EFL classroom. *English Language Teaching Forum*, 28, (4). 139-147.
- Covey, S. R. (2019). *Etkili insanlari 7 aliskanligi* (63. baski.). (O. Deniztekin ve F. N. Deniztekin, Cev.). Varlik Yayinlari.
- Celik, V. (2002). *Sinif yonetimi* (1. baski). Nobel Yayin.
- Celik, E. (2017). *Cebir ogrenme alaninda probleme dayali isbirlikli ogrenmenin akademik basariya etkisinin incelenmesi* (Yayimlanmamis doktora tezi). Ataturk Universitesi.
- Demirel, O. (2003). *Ogretimde planlama ve degerlendirme ogretme sanati* (6. baski). Pegem A Yayincilik.
- Demir, S. ve Ozden, S. (2013). Sinif ogretmenlerinin ogretimsel stratejilere yontemlere ve tekniklere iliskin gorusleri: Hayat bilgisi dersine yonelik tanilayici bir calisma. *Pamukkale Universitesi Sosyal Bilimler Enstitusu Dergisi*, 14, 59-75.
- Demirkan, O. ve Saracoglu, G. (2016). Anadolu Lisesi ogretmenlerinin derslerde kullandiklari ogretim yontem ve tekniklerine iliskin gorusleri. *The Journal of International Lingual, Social and Educational Sciences*, 2(1), 1-11.



- Derince, Z. M. ve Ozgen, B. (2015). Eylem arastirmasi. F. N. Seggie ve Y. Bayyurt (Ed.), *Nitel arastirma yontem, teknik analiz ve yaklasimlari* (s.146-162). Ani Yayıncılık.
- Dewey, J.(2019). *Okul ve toplum* (6.baski). (H.A. Basman, Cev.). Pegem Akademi Yayınevi.
- Durna, İ. H. (2019). *Sosyal bilgiler dersinde Jigsaw tekniği kullaniminin öğrenci başarısına, bilgilerin kalıcılığına ve derse karşı tutuma etkisi* (Yayımlanmamış yüksek lisans tezi). Akdeniz Üniversitesi.
- Efe, R., Hevedanlı, M., Ketani, S., Cakmak, O., ve Aslan Efe, H. (2008). *İs birlikli öğrenme teorii ve uygulama*. Eflatun Yayınevi.
- Engel, R. J., & Schutt, R. K. (2005). *The Practice of Research in Social Work*. SAGE.
- Firat Durdukoca, S. (2018). Sınıf öğretmenlerinin sosyal bilgiler dersi öğretim uygulamaları için öğretim tekniklerinin seçimine yönelik yeterlik algıları ve görüşleri. *Türkiye Sosyal Arastirmalar Dergisi*, 22 (1),212-242.
- Gatto, J.T. (2016). *Egitim: Bir kitle imha silahı*. (M.A. Ozkan, Cev.). Edam Yayıncılık.
- Genc, M. (2007). *İs birlikli öğrenmenin problem çözmeye ve başarıya etkisi* (Yayımlanmamış doktora tezi). Marmara Üniversitesi.
- Gomleksiz, M. (1993). *Kubasık öğrenme yöntemi ile geleneksel yöntemin demokratik tutumlar ve erişime etkisi* (Yayımlanmamış doktora tezi). Cukurova Üniversitesi.
- Guler, A., Halicioğlu, M. B. ve Taşgin, S. (2013). *Sosyal bilimlerde nitel arastirma*. Seckin Yayıncılık.
- Gurgur, H. (2016). Eylem arastirmasi. A. Saban ve A. Ersoy (Ed.), *Egitimde Nitel Arastirma Desenleri içinde* (1-48). Ani yayıncılık.
- Holt, J. (2019). *Cocuklar neden başarısız olur?* (F. Safak, Cev.). Beyaz Yayınları.
- Ingram, A. L. ve Hathorn, L. G. (2004). *Methods for Analyzing Collaboration in Online Communications*. In T. S. Roberts (Ed.). *Online collaborative learning: Theory and practice* (pp. 215-241). Idea Group Publishing.
- Ince, M. ve Gul, H. (2006). Bilgi çağında rekabetin temel belirleyicisi: bireyin yaratıcılığı. *Selçuk Üniversitesi Karaman İ.İ.B.F. Dergisi*. Haziran, 220-234.
- Kagan, S. (1985). Dimensions of cooperative classroom structures. In R. Slavin, S. Sholomo, S. Kagan, R.H. Lazarowitz, C. Webb ve R. Schmuck (Ed.) *Learning to cooperate, cooperating to learn*. Plenum Press.
- Kagan, S. & Kagan, M. (2009). *Kagan cooperative learning*. Kagan Publishing.
- Karakus, G. (2020). *İsbirlikli problem çözme öğretim programı tasarısının hazırlanması ve uygulanması* (Yayımlanmamış doktora tezi). Afyon Kocatepe Üniversitesi.
- Koc, Y. (2014). *Fen ve teknoloji öğretmenlerinin is birlikli öğrenme modeli hakkında bilgilendirilmesi, bu modeli sınıfta uygulamaları ve elde edilen sonuçların değerlendirilmesi: Agri il örneği* (Yayımlanmamış doktora tezi). Ataturk Üniversitesi.
- Kucukurtgut, B. (2018). *Sosyal bilgiler dersinde sorumluluk, yardımseverlik, hak ve özgürlüklere saygı değerlerinin kazanımında is birlikli öğrenme modelinin etkisi* (Yayımlanmamış doktora tezi). Ataturk Üniversitesi.
- Krishnamurti, J. (2012). *Egitim ve yasamin anlami* (A. Acikgoz, Cev.). Omega Yayınları.
- Lazarowitz, R., Baird, J.H., Hertz-Lazarowitz, R. & Jenkins, J. (1985). Learning to cooperate, cooperating to learn. In R. Slavin, S. Sharan, S. Kagan, R.H. Lazarowitz, C. Webb & R. Schmuck (Eds.), *The effects of modified Jigsaw on achievement, classroom social climate, and self-esteem in high-school science classes*. (pp. 231-253).
- Mc Niff, J. ve Whitehead, J. (2006). *All you need to know about action research*. Sage Publications.
- Millî Eğitim Bakanlığı [MEB]. (2017). *Mufredatta yenileme ve degisiklik calismalarimiz uzerine*. MEB Yayınları.
- Millî Eğitim Bakanlığı [MEB]. (2018). *2023 eğitim vizyonu*. MEB Yayınları.
- Moskowitz, J. M., Malvin, J. H., Schaeffer, G. A. & Schaps, E. (1983). Evaluation of a cooperative learning strategy. *American Educational Research Journal*, 20(4), 687-696.
- Moulin, D. (2018). *Egitici Tolstoy* (O. Akcay, Cev.). Hece Yayınları.
- Neuman, W.L. (2006). *Toplumsal arastirma yöntemleri, nitel ve nicel yaklasimlar* (İ.Cilt). (S. Ozge, Cev.). Yayın Odası Yayıncılık.

- Okmen, B., Sahin, S., Boyaci, Z., ve Kilic, A. (2019). Rekabete dayali egitim anlayisi baglaminda bilgi yarismalarına bakis. *Egitimde Kuram ve Uygulama*, 15 (3), 253-266.
- Palak, T. (2018). *İlkokul 4. sinif Sosyal bilgiler dersinde kullanılan isbirliğine dayali öğrenme yöntemi birleştirme tekniğinin öğrencilerin sosyal becerilerine ve akran zorbalığına etkisi* (Yayımlanmamış yüksek lisans tezi). Marmara Üniversitesi.
- Philips, D. C. ve Soltis, J. F. (2005). *Oğrenme: perspektifler* (S. Durmus, Cev.). Nobel Akademi Yayıncılık.
- Reagan, T. (2019). Öğretmenliğin mesleki statusu (B. Soylemez, Cev.). H. Under (Ed.) *Eğitim felsefesi kılavuzu* (s. 205-219). Pegem Akademi Yayıncılık.
- Senemoglu, N., Gomleksiz, M. Ve Ustundag, T. (2001). *İlköğretimde etkili öğretim ve öğrenme öğretmenin el kitabı öğrenmenin olusumu modul 1*. MEB Yayinlari.
- Serin, M. K. (2014). *İs birliğine dayali ortamlarda gerçekleştirilen ustblissel sorgulama temelli öğretimin ilkokul 4. sinif öğrencilerinin problem cozme becerilerine etkisi* (Yayımlanmamış doktora tezi). Necmettin Erbakan Üniversitesi.
- Siegel, C. (2005). Implementing a research-based model of cooperative learning. *The Journal of Educational Research*, 98(6).
- Slavin, R. E. (1987). Development and motivational perspectives on cooperative learning: A reconciliation. *Child Development*, 58(5), 1161-1167.
- Slavin, R.E. & Karweit, N.L. (1981). Cognitive and affective outcomes of an intensive student team learning experience. *The Journal of Experimental Educational*, 50(1), 29-35.
- Slavin, R. E. (1991). Student team learning: a practical guide to cooperative learning. National Education Association
- Soysal, T. (2019). *Türkçe derslerinde is birlikli öğrenme etkinliklerinin 21. yuzyil öğrenme ve yenilikçilik becerilerini gelistirmeye etkisi* (Yayımlanmamış doktora tezi). Bolu Abant İzzet Baysal Üniversitesi.
- Sonmez, V. (2008). *Program gelistirmede öğretmen el kitabı* (16. baski.). Ani Yayıncılık.
- Stringer, E. T. (2007). *Action research*. (3th ed.). Sage Publications.
- Senturk, U. (2020). *Fen eğitiminde 'jigsaw' tekniğinin öğrenci basarisi ve derse karsi tutuma etkisi* (Yayımlanmamış yüksek lisans tezi). Gazi Üniversitesi.
- Simsek, U. (2007). *Cozeltiler ve kimyasal denge konularında uygulanan jigsaw ve birlikte öğrenme tekniklerinin öğrencilerin maddenin tanecikli yapıda öğrenmeleri ve akademik basarilari üzerine etkisi* (Yayımlanmamış doktora tezi). Atatürk Üniversitesi.
- Tarlakazan, E. (2010). *İlköğretim gorsel sanatlar dersi 6. sinif kazanimlarinin is birlikli öğrenme yöntemi etkinlikleri ile gerçekleştirilmesinin öğrenci erisisine etkisi* (Yayımlanmamış doktora tezi). Gazi Üniversitesi.
- Tauer, J. M. ve Harackiewicz, J. M. (2004). The effects of cooperation and competition on intrinsic motivation and performance. *Journal of Personality and Social Psychology*, 86(6), 849-861. <https://doi.org/10.1037/0022-3514.86.6.849>
- Taylor, M. (2002). *Action research in work place education: A handbook for literacy*. <https://files.eric.ed.gov/fulltext/ED462557.pdf>
- Toffler, A. (1992). *Yeni guçler yeni soklar*. Altin Kitaplar.
- Uysal, G. (2010). *İlköğretim Sosyal bilgiler dersinde isbirlikli öğrenmenin erisiye, problem cozme becerilerine, öğrenme stillerine etkisi ve öğrenci gorusleri* (Yayımlanmamış doktora tezi). Dokuz Eylul Üniversitesi.
- Uysal, M. E. (2009). *İlköğretim Türkçe dersinde isbirlikli öğrenmenin erisi, elestirel dusunce ve yaratıcılık becerilerine etkisi* (Yayımlanmamış doktora tezi). Dokuz Eylul Üniversitesi.
- Utkur, N. (2016). Öğretmenlerin kullandıkları yöntem ve teknik farklılıkları: Hayat bilgisi dersi örneği. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi*, 16 (USBES Özel Sayı İİ), 1631-1651.
- Wessner, M. ve Pfister, H.-R. (2007). Points of cooperation: Integrating cooperative learning in to eeb-based courses. In H. U. Hoppe, H. Ogataand A. Soller (Eds.). *The Role of Technology in CSCL* (pp. 21-46). Springer Science Business Media.
- Yavuz, M. (2020). *Basimiza icat cikaran cocuklar ve gençler*. Pegem Akademi Yayıncılık.

- Yesilyurt, E. (2009). İis birliğine dayalı öğrenmenin öğrenci davranışları üzerindeki etkisine ilişkin öğrenci görüşleri. *Fırat Üniversitesi Sosyal Bilgiler Dergisi*, 19 (2), 161-178.
- Yılar, M.B. (2015). *Sosyal bilgiler dersinde iş birlikli öğrenme yöntemlerinin öğrencilerin akademik başarılarına, demokratik tutumlarına ve sosyal becerilerine etkileri* (Yayımlanmamış doktora tezi). Atatürk Üniversitesi.
- Yıldırım, A. ve Simsek, H. (2006). *Sosyal bilimlerde nitel araştırma yöntemleri* (6.baskı). Seckin Yayıncılık.
- Yıldırım, K. (2010). *İis birlikli öğrenme yönteminin okumaya ilişkin bazı değişkenler üzerindeki etkisi ve yöntemle ilişkin öğrenci-veli görüşleri* (Yayımlanmamış doktora tezi). Gazi Üniversitesi.
- Yıldız, A. (2019). *Stresli bir dünyada mutlu çocuk yetistirmek*. Alfa Yayıncılık.

**Authors**

Sinan ARI  
Basic education

Sabahattin CİFTCİ  
Basic education

**Contact**

Dr. Sinan ARI,  
Ministry of National Education, Şehit Suat Akinci Public Education  
Center, Sarıkaya / YOZGAT  
E-mail: [dr.sinanari@gmail.com](mailto:dr.sinanari@gmail.com)  
Prof. Dr. Sabahattin CİFTCİ  
Necmettin Erbakan University, Ahmet Keleşoğlu Faculty of Education,  
42090 Meram / KONYA  
E-mail: [sciftci@erbakan.edu.tr](mailto:sciftci@erbakan.edu.tr)

# Incorrect Strategies Developed by Seventh-Grade Students to Solve Proportional Reasoning Problems\*

Meltem Gulsum KARLI\*\* Esra YILDIZ\*\*\*

## To cite this article:

Karlı, M. G., & Yıldız, E. (2022). Incorrect strategies developed by seventh-grade students to solve proportional reasoning problems. *Journal of Qualitative Research in Education*, 29, 111-148, doi: /10.14689/enad.29.5

**Abstract:** This study was conducted to determine the incorrect strategies developed by seventh-grade students to solve problems that require proportional reasoning and evaluate their solutions according to SOLO Taxonomy. This two-stage case study was conducted in a public school in the Central Black Sea region. The Proportional Reasoning Skill Test was administered to 33 seventh-grade students in the first stage. In the second stage, semi-structured interviews were held with 10 students by determining the 5 problems that students made mistakes in most. The students developed 5 different incorrect strategies when solving problems requiring proportional reasoning: additive relationships, data neglect, using numbers and no content, giving an emotional response, and failure to identify non-proportional situations. Students had difficulty identifying non-proportional situations and established additive relationships in problems requiring multiplicative relationships. Also, the levels of the participants were examined with the SOLO Taxonomy Rubric developed for proportional reasoning skills. Accordingly, the students with a high level of proportional reasoning were at abstract and relational structure levels, whereas those with moderate scores were at uni-structural and multi-structural levels. The students with low scores had low-level skills according to SOLO Taxonomy criteria.

**Keywords:** proportional reasoning, SOLO taxonomy, ratio, proportion, solution strategy

## Article Info


Received:  
19 Mar. 2021  
Revised:  
10 Nov. 2021  
Accepted:  
20 Jan. 2021


## Article Type

Research

©2022 ANI Publishing. All rights reserved.

\* This research was produced from the first author's master's thesis titled "Examination of proportional reasoning skills of secondary school 7<sup>th</sup> grade students with SOLO Taxonomy" completed in 2019.

\*\*  Correspondence: Ministry of National Education, Tokat, Turkey, [meltemgulsumkarli@gmail.com](mailto:meltemgulsumkarli@gmail.com)

\*\*\*  İstanbul Medeniyet University, Turkey, [esra.yildiz@medeniyet.edu.tr](mailto:esra.yildiz@medeniyet.edu.tr)

## Introduction

Mathematical thinking skill is defined as a necessary feature for an individual to reach new knowledge or concepts by using mathematical knowledge and concepts based on their prior learning through reasoning, estimating, generalising, abstract thinking, forming hypotheses, testing, reasoning, and proving (Bukova, 2006, 2008). Logical thinking is a complex process that includes exploring, using information effectively, creating formulas, and discovering unusual methods (Ersoy & Baser, 2013; Langrall & Swafford, 2000). Mathematical thinking skills include thinking processes related to life skills, such as producing practical solutions to daily living problems and establishing cause-effect relationships (Aslan & İlkorucu, 2017), as well as direct mathematical skills, such as developing a number sense and using abstract mathematical concepts skillfully (Yesildere, 2006). Mathematical thinking skills need to be developed from an early age as a necessary skill for problem-solving skills to meet daily living needs and for the effective use of methods of accessing, analysing, and producing information (Yildirim, 2015). Beyond developing a solution for the problem, by handling the different dimensions of the problem, it is possible to evaluate the source of the problem, the aspects affecting its emergence, the factors that will contribute to the solution, and the use of auxiliary skills as situations that require mathematical thinking (Karakoca, 2011).

Proportional thinking, a skill that can be evaluated within the scope of mathematical thinking (Akkus & Duatepe-Paksu, 2006), is necessary for students to use the concepts related to proportion and ratio correctly, understand mathematical relationships in proportionality problems based on multiplication, and discriminate between proportional and non-proportional situations (Cramer, Post, & Currier, 1993; Lesh, Post, & Behr, 1988; Pittalis, Christou, & Papageorgiou, 2003). According to the principles and standards determined by the Council of Teachers of Mathematics [National Council of Teachers of Mathematics (NCTM)] (2020), students' proportional thinking skills should be developed so that they can learn mathematical concepts including ratio and proportion, slope, percentage, similarity, linear equations, histogram, and probability, with a holistic approach.

For this reason, it is thought that it is important to conduct studies on proportional reasoning skills to examine complex processes that require mathematical thinking in mathematics education. Many studies in the literature have examined proportional reasoning skills. These studies have been conducted with middle school students to determine the proportional thinking skill levels (Akkus Cıkla, & Duatepe, 2002; Akkus & Duatepe-Paksu, 2006; Ben-Chaim, Fitzgerald, Benedetto, & Miller, 1998; Duatepe, Akkus, Cıkla, & Kayhan, 2005; Musan, 2012; Umay, 2003), qualitative and quantitative analysis of answers to problems requiring proportional reasoning skills (Aladag, 2009; Aladag, & Artut, 2012; Altayli, 2012; Atabas, 2014; Bayazit, & Donmez, 2017; Celik, 2010; Celik & Ozdemir, 2011; Debreli, 2011; H. Cetin, 2009; Kupcu, 2008; Kupcu & Ozdemir, 2011; Unsal, 2009; Wells, Dole, & Makar, 2014), and strategies used and mistakes made while solving ratio and proportion problems

(Avcu, 2010; Cramer & Post, 1993; İ. Cetin, 2009; Kayhan, 2005; Kaplan, İslenen, & Ozturk, 2011; Pakmak, 2014; Pelen, 2014; Sen & Guler, 2018; Umay & Kaf, 2005).

Students must first recognise the multiplicative relationships between quantities to develop proportional reasoning skills (Pelen, 2014; Toluk-Ucar & Bozkus, 2016). It is thought that a student who can distinguish multiplicative relationships between objects can easily notice whether the problem situation is proportional or not. For example, when a student is asked to enlarge a rectangle with side lengths of 4 cm and 8 cm by photocopying at a certain rate and make its breadth 6 cm, they are expected to calculate the length as 12 cm, which is 1.5 times 8 cm, considering the proportional, that is, the multiplicative relationship between 4 and 6. Instead, if the student considers the difference as 2 cm for the length, thinking that there is a 2-cm increment between 4 and 6 for the breadth, this can be interpreted as establishing an additive relationship.

It is possible to say that the proportional reasoning skill is integrated into almost every subject in mathematics. For example, subjects such as similar triangles, slope, probability, equations, fractions, logarithms, and trigonometry are related to proportional reasoning skills (Van de Walle, Karp, and Bay-Williams, 2013). In addition, it is thought that the process of expressing the ratios between the sides of geometric shapes symbolically will contribute to the development of geometric and algebraic thinking (Langrall & Swafford, 2000). For this reason, since the development of proportional reasoning skills will support the development of mathematical skills in many related subjects, studies on this skill gain importance (Musun, 2012).

## **Strategies Used in Solving Proportional Reasoning Problems**

It is known that students develop incorrect and correct strategies while solving problems that require proportional thinking skills. Solution strategies used in solving problems related to proportional reasoning are classified as the unit ratio, change multiplier, cross multiplication algorithm, equivalent fraction strategy (Cramer and Post, 1993), and equivalence class strategy (Bart, Post, Behr, and Lesh, 1994). Incorrect solution strategies include giving an emotional response, additive relationships, data neglect, and using numbers and no content (Ben-Chaim, Fey, Fitzgerald, Benedetto, & Miller, 1998; Kayhan, 2005).

In the "additive relationship" strategy, an incorrect solution strategy, it has been seen that students cannot notice the multiplicative relationship and that they try to find the other ratio in the proportion by adding a certain value to the ratio by establishing an additive relationship between the variables. For example, in the problem, "If two glasses of sugar are used to make cookies for eight people, for how many people can you make cookies with five glasses of sugar?", designed to find the unknown value, students can make the following mistake:

5 cups of sugar – 2 cups of sugar = 3 cups of sugar

8 people + 3 people = cookies for 11 people

Here, instead of using the proportional relationship between the number of cups of sugar, the student considers the difference between the number of cups of sugar and says that it will make cookies for 11 people. This calculation suggests that the student establishes an additive relationship between the data.

In the "emotional response" strategy, students make mistakes by giving subjective answers when trying to relate the data in the problem with real-life situations. For example, consider the following comparison question: "A boy goes to the grocery and sees that 6 bottles of mineral water are 12 liras, and 4 bottles of soda are 10 liras. Which product is more economical?". Examples of their answer to this question include, "Soda is always more expensive, so mineral water is cheaper." or "I don't like mineral water at all; it is flavourless. I'd choose soda because it is better." These are subjective answers that are away from mathematical solutions. In this case, it can be said that students make an emotional response mistake.

In the "data neglect" strategy, students only focus on one situation or variable. For example, the answers to the grocery question above can be as follows: "Since soda is 12 TL, its price is higher, so soda is more expensive" or "4 bottles are less than 6 bottles. We pay less for fewer products." It can be said that students giving these answers focus only on the price or only the count of bottles and neglect other data.

In the last incorrect strategy, "using numbers and no content", students are aware that they need to use addition, subtraction, multiplication, and division operations with the numbers in the problem, but they use operations unrelated to the problem's solution.

When the literature is examined, it can be seen that the proportional reasoning skill is an important subject that can be developed from the primary education level and should not be neglected as a subject that supports the transition from arithmetic to algebra (Akkus-Cikla & Duatepe, 2002; Akkus & Duatepe-Paksu, 2006; Aladag, 2009; Aladag & Artut, 2012; Altayli, 2012; Atabas, 2014; Avcu, 2010; Bayazit and Donmez, 2017; Ben-Chaim et al., 1998; Cramer & Post, 1993; Celik, 2010; Celik & Ozdemir, 2011; Fielding-Wells, Dole, & Makar, 2014; H. Cetin, 2009; İ. Cetin, 2009; Debrelı, 2011; Duatepe et al., 2005; Kaplan, İsleyen, & Ozturk, 2011; Kayhan, 2005; Kupcu, 2008; Kupcu & Ozdemir, 2012; Martinez Ortiz, 2015; Ozdemir & Celik, 2011; Pakmak, 2014; Pelen, 2014; Sen & Guler, 2018; Umay, 2003; Umay & Kaf, 2005; Unsal, 2009). In this context, it is thought that proportional reasoning is important in the teaching of ratio and proportion and subjects related to ratios, such as rational numbers, fractions, percentage calculations, decimal representations, and similarity in triangles. In the current study, we tried to reveal the participants' thoughts when they needed to think proportionally and their mistakes (e.g., establishing additive relationships, establishing multiplicative relationships, failure to identify non-proportional situations). We focused on where these mistakes came from. It is thought that the study is important in giving teachers ideas about this subject and raising awareness about the importance of ratio and proportion, which is the most basic mathematics subject.

In the current study, the answers given by the students to the problems that require proportional thinking skills were evaluated with the help of SOLO Taxonomy. There are a lot of taxonomies in the literature, such as Bloom, Anderson, MATH, Fink, and Dettmer Taxonomy (Ari, 2013; Kocyigit & Morali, 2020). In this study, we used the SOLO taxonomy, which is thought to be the most useful in determining the solution levels of the participants and categorizing them according to the indicative verbs.

## **SOLO Taxonomy**

SOLO Taxonomy was developed by Biggs and Collis (1982) to analyse students' solutions following each grade level. It consists of 5 different hierarchical levels (Wadhwa, 2008). These levels are the "pre-structural level", where the student shows no signs of learning; "uni-structural level", where the student tries to learn by dealing with one single aspect of the subject; "multi-structural level", where the student can deal with several aspects of the subject but cannot make the connections between the aspects; "relational level", where the student can establish reasonable connections between the several aspects learned; and the "abstract level", where the student can make generalizations by reasoning beyond all the things learned. Due to the hierarchical structure of the SOLO Taxonomy, students' answers show improvement in terms of associations, consistency, and higher-order thinking skills as students move towards higher levels (Biggs & Collis, 1982).

At the first three levels of taxonomy, namely, pre-structural, uni-structural, and multi-structural levels, students progress quantitatively in their solutions and achieve surface learning (Ozdemir & Goktepe-Yildiz, 2015). At the relational and abstract levels, which represent more advanced levels, students grasp the question qualitatively and quantitatively and have deeper learning. Aiming to describe observable learning outcomes, SOLO Taxonomy is used in Mathematics, History, Geography, English, modern languages, and similar fields. Studies have generally used SOLO Taxonomy to do a detailed analysis of student answers, determine the thinking level of students at different grade levels according to SOLO Taxonomy, reveal how advanced mathematical structures are perceived in the minds of students in studies conducted with university students, and learn the details about these solutions.

In the mathematics education literature, there are many studies examining students' knowledge levels by using SOLO Taxonomy (Akbas, 2016; Akkas, 2009; Ardic, Yilmaz, & Demir, 2012; Ari, 2013; Bagdat, 2013; Bagdat & Anapa Saban, 2013; Celik, 2007; Goktepe & Ozdemir, 2013; Groth & Bergner, 2006; Kiani, 2004; Kanyalihatipoglu, 2016; Lian & Idris, 2006; Rider, 2004; SArhan-Musan, 2012; Tuna, 2011). When the literature is evaluated in general, it can be seen that most of these studies have a qualitative or mixed design and that the participants consist of students at every grade level from secondary school to higher education. SOLO Taxonomy has also been used in studies as a tool in determining and categorizing the degree of accuracy of students' solutions in various mathematics subjects, such as algebraic expressions (Akbas, 2016; Bagdat, 2013; Bagdat & Anapa-Saban, 2014; Celik, 2007;



Rider, 2004), statistical thinking processes (Akkas, 2009; Groth and Bergner, 2006), data analysis (Ardic et al., 2012; Kiani, 2014), polygons (Kanyalihatihoglu 2016), and equations (Lian & Idris, 2006; SArihan-Musan, 2012). Similarly, in the current study, SOLO Taxonomy was used to examine the mistakes made by seventh-grade students in the process of solving problems that require proportional reasoning skills and to categorise and evaluate their solutions.

## Method

### Study Design

This study used qualitative case study methodology. According to Creswell (2007), a case study is a type of qualitative research in which the researcher examines one or more situations in depth that they have limited over time with the help of observations, interviews, documents, and reports. This is a design in which an event or situation is examined longitudinally, and there is a systematic data collection process (Buyukozturk et al., 2010; Subasi and Okumus, 2017). A special case was analysed in-depth using more than one data collection method in the current study.

### Study Group

The study was carried out in a public school in a city centre in the Central Black Sea region in the 2016-2017 academic year. The research participants consisted of 10 students selected following the purpose of the study among 33 seventh-grade students. The criterion sampling method, one of the purposive sampling methods, was employed to determine the study group. The sample is selected among people, situations, or events related to the predetermined criteria and the problem is investigated in-depth to enrich the data in criterion sampling (Patton, 2014). According to the study's inclusion criteria, students with middle or high test scores were included in the study sample. Ten students who got the highest score among 33 students who participated in the proportional thinking skill test constituted the study sample.

### Data Collection and Analysis

The proportional reasoning skill test and a semi-structured interview form were used as data collection tools in the study. The study data were analysed, and the student levels were classified into level groups with the SOLO Taxonomy rubric adapted by the researchers to reveal the mistakes made by the participants in the questions requiring proportional thinking skills. Individual interviews were conducted with the participants to analyse their answers and the solutions they developed in more detail. The next section presents more detailed information about data collection tools and analysis methods.

## **The Proportional Reasoning Skill Test and Analysis**

The data were collected using the Proportional Reasoning Skill Test, which was developed by Akkus and Duatepe-Paksu (2006) to measure the students' proportional reasoning skills. Cronbach's Alpha value, which is the internal consistency coefficient of the 15-item test, was calculated as 0.86. The discriminating power indices of the test items varied between 0.50 and 0.71 (Akkus & Duatepe-Paksu, 2006).

The test was administered to 33 students in the study. Then, the researcher scored the students' solutions, and 5 problems numbered 2, 7, 9, 10, and 15 on the test and had the lowest correct solution percentage by the students were selected to be analysed to reveal students' mistakes. The correct solution rate was 33.33% for the 2nd problem, 12.12% for the 7th problem, 24.24% for the 9th problem, 18.18% for the 10th problem, and 6.6% for the 15th problem. According to the scoring key of the test, the minimum and maximum scores that students can get from these 5 problems ranged between 0 and 15. The students in the study group were divided into 3 score groups as low, middle, and high. Accordingly, students in the 0-4 score range (S2, S4, S5, S10) were classified as low score group, those in the 5-9 score range (S1, S3, S6, S7) were classified into middle score group, and those with scores between 10 and 15 (T8, T9) were assigned to the high score group.

The mistakes in the solutions of the 10 students were categorised and grouped according to the incorrect solution strategies in the literature, taking into account their similarities. The accuracy of the identified erroneous strategies was questioned in one-on-one interviews with the students. After the interviews, the strategies matched with the students' solutions were submitted for the approval of three academicians, experts in the field. It was difficult to classify the student's solution coded S10 for the 9th problem. Initially, the researchers considered this solution suitable for both the "using numbers and no content" and "data neglect" strategies. In this solution, which was submitted to expert opinion, the mistake was eventually coded as "using numbers and no content" strategy, taking into account the student's voice recordings and the interview process. In another example, students' incorrect solutions that involved setting up proportions in situations that did not contain proportions were classified as "multiplicative relationship strategy". However, as this mistake has not been included in the relevant literature with this title and in line with the experts' suggestions, the name of this strategy has been changed to "failure to identify non-proportional situations". The incorrect solution strategies determined due to the data analysis carried out under the control of experts consisted of five categories: additive relationships, data neglect, using numbers and no content strategy, emotional response, and failure to identify non-proportional situations.

## **The Semi-Structured Interview Form and its Analysis**

An interview form is a tool used to collect similar types of data from a sample of different participants to obtain detailed information about a subject (Yildirim & Simsek, 2008). To analyse the data obtained from the test in detail and to make the students'

solutions clearer, a "semi-structured interview form" developed by the researcher was used.

The form was submitted to the opinions of experts to increase the validity of the interview form developed and determine the appropriateness of the proportional reasoning process for sub-skills; the experts consisted of one faculty member from the department of measurement and evaluation in education, one faculty member from the mathematics education department, one mathematics teacher, and one Turkish teacher to determine the appropriateness and intelligibility of the language of the test.

In the interview form, there were 8 questions that would help students explain problems 2, 7, 9, 10, and 15 selected for the study in detail. The first 3 questions on the form were designed to get general ideas of the students about the test administered and to reduce their excitement during the interview. In the next 5 questions, students were asked to summarise the 5 problems in question and explain their solutions. The audio recordings from the interviews were deciphered and analysed descriptively by grouping them according to predetermined incorrect strategies.

## The SOLO Taxonomy Rubric and Its Analysis

Taxonomy is a tool that helps analyse an answer given by a student to a question in-depth and classify the students' thinking levels (Lung, 2000). The current study used SOLO Taxonomy to classify student solutions according to levels. The researcher conducted an adaptation study, and the adaptation was used as a rubric in the study to use the SOLO taxonomy to determine the students' proportional reasoning skills.

The levels of the SOLO Taxonomy are called pre-structural level (PS), uni-structural level (US), multi-structural level (MS), relational level (RL), and abstract level (AL). SOLO levels give the researcher information about the depth of learning by allowing the analysis of the answers given by the student to a question at five different levels. The properties of taxonomy levels are given below.

*Pre-Structural Level:* This is the lowest level of the SOLO Taxonomy. Students at this level generally do not understand or have little knowledge of the subject they are studying (Biggs, 1995). The students answer to the question, and the problem does not match. The student's attention is easily distracted by situations unrelated to the solution of the problem (Cetin & İlhan, 2016). Therefore, the student cannot perform the expected task properly.

*Uni-Structural Level:* At this level, students deal with the problem from a narrow perspective. Although the student has the necessary theoretical knowledge for the solution, they cannot successfully apply it (Biggs & Collis, 1991). At this level, students can explain the subject and perform simple operations. However, they cannot establish a relationship between the part they focus on for the solution and other parts. Therefore, there are inconsistencies in their answers.

*Multi-Structural Level:* At this level, students can recognise more than one aspect of the subject in the problem, but they cannot connect these different aspects (Biggs & Collis, 1991). They use a lot of theoretical information in their plans for the solution. However, they cannot develop a logical and consistent solution by bringing together different ideas. They try to explain their solutions at this level but fail to establish a cause-effect relationship.

*Relational Level:* At this level, students can deal with the subject or problem situation they are working on in a way that creates a logical and consistent whole (McGill, 2013). They can generalize their results to a similar problem situation. However, since they are limited to their knowledge, they cannot reach a conclusion beyond their knowledge and cannot make generalisations.

*Abstract Level:* At this level, the peak of SOLO Taxonomy, students can reason much more than their knowledge and reach generalizations by making connections between relationships. They can show examples of abstract thinking. They systematically reconstruct their knowledge by combining it with the power of interpretation and logic (Biggs & Collis, 1991). They can present new and different ideas, produce hypotheses and theories by making references, and follow more deductive ways to reach generalizations.

It was updated using the SOLO taxonomy levels and the indicative verbs prepared by Cetin and İlhan (2006), presented in Table 1, to use the SOLO Taxonomy Rubric for data analysis of the current study.

**Table 1.**

*SOLO Taxonomy Levels and Indicative Verbs*

|                         | Quantitative Increase and Surface Learning   |  |   | Qualitative Increase and Deep Learning   |  |
|-------------------------|--|--|---|--|--|
|                         | Pre-Structural   | Uni-Structural   | Multi-Structural  | Relational   | Abstract   |
| <b>Key Features</b>     | Things learned about the subject studied are incorrect, and no learning has occurred.  | Focuses on a single aspect of the subject being studied.   | Two or more aspects of the subject studied are understood. But no relationship between the parts can be established.  | Different aspects of the subject studied are associated with each other.   | Reasoning and generalisations beyond the available knowledge can take place.   |
| <b>Indicative Verbs</b> | <ul style="list-style-type: none"> <li>- Repeating what is given in the problem</li> <li>- Saying, "I don't know."</li> <li>- Failing to give an answer</li> </ul> | <ul style="list-style-type: none"> <li>- Explain</li> <li>- Describe</li> <li>- Memorize</li> <li>- Apply a simple operation</li> <li>- Name</li> <li>- Sort</li> <li>- Count</li> </ul> | <ul style="list-style-type: none"> <li>- Combine</li> <li>- List</li> <li>- Describe</li> <li>- Talk metaphorically</li> <li>- Plan</li> <li>- Applying algorithms and methods</li> </ul> | <ul style="list-style-type: none"> <li>- Analyse</li> <li>- Compare</li> <li>- Combine</li> <li>- Associate</li> <li>- Establish relationships between unknowns</li> <li>- Explain cause and effect</li> <li>- Apply a given theory to the relevant field</li> </ul> | <ul style="list-style-type: none"> <li>- Build a theory</li> <li>- Make generalizations</li> <li>- Guess</li> <li>- Build a hypothesis</li> <li>- Reflect</li> <li>- Apply the theory to a new field</li> <li>- Discuss</li> <li>- Examine in-depth</li> </ul> |

To carry out the adaptation study, first of all, the solutions created by the students for the problems 2, 7, 9, 10, and 15 were listed starting from the lowest level, namely, the pre-structural level, to the highest level, that is, the abstract level, and then the indicative verbs suitable for each level were selected. Thus, a rubric that is compatible with both the verbs and the information in the scoring key of the test was developed. The match between these five levels and students' solutions was determined by considering the accuracy of the solution and the inclusion of the verbs presented in Table 1. For example, phrases such as "I don't understand; makes no sense" in the student's solution were evaluated as pre-structural. If the student tried to reach a solution based on only one data in the question, the solution was evaluated as the uni-structural level. If the student reached the correct result through an unusual solution or reasoning, this solution was evaluated as the abstract level. Before using the rubric in the study, it was piloted to a small sample group. After necessary corrections were made, it was used in the main study to determine the proportional reasoning levels of the students.

## **Credibility and Ethics**

Reliability and validity are the two most important criteria for qualitative research's credibility. The degree to which the measurement results obtained in a study are free from random errors is defined as the reliability of the research. The reliability of the research increases depending on the increase in the rate of the accurate measurement of the feature studied (Buyukozturk et al., 2010; Tanriogen et al., 2012). We used the rubric of the test and the SOLO Taxonomy rubric developed for the current study to progress with an objective and reliable approach in scoring the proportional reasoning skill test administered to the students. The inter-rater reliability was calculated to ensure scoring reliability during the data analysis phase. In this method, the reliability of the scoring of two or more observers for the same data is measured by the agreement between the score groups. It is stated in the relevant literature that as the scores given by the observers for the existing data and solutions get closer to each other, the reliability will increase (Bilgen & Dogan, 2017). A researcher who is an expert in primary school mathematics education was provided information about the SOLO Taxonomy. The rubric developed was chosen as the second-rater to determine the reliability. This rater scored the solutions of the 10 students for problems 2, 7, 9, 10, and 15 in the test in an isolated environment. Predetermined categories and the SOLO Taxonomy rubric were used as criteria in scoring. The researcher and the expert rater categorised the students' incorrect strategies and placed them at appropriate levels in the rubric. The solutions created by the 10 students for the 5 questions were scored and recorded in the table. Scoring was based on the levels in the rubric that correspond to 0 points for the lowest level and 5 points for the highest level and their explanations. When the score tables of the rater and the researcher were compared at the end of the process, it was found that 7 questions were coded differently: problem 2, S2 (researcher: 2, rater: 3) and S7 (researcher: 3, rater: 4); problem 7, S6 (researcher: 3, rater: 2) and S4 (researcher: 4, rater: 3); problem 9, S5 (researcher: 3,

rater: 4); and problem 10, S1 (researcher: 3, rater:4) and S3 (researcher: 3, rater: 2). In the scoring of problem 15, it was seen that the coding of both raters was consistent. It was observed that the differences between the scores were 1 point for all students. In cases where the raters disagreed about the level of the students, a consensus was reached by discussing the student's answers in detail. The inter-rater reliability of the rubric, which was finalised after the scoring process, was scored according to Miles and Huberman (1994).

$$\text{Reliability} = \frac{\text{Agreement}}{\text{Agreement} + \text{Disagreement}}$$

According to Miles and Huberman (1994), a reliability percentage of 70% or above in scoring is considered enough for inter-rater reliability. The reliability percentage was calculated as 86% using the formula above in the current study. It is possible to say based on this calculation that the rubric developed is a reliable tool for placing students' levels of proportional reasoning skills at the appropriate level of the SOLO Taxonomy.

Validity is defined as the degree to which a feature that is intended to be measured in research can be measured without any interference of different factors in the measurement process (Merriam, 2015). Interviews were held with the students in the study group using the data obtained in the present study. During the semi-structured interviews, the data were collected by the researcher personally. All interviews were audio-recorded. The researcher tried to proceed without bias until the data collection stage was completed and to be objective in her analysis by using the data of the voice recordings, the rubric of the administered test, and the developed rubric. After the voice recordings were transcribed, they were validated through member-checking. The recordings transcriptions were given to the 10 interviewed students. After they confirmed the accuracy of the content, the data were analysed. In the implementation phase of the research, necessary steps were taken to fulfil all ethical responsibilities, such as protecting the participants from all kinds of harm and keeping confidentiality. At the outset, written permission of the Provincial Directorate of National Education (Date: May 31, 2017, Issue: 27001677-44-E.7951860) and students' written consent, showing their voluntary participation, was obtained. Participants were informed that they could leave the study at any time, and it was ensured that their personal data would not be shared with anyone other than the research team.

## Findings

In this section, the answers given by the students to the selected problems and the transcriptions of the interview recordings about the solution strategies they developed are presented. For the analysis, the solutions of problems 2, 7, 9, 10, and 15, in which the students made the most mistakes, were used. The five different incorrect solution strategies used by the 10 students in the study group were examined under separate headings. These incorrect strategies, presented under sub-headings in the chapter,

include establishing additive relationships, data neglect, giving emotional responses, using numbers and no content, and failure to identify non-proportional situations.

### Findings Regarding Additive Relationship Strategy

This incorrect strategy is used by students in situations where ratios need to be compared. The solution requires adding a value to one of the ratios in proportion to find the other ratio. Students establish an additive relationship mistakenly instead of the multiplicative relationship that should be used due to the nature of the proportional relationships. The problems that the 10 students in the study group made mistakes by using the additive relationship strategy and the evaluation of these problems according to the SOLO Taxonomy Rubric are given in Table 2.

**Table 2.**

*Use of Additive Relationship Strategy by the Participants*

| Strategy                       | Student Code | Problem No. | Level of SOLO          |
|--------------------------------|--------------|-------------|------------------------|
| Additive relationship strategy | S1           | 10          | Multi-structural level |
|                                | S2           | 2, 10       | Uni-structural level   |
|                                | S3           | 10          | Uni-structural level   |
|                                | S4           | 10          | Uni-structural level   |
|                                | S5           | 2           | Uni-structural level   |
|                                | S6           | 2           | Uni-structural level   |
|                                | S7           | 10          | Multi-structural level |
|                                | S8           | -           | -                      |
|                                | S9           | 2           | Multi-structural level |
|                                | S10          | 7           | Uni-structural level   |

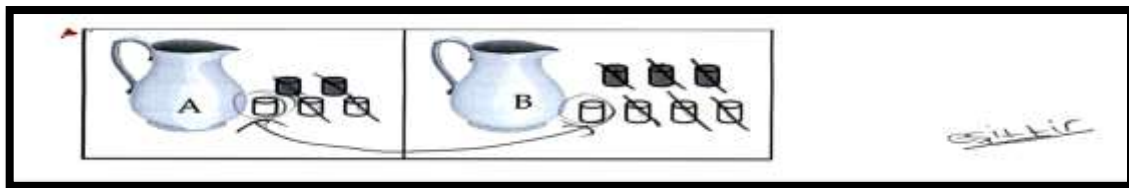
According to Table 2, 9 out of the 10 students in the study group used the incorrect additive relationship strategy in their solution. The student coded S8 did not use this incorrect strategy for solving any problem. In this respect, it is possible to say that the additive relationship strategy was the incorrect strategy that the majority of the students used. For example, the solution of problem 10 by the student coded S2, who used the additive relationship strategy in the solution of the 10th problem given below, is presented in Figure 1.

Problem 10: "Orange juice is made in pitchers A and B in the figure. There is concentrated orange juice in dark-coloured glasses and water in light-coloured glasses. As shown in the figure, 2 glasses of concentrated orange juice and 3 glasses of water are put into pitcher A, and 3 glasses of concentrated orange juice and 4 glasses of water are put into pitcher B. Accordingly, which pitcher has sweeter orange juice? Please explain."

This problem requires quantitative comparison; accordingly, students are expected to conclude that pitcher B with a greater ratio of orange juice has sweeter content by setting up  $2/5$  and  $3/7$  or  $2/3$  and  $3/5$  proportions.

**Figure 1.**

*Solution of S2 for problem 10*



Quotations from the interview for the solution in Figure 1 are given below.

R : Which pitcher do you think has sweeter orange juice?

S2 : I think both of them will be equal.

R : Why will they be equal?

S2 : The pitchers are the same size. For example, this is paired with this, and this is paired with this, and 1 glass of water remains (the student wants to say that he has matched 1 glass of water with 1 glass of orange juice in pitcher A. According to this pairing, only 1 glass of water remains in pitcher A). Again, this is paired with this, and this is paired with this, and we have 1 glass of water remaining (the student matches concentrated orange and water for pitcher B, too). However, the taste does not change. There is no change in ratios. The liquid is more only in one of them.

R : Well, you have just said they are equal, and the ratios are the same. What ratio are you talking about?

S2 : Teacher, the difference is 1 here (pitcher A) and 1 here (pitcher B). It has the same ratio.

R : How did you use the ratio here?

S2 : I have just shown it, teacher. I matched orange juice glasses and water glasses exactly, so I proportioned them; only 1 glass of water was left. So, they taste similar.

Based on the student's statement, "... I matched them one-to-one, that is, I proportionated them. So, they taste equal", it is thought that while he was solving the problem, he focused on the difference between the number of glasses, neglected the multiplicative relationship between the number of glasses for each pitcher, and made a mistake by using the additive relationship strategy. The student thought he set up a proportional relationship by making one-to-one matching. In terms of taxonomy, student S2 misinterpreted the number of glasses in the problem and could not determine which pitcher had sweeter juice. Instead of setting up a proportional relationship between the numbers of glasses, he tried to establish an additive relationship. Since the difference between the numbers of glasses in both pitchers was



1, he thought that their taste was the same and gave an incorrect answer. According to the rubric, this incorrect solution corresponds to the uni- structural level.

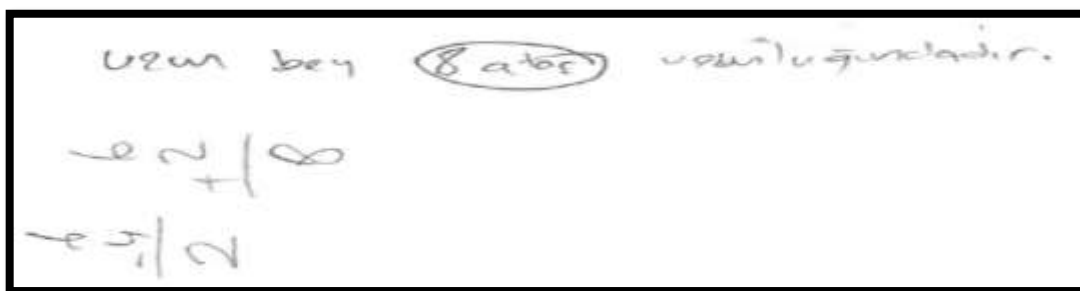
Similarly, the solution of the student coded S2 for the 2nd problem is presented in Figure 2.

Problem 2: "Mr Short has a friend named Mr Tall. When the height of Mr Short was measured with a paper clip, it was found that he was 6 paper clips tall. When the height of Mr Tall and Mr Short was measured using a button, it was found that Mr Tall was 6 buttons tall, and Mr Short was 4 buttons tall. Accordingly, how tall is Mr Tall in paper clips?"

In this problem, which requires finding the missing value, students are expected to find the proportion between a paper clip and button length, that is, the equation of 1 button = 1.5 paper clips, and reach this result: "6 buttons = 6 x 1.5 = 9 paper clips."

### Figure 2.

Solution of S2 for problem 2



Quotations from the interview for the solution in Figure 2 are given below.

- R : How did you solve the problem?
- S2 : Teacher, there is only one ratio for the buttons. Mr Tall is 6 buttons, and Mr Short is 4 buttons tall (he is talking about the heights of Mr Tall and Mr Short in buttons).
- R : What ratio are you talking about?
- S2 : Teacher, the buttons have a certain proportional increment here.
- R : What kind of increment is this?
- S2 : Mr Short is 4 buttons tall, and Mr Tall is 6 buttons tall. So, the increment is 2 units here.
- R : How did you determine the ratio here?
- S2 : The ratio is 2. If the difference between the buttons is 2, then the same will apply to the paper clips.
- R : What does ratio mean? Can you explain to me the way you think of it?
- S2 : The division of two things by each other.

R : What does the number 2 that you have found mean then?

S2 : I found the difference between them. Isn't that the ratio? The same will be true for paper clips, too.

In this incorrect solution, it is possible to say that the student mistakenly established an additive relationship. The student's explanation, "The ratio is 2. If the difference between the buttons is 2, then the same will apply to the paper clips", supports the finding that he established an additive relationship in the solution. In the interview, when the student was asked to explain a ratio, he described it as the division of two things by each other. Although the explanation has a multiplicative meaning, the student used the difference between button lengths in his solution and tried to establish an additive relationship using this information. Based on his interpretation of the ratio as 2, when the student was asked what "2" meant, he said, "I calculated the difference. Wouldn't that be the ratio?" He identified the concept of ratio with multiplication and division operations. Still, while solving the problem, he made a mistake by thinking that he would obtain a ratio by calculating the difference between the variables. In terms of taxonomy, the student coded S2 realised that he needed to obtain a ratio by using the information given in the problem. However, he tried to find the measurements of Mr Tall by making use of the difference of the measurements of Mr Short. It can be said that the student who defined this process as a ratio could not make enough explanations for the solution. These indicative verbs correspond to the 'uni-structural level' in the rubric.

Another student who is thought to have used the additive relationship strategy was the student coded S1. His solution to problem 10 is given in Figure 3 (See Appendix 1- Question 10).

Figure 3.

Solution of S1 for problem 10

The image shows a handwritten solution for problem 10. At the top, there is a table with two columns labeled 'A' and 'B'. The table contains the following data:

|                        | A  | B  |
|------------------------|----|----|
| 2 bardak portakal suyu | 2P | 3P |
| 3 bardak portakal suyu | 3S | 4S |

Below the table, there is a handwritten note: "çifttir" (it is double). The main solution is written in Turkish and reads: "Çünkü 2 bardak portakal suyu 3 bardak su ile karıştırılırsa 3 bardak portakal suyu 4 bardak su ile karıştırılırsa da her bardak B'de ise 1 bardak su bulunur." (Because if 2 glasses of orange juice are mixed with 3 glasses of water, and 3 glasses of orange juice are mixed with 4 glasses of water, then in each glass B, there is 1 glass of water.)

Quotations from the interview for the solution in Figure 3 are given below.

R : How do we decide which is sweeter?

- S1 : Teacher, they are all equal here.
- R : Why are they equal?
- S1 : Because, for example, there are 2 glasses of orange juice here (he is talking about pitcher A) and 3 glasses of water here. The difference between them is 1. Here, too (he is talking about pitcher B), there are 3 glasses of orange juice and 4 glasses of water. So I said, "they are equal" because the difference between them is 1.

Based on the interview, it is thought that the student used the 'additive relationship' strategy in his solution. When the student was asked how he decided that the taste of the juice in the pitchers was equal, he replied, "It is equal because the difference is 1." According to this answer, he focused only on the quantities of the glasses and therefore could not see the multiplicative relationship between the glasses. As a result, he reached an incorrect solution by establishing an additive relationship. In terms of taxonomy, student S1 neglected the number of glasses, which has a multiplicative relationship, and tried to establish an additive relationship between these numbers and solved the problem incorrectly. These indicative verbs correspond to the "multi-structural level" in the rubric.

### Findings on the Data Neglect Strategy

The type of mistake in which two ratios or only one of the proportional relationships is considered and the other is neglected is defined as the 'data neglect strategy'. Students who make this mistake focus on a single situation, relationship, or variable. The problems that the 10 students in the study group made mistakes by using the data neglect strategy and the evaluation of these problems according to the SOLO Taxonomy Rubric are given in Table 3.

**Table 3.**

*Use of Data Neglect Strategy by the Participants*

| Strategy              | Student Code | Problem No. | Level of SOLO                    |
|-----------------------|--------------|-------------|----------------------------------|
| Data neglect strategy | S1           | 9           | Pre-structural                   |
|                       | S2           | -           | -                                |
|                       | S3           | -           | -                                |
|                       | S4           | 10          | Uni-structural                   |
|                       | S5           | 9, 10       | Multi-structural, Pre-structural |
|                       | S6           | -           | -                                |
|                       | S7           | 2, 7        | Relational, Uni-structural       |
|                       | S8           | -           | -                                |
|                       | S9           | 7           | Relational                       |
|                       | S10          | -           | -                                |

As seen in Table 3, students coded S1, S4, S5, S7, and S9 used this incorrect strategy in their solutions. Among the 5 incorrect strategies included in the study, the data neglect strategy was determined as the most frequently used incorrect strategy after the additive relationship strategy.

The solution of the student coded S5, who is thought to have used the data neglect strategy in his solution for problem 9, is shown in Figure 4.

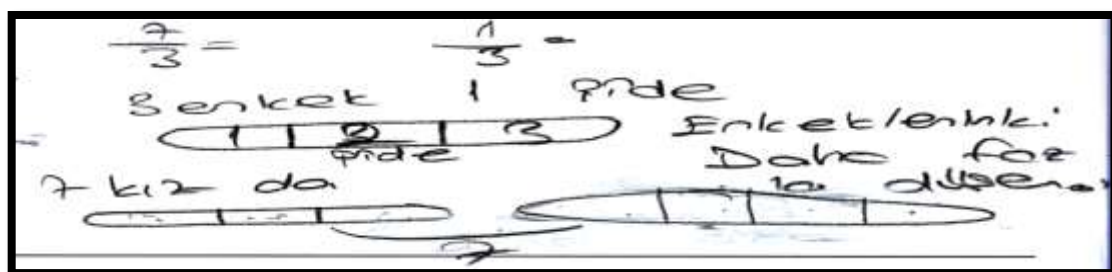
Problem 9: "Pita bread of the same size is produced in a restaurant. 7 girls eating at this restaurant share 3 loaves of pita, and 3 boys share 1 loaf of pita. Is the amount of pita bread per girl or boy more in this restaurant? Please explain." In this problem, which requires quantitative comparison, students must compare the ratios between pita bread. The ratios are  $\frac{3}{7}$  for girls and  $\frac{1}{3}$  for boys. Students are expected to find that the girl group with a larger ratio eats more pita bread.

Quotations from the interview for the solution in Figure 4 are given below.

- S5 : Teacher, each girl ate half a pita.
- R : You say the girls ate half pita each. How much did the boys eat?
- S5 : I think it is  $\frac{1}{3}$ , that is, a quarter for boys.
- R : Does your drawing show that each girl ate half and each boy a quarter of a pita?
- S5 : It says, "3 boys eat 1 loaf of pita". Do I not need to find pita per person?
- R : Well, you said boys ate  $\frac{1}{3}$  of a pita. How did you find that the girls ate half a pita?
- S5 : 7 girls were eating 3 loaves of pita bread. I divided half of that pita and shared 1 piece for everyone.
- R : If you explain your solution according to your drawing, you haven't cut the girls' pita in half.
- S5 : If I divide 7 by 3, they almost eat half a pita.
- R : Did you find  $\frac{1}{2}$ , that is, half a pita answer by dividing 7 by 3?
- S5 : If it were 6, it would be exactly half, but since it is 7, it is very close to half.

Figure 4.

Solution of S5 for problem 9



It was observed that S5 initially tried to solve the problem by drawing. It can be said that he used the 'data neglect strategy' in his solution, looking at the student's drawings. In the drawing seen in Figure 4, the fact that the student drew 1 pita incomplete, unlike the information given in the problem for girls, and focused only on the number of people, supports the finding that he used the data neglect strategy. While explaining

why the girls ate half a pita, the student said, "If it were 6, it would be exactly half, but since it is 7, it is very close to half". It can be said that the student can use reasoning about the concept of ratio, albeit superficially, looking at this explanation. However, it was observed that the student had difficulty applying his limited knowledge to solving the problem. He thinks that when he divides 6 by 3, he will get half, which supports the finding that he had difficulty solving the problem. In taxonomy, the student coded S5 drew a figure using the information given in the problem, randomly dividing 3 loaves of pita into 7 pieces and 1 pita into 3. S5 tried to determine the group that ate more pita bread according to his drawing. It was observed that the student had difficulty in understanding the concept of the unit ratio and applying it to the problem, so by setting up incorrect proportions (and incorrect ratio drawings), he found an incorrect answer. These indicative verbs correspond to the 'multi-structural level' in the rubric.

The solution of the student coded S9, who was thought to have used the data neglect strategy for problem 7 is shown in Figure 5.

Problem 7: "Mert and Mine work at the same speed and paint a wall in 10 days. How many days will it take to paint the same wall when 3 more people working at the same speed join them?" In this problem, students are expected to find the missing value by setting up an inverse proportion.

### Figure 5.

*Solution of S9 for problem 7*

The image shows handwritten mathematical work. At the top, there is a proportion  $\frac{2}{10} = \frac{5}{x}$  with a large 'X' drawn through it, indicating it is incorrect. Below this, the student has written  $\frac{2x}{2} = \frac{50}{2}$  and then  $x = 25$ .

Quotations from the interview for the solution in Figure 5 are given below.

S9 : 2 people paint a wall in 10 days. Now, 3 more people who work at the same speed will join them. Considering the direct proportion, if 2 people do it in 10 days, it makes 5 people when 3 more people join them. We can find it with a direct proportion considering 5 people. That is, 2 people do it in 10 days. When 3 more people come, it makes 5 people. Let's call it x (talking about the number of days in the proportion that will take 5 people to paint the wall). It turns out that  $2x = 50$ . When we divide the result by 2, x is equal to 25.

R : Why do we need to use direct proportion to find it?

S9 : Because, teacher, the number of people increases here. As the number of people increases, the number of days will necessarily increase. For example, the more people eat at a table, the more bread should be on that table.

R : But in our question, our bread count is fixed.

S9 : Wrong ... (thinking). Well then, it would be correct if we solved it using inverse proportion instead of direct proportion. I am confused.

R : So why do you think you should use inverse proportion?

S9 : I was confused about the proportion. I thought that if the number of people increases, the number of days should also increase. But since work is done here, the more people join, the sooner the work is done.

It is thought that the student found an incorrect solution because he used the data neglect strategy. He only focused on the increase in the number of people and neglected how the time would change according to the number of people. The student's interpretation, "Because, teacher, the number of people increases here. As the number of people increases, the number of days will necessarily increase", supports the finding that he only focused on the increase in the number of people. In addition, it was observed that the student had difficulty choosing the appropriate type of proportion for the problem. When the student was asked why he preferred the direct proportion in his solution, he admitted to using the incorrect proportion type. Based on this, it is thought that the student knows that directly proportional multiplicities require a proportional increment. Still, he made a mistake while transferring this knowledge to the problem. In taxonomy, student S9 correctly determined the person information in the problem but chose the type of proportion incorrectly.

The increase in the number of people in the problem was interpreted by the student as the need for more time to do the work. It was observed that the student's incorrect solution was that he thought he needed to use the direct proportion. These indicative verbs correspond to the "relational structure level" in the rubric.

### **Findings Regarding Emotional Response Strategy**

Students' solutions based on their personal and real-life experiences without mathematical knowledge and solution processes are classified as the 'emotional response' strategy. In this type of mistake, the students' thoughts outweigh the requirements of the problem situation.

The problems that the 10 students in the study group made mistakes by using the emotional response strategy and the evaluation of these problems according to the SOLO Taxonomy Rubric are presented in Table 4.

**Table 4.**

*Use of Emotional Response Strategy by the Participants*

| Strategy                           | Student Code | Problem No. | Level of SOLO  |
|------------------------------------|--------------|-------------|----------------|
| Giving emotional response strategy | S1           | -           | -              |
|                                    | S2           | -           | -              |
|                                    | S4           | 10          | Uni-structural |
|                                    | S5           | -           | -              |
|                                    | S6           | -           | -              |

|     |    |            |
|-----|----|------------|
| S6  | -  | -          |
| S7  | -  | -          |
| S8  | 10 | Relational |
| S9  | 10 | Relational |
| S10 | -  | -          |

According to Table 4, it was observed that only students coded S4, S8, and S9 used this incorrect strategy in their solutions. The emotional response strategy was one of the least used strategies in the study. The solution of student S8 for the 10th problem is given in Figure 6 (See Appendix-1, Question 10).

**Figure 6.**

*Solution of S8 for problem 10*



Quotations from the interview for the solution in Figure 6 are given below.

- R : How did you decide which pitcher would have sweeter juice?
- S8 : Teacher, 3 glasses of water are added to 2 glasses of concentrated orange juice. 4 glasses of water are added to 3 glasses of concentrated orange juice. I set up a proportion here. Teacher, there are 2 different pitchers in this question. There are two different mixtures in these pitchers with different numbers of glasses. I know I have to compare these mixtures, so I decided to find the number of glasses of water corresponding to one glass of orange juice to make the comparison. I had to set up a proportion while doing this operation because I had to calculate it for 1 glass out of many glasses. This decrease should be at the same ratio to not spoil the taste. I needed to use the direct proportion for the number of glasses to decrease at the same ratio.
- R : Go ahead.
- S8 : 3 glasses of water (pitcher A) for 2 glasses of orange juice, 4 glasses of water for 3 glasses of orange juice (describes pitcher B). 4 glasses are added. Teacher, I found 1 glass from here.
- A : 1 glass of what?
- S8 : Water. I thought if it was 3 for 2 glasses of orange juice, I took 1 glass of orange juice as  $x$ . I set it up as  $2x=3$ . I divided it by 2. It was  $3/2$  (he found the amount of water in pitcher A corresponding to 1 glass of concentrated orange juice). Then I thought if it is 4 glasses of water for 3 glasses of orange juice (he is talking about

water), I took 1 glass of orange juice as  $x$ . Direct proportion: If  $3x=4$ ,  $x$  is  $3/4$ . No, it is  $4/3$ .

R : OK, which pitcher do you think will have a sweeter mixture after these operations?

S8 : Teacher, let's equalise the denominators. Let's use 3 for this (for A) and 2 for this (for B).  $9/6 = 1.5$  (pitcher A), and  $8/6 = 1.3$  (pitcher B), which has a repeating decimal. So, this (pitcher A) gets sweeter.

R : So what gives the content of the pitchers a sweet, sugary taste here?

S8 : Orange juice.

R : Well, here we found how much water is added to 1 glass of orange juice. Will adding more water or less water make it sweeter?

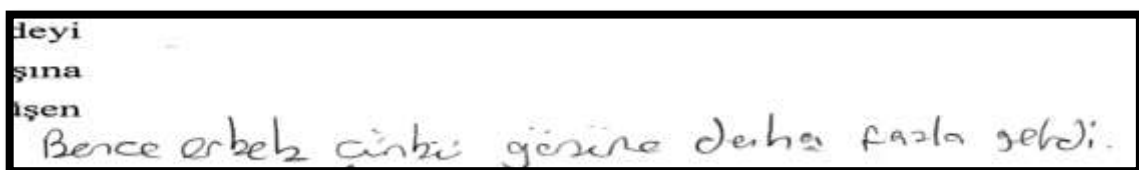
S8 : Of course, it will be B. Yes, I did not realise it, teacher. As it has a greater number, I thought pitcher A would have sweeter content. The one with less addition will be sweeter. The answer is B.

It is thought that the student found an incorrect solution because he used the emotional response strategy. During the interview, he successfully reasoned and did the necessary operations. However, when he made the right choice by interpreting the quantitative data available, he did not think that the glasses he was calculating contained water but only considered the large number and turned to an emotional response that the larger number would make it sweeter. The student's interpretation, "As it has a greater number, I thought the pitcher A would have sweeter content", supports the finding that he used the emotional response strategy. In terms of taxonomy, although the result of S8 was incorrect, it was observed that he had skills that required proportional reasoning in the solution process. The student, who had already grasped the concept of proportion correctly and explained why he preferred the direct proportion in the solution successfully, made the mistake of giving an emotional response in the final decision stage and therefore gave an incorrect answer. These indicative verbs correspond to the rubric's 'relational structure' level.

Figure 7 shows the solution of the student coded S4, who is thought to have used the emotional response strategy for problem 9 (See Appendix-1, Question 9).

### Figure 7.

*Solution of S4 for problem 9*



Quotations from the interview for the solution in Figure 7 are given below.

R : What method should we follow to solve this problem?



- S4 : Teacher, the pita bread of the same size is consumed in a restaurant. While 7 girls share 3 loaves of pita, 3 boys share 1 loaf of pita. Teacher, I perceived it as bigger. Boys will have more.
- R : Why will boys have more?
- S4 : Teacher, the number of girls is greater: 7 persons. But because there are fewer boys, the pita bread will be divided into fewer pieces.

It is thought that the student found an incorrect solution by using the emotional response strategy. It was observed that he only compared the number of people by using his personal experiences and without going through a mathematical solution process. He had a belief that the decrease in the number of people would increase the amount of pita bread per person. He was not interested in the fact that the number of pita bread that the girls had was greater and stated that the boys would eat more pita by considering the low number of boys. The student's interpretation, "Teacher, I perceived it as bigger. Boys will have more", supports the finding that he used the emotional response strategy. In terms of taxonomy, student S4 wrote his subjective evaluation without doing operations. He did not realise that he had to set up a proportion and had difficulty setting it up. Therefore, he made a mistake in his solution. These indicative verbs correspond to the 'uni-structural level' in the rubric.

### Findings on Using Numbers and No Content Strategy

Using numbers and no content is a method that students prefer when they realise that they need to use the numbers in the problem but cannot establish a logical relationship between them. It was observed that students who used this strategy did different operations randomly instead of multiplication and division, which are especially used in proportional relationships.

The problems that the 10 students in the study group made mistakes by turning to the "using numbers and no content" strategy and the evaluation of these problems according to the SOLO Taxonomy Rubric are presented in Table 5.

**Table 5.**

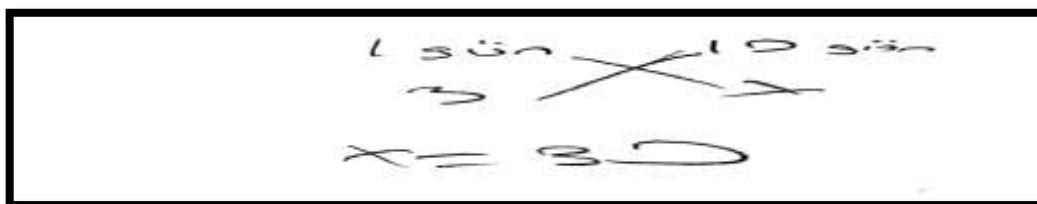
*Use of Using Numbers and No Content Strategy by the Participants*

| Strategy                              | Student Code | Problem No. | Level of SOLO  |
|---------------------------------------|--------------|-------------|----------------|
| Using numbers and no content strategy | S1           |             |                |
|                                       | S2           | -           | -              |
|                                       | S3           | 7           | Uni-structural |
|                                       | S4           | 7           | Uni-structural |
|                                       | S5           | 15          | Uni-structural |
|                                       | S6           | -           | -              |
|                                       | S7           |             |                |
|                                       | S8           | -           | -              |
|                                       | S9           |             |                |
|                                       | S10          | 9           | Uni-structural |

As seen in Table 5, only the students coded S3, S4, S5, and S10 used this strategy. It was observed that using numbers and no content strategy was used by 4 students. The solution of the student coded S3, who is thought to have used the strategy of using numbers and no content for problem 7 is given in Figure 8 (See Appendix-1, Question 7).

### Figure 8.

*Solution of S3 for problem 7*



Quotations from the interview for the solution in Figure 8 are given below.

R : Can you explain how you have come up with the solution?

S3 : Mert and Mine finish it in 10 days, and 3 more people join them. When there are 3 more people, there many and finish it in a day. For example, 3, 5; they finish it on those days.

R : How did you interpret this information?

S3 : As the number of people increases, the number of days should also increase. 2 people in 10 days, 3 people in x days. Is that so?

R : Show me the way you think.

S3 : How many people paint the wall? 2? No, they are 3 people.

R : Is the information about the number of people given in the question?

S3 : Yes, teacher. 3 people paint it, which is the direct proportion. That's equal to 30.

It is thought that the student used the using numbers and no content strategy in his solution. When the student's comments were examined, it was seen that he noticed the numbers in the problem. However, he could not grasp the change in the number of people correctly. When 3 more people join Mert and Mine, the total number of people becomes 5, but the student said, "How many people paint the wall? 2? No, they are 3 people." He stated that he found the total number of people as 3. This student's interpretation supports the view that he could not understand how to use the quantitative data in the problem. The student's statement, "... is the direct proportion. That is equal to 30", shows that he uses direct proportion in a situation where he should use inverse proportion. The student could not grasp the problem quantitatively and did incorrect operations, which supports the finding that he used numbers and no content to solve the problem. In terms of taxonomy, student S3 misinterpreted the information about the number of people given in the problem and evaluated the total number of people as 3. The student who used the information about the number of

days and people given in the problem without considering their relationship made a mistake in his solution. These indicative verbs correspond to the 'uni-structural level' in the rubric.

Another student who was thought to have used numbers and no content in his solution was the student coded S10. This student's solution to problem 9 is given in Figure 9 (See Appendix-1, Question 9).

Quotations from the interview for the solution in Figure 9 are given below.

R : You have written your answer in the solution, but you haven't given a satisfactory explanation. How should we go about solving this problem?

S10 : Teacher, in this question, girls have more pita bread. When shared equally, boys eat less.

R : How did you find it?

S10 : Now, there are 3 boys and 7 girls. If we increase men to 7, we add 4. We increase these by 4, too (he wants to describe the quantity of pita that boys eat), and it becomes 5.

R : So, how did you do these operations?

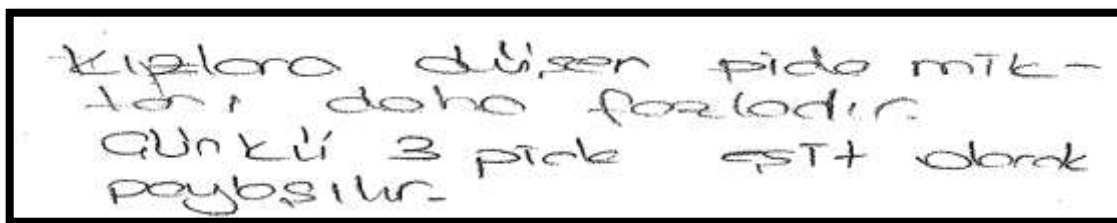
S10 : I increased the number of boys at the same ratio, teacher. Now girls and boys are 7 each.

R : Well, you increased the boys by 4, and they became 7. Why did you increase the quantity of pita by 4?

S10 : I need to increase it at the same ratio, that's why.

### Figure 9.

Solution of S10 for problem 9



It is thought that the student used the strategy of using numbers and no content in his solution. Although S10 wrote the correct answer on the answer sheet, it was observed that he could not make the necessary explanation. The student understood that he had to use the number of people and loaves of pita in the problem, but he could not realise how to use these numbers correctly in his solution. The student, who tried to reach the solution by equalising the number of persons given in the problem, stated that he needed to use a ratio while doing this operation. This was stated in his comment as follows: "I increased the number of boys at the same ratio, teacher. Now girls and boys are 7 each." It was observed that the student could not understand the concept of the ratio and thought that he calculated ratios by performing four operations with

numbers. These data support the finding that the student used numbers and no content in his solution. In terms of taxonomy, student S10 wrote the correct answer in the solution but could not make a sufficient and appropriate explanation. It was observed that he thought increasing values and proportioning were the same things. During the interview, the student thought that the group with less pita bread might have eaten less pita because he evaluated the given values quantitatively by considering their largeness or smallness. These indicative verbs correspond to the uni-structural level' in the rubric.

### Findings Regarding the Failure to Identify Non-proportional Situations

It was determined that the students who made a mistake in problem 15, which did not require establishing a proportional relationship, used direct or inverse proportion in their solutions. The students' solutions, as if there was a proportion, without examining whether there was a proportional relationship, were evaluated under this heading.

**Table 6.**

*Participants Making a Mistake by Failing to Identify Non-Proportional Situations*

| Method  | Code | Problem No. | Level of SOLO    |
|---|------|-------------|------------------|
| Failure to Identify Non-Proportional Situations | S1   | -           | -                |
|   | S2   | 15          | Uni-structural   |
|   | S3   | 15          | Uni-structural   |
|   | S4   | 15          | Uni-structural   |
|   | S5   | -           | -                |
|   | S6   | 15          | Multi-structural |
|   | S7   | 15          | Multi-structural |
|   | S8   | -           | -                |
|   | S9   | 15          | Uni-structural   |
|   | S10  | 15          | Multi-structural |

Table 6 presents problem 15, in which the 10 students in the study group made a mistake by failing to identify the non-proportional situation and the evaluation of this problem according to the SOLO Taxonomy Rubric.

As seen in Table 6, the students coded S1, S5, and S8 did not use this strategy in their solutions. It was observed that the strategy of using numbers and no content was used by 7 students, especially in the 15th problem, and together with the additive relationship strategy, it was one of the most frequently used incorrect solution strategies in the study.

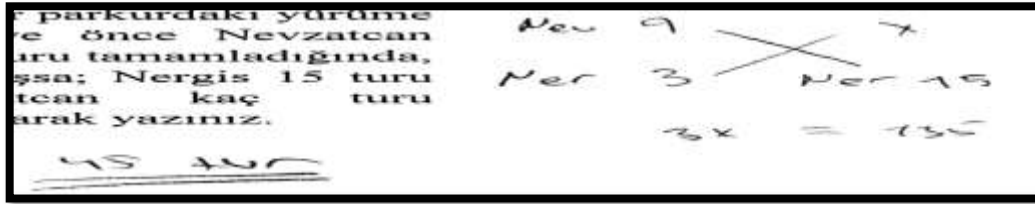
The solution of the student coded S6, who was thought to have been unable to determine the non-proportional situation in his solution for problem 15 is given in Figure 10.

Problem 15: "Nevzatcan and Nergis have the same walking speed on a track. Nevzatcan starts walking first. If Nergis has completed 3 laps when Nevzatcan has completed 9 laps, how many laps will Nevzatcan complete when Nergis has completed 15 laps? Also, write an explanation of your solution." In this problem, which requires qualitative comparison, students are expected to notice the non-proportional

relationship between the number of laps. They are expected to find the answer as  $15+6=21$  by noticing that there are 6 laps between two people.

### Figure 10.

*Solution of S6 for problem 15*



Quotations from the interview for the solution in Figure 10 are given below.

- R : Can you explain what this question asks? How did you find the answer as 45 laps?
- S6 : Teacher, here is the solution: it increases from 3 to 15 laps, which increases by 5 times. 9 laps will also increase by 5.
- R : How did you find that it would increase 5 times?
- S6 : Direct proportion. If one increases, the other will also increase. If it were otherwise, that is, if it decreased, it would not be a direct ratio; it would be an inverse ratio.

It is thought that the student could not identify the non-proportional situation in his solution. When asked to explain how he found the answer as 45 laps, he said, "...it will increase by 5 times." This comment supports the research finding that the student believed that although the problem required an additive relationship, he believed that he needed to use proportion in his solution. The student's comment, "Direct proportion. If one increases, the other will also increase. If it were otherwise, that is, it decreased, it would not be a direct ratio; it would be an inverse ratio", indicated that he did not have any difficulty in defining the direct and inverse proportion. However, it can be said that the student who could not realise the additive relationship required for the solution made a mistake by failing to determine the non-proportional situation. In terms of taxonomy, student S6 tried to compare the number of laps. However, instead of finding the difference between the number of laps, he thought there was a direct proportion between them and tried to compare the number of laps. These indicative verbs correspond to the 'multi-structural level' in the rubric.

Another student who was thought to have made a similar mistake in his solution was the student coded S7. This student's solution to problem 15 is given in Figure 11 (See Appendix-1, Question 15).

Figure 11.

Solution of S7 for problem 15

$9 \text{ — } 15$   
 $3 \text{ — } x$   
 $135 = 3x$   
 $x = 45$

Nevzat 45  
 tur tamam lamis  
 olur.

Quotations from the interview for the solution in Figure 11 are given below.

R : Can you explain this question?

S7 : Nevzatcan walks 9 laps, and Nergis walks 15 laps. But the question is asking us what Nevzatcan did last. I used inverse proportion here.

R : Why did you use inverse proportion?

S7 : I did it to find x.

R : Why did you use inverse proportion to find x?

S7 : Because we would have a small value. The number of laps would be very small.

R : Why does it matter to you whether the answer is a small or big value?

S7 : If x is small... Nevzat has already walked 9 laps at the beginning. If I set up a direct proportion, the result would be 5 laps. This guy has already walked 9 laps; how can the answer be 5 laps when he has already walked more than this?

It is thought that the student's reasoning was incorrect because he established a multiplicative (proportional) relationship instead of an additive relationship in his solution. The student stated that he used inverse proportion in his solution during the interview. This explanation clearly shows that he could not notice the non-proportional situation. When the student was asked how he got the answer as 45 laps, he said, "I set up an inverse proportion." When we look at the comment, it can be seen that he did not consider whether a proportion was necessary and chose an inverse proportion to avoid a mathematical contradiction. It is thought that the student, who focused on setting up the proportion, found an incorrect solution because he could not notice the additive relationship between the numbers of laps. In terms of taxonomy, it is thought that the reason for the incorrect solution found by the student coded S7 was that he believed that there should be a direct or inverse proportion between the numbers of laps. These indicative verbs correspond to the 'multi-structural level' in the rubric.

The frequency table of the strategies used by the 10 students is presented in Table 7.

**Table 7.**

Frequency Table of the Strategy Use

| Strategies used                                 | Number of students (out of 10) |
|---|--------------------------------|
| Additive relationship                           | 9                              |
| Failure to identify non-proportional situations | 7                              |
| Data Neglect                                    | 5                              |
| Using numbers and no content                    | 4                              |
| Emotional Response                              | 3                              |

When Table 7 is examined, it can be seen that the additive relationship strategy was used the most throughout the study, and it was followed by the failure to identify non-proportional situations mistake with a close number. It was observed that approximately half of the students made a mistake due to using the strategies of "using numbers and no content" and "data neglect". It was determined that the least common incorrect solution strategy was the emotional response.

## Conclusion and Discussion

This study aimed to identify incorrect solution strategies that students created while solving problems requiring proportional reasoning skills and categorise these incorrect solutions according to SOLO Taxonomy. The results obtained from the study indicated that the students had difficulty in setting up proportions and made mistakes in their solutions. In the study, it was observed that the students used 5 different incorrect strategies. Among these strategies, the incorrect solution strategy that was most frequently used was the additive relationship. This strategy has also been seen in the literature as one of the incorrect strategies that students frequently use (Atabas, 2014; Bart et al., 1994; Ben-Chaim et al., 1998; Duatepe et al., 2005; Misailidou & Williams, 2003; Pakmak, 2014; Pelen, 2014; Wells et al., 2014).

It was observed that the students got 1 or 2 points in terms of proportional thinking skills in the 2nd and 7th problems, which required the use of inverse proportion and finding the missing value in the test administered to them. They got very low scores in these question types, which required finding the missing value by setting up a proportion and had difficulties setting up the proportion. Based on the interviews, it is thought that the students got these low scores because they were confused about which variables to set up a proportion between; they could not understand the mathematical requirements of the question. They did not realise that the information in the 7th question required inverse proportion. Similarly, it was observed that the students got 1 or 2 points in problems 9 and 10 of the test that required quantitative comparison. It is thought that they had difficulty in perceiving the concept of unit ratio in these problems, which involved a very close mathematical solution process. For example, in question 9, which required comparing the quantity of pita bread between girls and boys, the students often tried to do operations based on the total number of persons. It was found that they did not make this calculation over the unit number of persons, or those who made it failed because they made mistakes in comparing the ratios. Similar

mistakes were made in the 10th question, in which orange juice is prepared. Most of the students focused on the quantitative characteristics of the glasses, ignoring the relationship between them. In the 15th question of the test, which required additive comparisons, the students mostly got 0 points. Although the question did not contain a proportional comparison in terms of content, most of the students tried to solve the question by setting up a direct proportion. The increase in the quantitative data in the question might have caused this mistake. In the secondary school curriculum, the concept of direct proportion is explained as "a situation where one of the variables increases, the other must increase at the same rate". The fact that the number of laps that Nergis takes increases and that the number of laps that Nevzatcan takes increases because they continue to walk with the same speed may have indirectly led the students to the definition of direct proportion. For this reason, most of the participants in the study tried to solve this question by using a direct proportion, but they came up with a wrong solution for this non-proportional situation. These results show that, in the most general sense, students may have difficulty understanding proportion and identifying whether there is a proportional situation.

When the students' proportional reasoning scores and levels were compared with the SOLO Taxonomy levels, it was observed that consistent results were obtained. The students with high reasoning scores (S8 and S9) were at relational and abstract structure levels, the two highest levels in taxonomy criteria. When the answers of these two students at this level were examined, it was determined that these students mostly had difficulty discriminating the non-proportional situations. Although they found the correct answer, they made a mistake because they could not interpret the real-life situation required by the question. It was observed that these students, who did not have problems discriminating the types of proportions, were more successful in setting up proportions than other students.

The students with medium reasoning scores (S1, S3, S6, S7) were in the uni-structural and multi-structural levels, which correspond to the middle level of the taxonomy. These 4 students got the lowest score from the 9th, 10th, and 15th questions, which required quantitative-qualitative comparison. It was observed that the students focused on only one variable in these problem situations where they had to make comparisons. These variables showed themselves in the solution as focusing on the number that was greater or paying attention to the number of laps that only one person took.

The students who got low reasoning scores (S2, S4, S5, and S10) were placed in the low levels of taxonomy criteria. The thinking score of all these four students was 0 points for making a qualitative comparison in the 15th problem and was placed in the uni-structural level of the taxonomy that corresponded to 1 point. Based on the general scores and the interviews, it can be said that these students could not notice the direct and inverse proportional situations, they could not notice the non-proportional situations, and they could not understand the question well. It was observed that as the score level decreased, students' mistakes due to the lack of proportional reasoning increased. These findings are similar to the proportional reasoning levels defined by Akkus and Duatepe (2002), Langrall and Swafford (2000), and Pittalis, Christou, and



Papageorgiou (2003). Similar to Sen and Guler (2018), students with low proportional reasoning levels could perceive proportional situations in general but often made calculation errors. Students who found the correct answer could not explain their reasons satisfactorily. The results obtained from studies using SOLO taxonomy and conducted on different subjects of mathematics showed that the majority of the participants were below the relational structure level (Akkas, 2009; Ardic et al., 2012; Bagdat, 2013; Celik, 2007; Goktepe, 2013; Groth & Bergner, 2006; Lian & Idris, 2006). In this respect, it is possible to say that the present study's findings are consistent with the literature.

According to the results of this study, the students had difficulty understanding terms and concepts, such as ratio, proportion, direct proportion, and inverse proportion, and using them appropriately in the problem-solving process. It is thought that students make mistakes in learning ratio and proportion due to their difficulties in questioning situations requiring proportional relationships and doing the necessary mathematical reasoning. There are studies with similar findings in the literature (Altayli, 2012; Debrelı, 2011; Gozkaya, 2015; İ. Cetin, 2009; Kurdal, 2016; Kocyigit-Gurbuz, 2018; Ozturk, 2011).

In the present study, it was observed that students tended to use additive relationships instead of multiplicative relationships while setting up a proportional relationship between the variables. For this reason, it is thought that it is necessary to focus on conceptual explanations instead of algorithmic operations in teaching the concepts of direct and inverse proportion. Using daily living problems that students can reason with, make judgments, and verify to develop proportional thinking skills is recommended. In addition to students' answers to the questions, the thinking processes are also very important in teaching. Especially during the lesson, it is thought that asking students to express their opinions about the subject or questions aloud is necessary to determine what kind of thinking process the students are in and prevent possible learning errors. In this process, it is thought that it will be useful to ask additional questions that will reveal why the student thinks that way and how they have reached the result and question the answers together. In addition, problem-solving processes can be enriched with daily living activities. For example, in the 15th problem, the student who found the answer as 45 laps may be asked to go out to the school garden with his friends and check his answer. In this way, it is thought that students will be provided with the opportunity to understand mathematically why their answer is wrong and check whether their answer fits the reality of daily living in problems involving daily life situations. In the study, SOLO Taxonomy and indicative verbs were utilised to analyse the thinking processes about ratio and proportionality problems in detail. Studies can also be conducted using SOLO Taxonomy for different mathematical skills, such as algebraic thinking, statistical thinking, and geometric thinking. Studies can also be planned using the revised Bloom Taxonomy and Fink and Dettmer Taxonomies instead of SOLO Taxonomy. In the study, it was observed that there were very few student solutions placed at high levels of SOLO Taxonomy, especially at the relational structure and multi-structural levels. For this reason, it is recommended to conduct studies with



students from higher grade levels to see detailed analyses of the specified taxonomy levels in future studies using the SOLO Taxonomy.

**Ethics Committee Approval:** In order to have the permission of this research, the protocols of Tokat Gaziosmanpaşa University for the year of 2017 was followed. This article was produced from the master's thesis completed by the first author under the supervision of the second author. In accordance with the university protocol, the necessary permission for the research was obtained from the Tokat Provincial Directorate of Ministry of National Education. The issue number of the related article is 27001677-44-E. 7951860 and is presented in the appendix.

**Informed Consent:** Informed consent was obtained from the participants.

**Peer-review:** Externally peer-reviewed.

**Authors' Contributions:** Concept – E.Y.; Design – E.Y.; Supervision – E.Y.; Data Collection and Processing – M.G.K.; Analysis and Interpretation – M.G.K., E.Y.; Literature Review – M.G.K.; Writing – M.G.K., E.Y.; Critical Review – All authors.

**Conflict of Interests:** The authors have no conflict of interest to disclose.

**Financial Disclosure:** The authors declared that this study has received no financial support.

## References

- Akkas, E. N. (2009). 6-8. sınıf öğrencilerinin istatistiksel düşüncelerinin incelenmesi [Evaluation of vocational school students' learning about "limit-continuity" in computer aided environment according to SOLO Taxonomy]. [Yayımlanmamış yüksek lisans tezi]. Abant İzzet Baysal Üniversitesi.
- Akkus, O., & Duatepe, P. A. (2006). Orantısal akıl yürütme becerisi testi ve teste yönelik dereceli puanlama anahtarı'nın geliştirilmesi [Proportional reasoning skills test and development of a rubric for the test]. *Eurasian Journal of Educational Research*, 25(6), 1-10. [https://ejer.com.tr/wp-content/uploads/2021/01/ejer\\_2006\\_issue\\_25.pdf](https://ejer.com.tr/wp-content/uploads/2021/01/ejer_2006_issue_25.pdf).
- Aladag, A. (2009). İlköğretim öğrencilerinin orantısal akıl yürütmeye dayalı sözel problemler ile gerçekçi cevap gerektiren problemleri çözme becerilerinin incelenmesi [Investigation of primary school students' ability to solve verbal problems based on proportional reasoning and problems requiring realistic answers]. [Yayımlanmamış yüksek lisans tezi]. Cukurova Üniversitesi.
- Aladag, A., & Artut, P. D. (2012). Öğrencilerin orantısal akıl yürütme ve gerçekçi problem çözme becerilerinin incelenmesi [Investigation of students' proportional reasoning and realistic problem solving skills]. *İlköğretim Online*, 11(4), 995-1009. <http://www.ilkogretim-online.org/fulltext/218-1596968152.pdf?1633023246>.
- Alkan, H., & Guzel, E.B. (2005). Öğretmen adaylarında matematiksel düşünmenin gelişimi [The development of mathematical thinking in prospective teachers]. *Gazi Üniversitesi Gazi Eğitim Fakültesi Dergisi*, 25(3), 221-236. <http://www.gefad.gazi.edu.tr/tr/download/article-file/77238>.
- Altaylı, D. (2012). Gerçekçi matematik eğitiminin oran orantı konusunun öğretimi ve orantısal akıl yürütme becerilerinin geliştirilmesine etkisi [The effect of realistic mathematics education on the teaching of ratio and proportion and the development of proportional reasoning skills]. [Yayımlanmamış yüksek lisans tezi]. Atatürk Üniversitesi.
- Ardic, E. O., Yılmaz, B., & Demir, E. (2012). İlköğretim 8. sınıf öğrencilerinin merkezi eğilim ve yayılım ölçüleri hakkındaki istatistiksel okuryazarlık düzeylerinin SOLO taksonomisine göre incelenmesi [Examination of primary school 8th grade students' statistical literacy levels about central tendency and diffusion measures according to SOLO taxonomy]. X. Fen Bilimleri ve Matematik Eğitimi Kongresinde sunulan bildiri. Nigde Üniversitesi, Nigde.
- Ari, A. (2013). Bilisel alan sınıflamasında yenilenmiş Bloom, SOLO, Fink, Dettmer Taksonomileri ve uluslararası alanda tanınma durumları [Revised Bloom, SOLO, Fink, Dettmer Taxonomies in cognitive domain classification and their international recognition]. *Uşak Üniversitesi Sosyal Bilimler Dergisi*, 6(2), 259-290. <https://doi.org/10.12780/UUSBD164>.
- Arslan, C., & İlkorucu, S. (2017). İlköğretim matematik ve fen bilgisi öğretmen adaylarının matematiksel düşünme düzeyleri [Mathematical thinking levels of primary school mathematics and science teacher candidates]. *Erzincan Üniversitesi Eğitim Fakültesi Dergisi*, 20(1), 156-166. <https://doi.org/10.17556/erziefd.310384>.
- Atabas, S. (2014). *An examination of fifth and sixth-grade students' proportional reasoning*. [Unpublished Master's Thesis]. Bogazici University.
- Avcu, R. (2010). İlköğretim 7. sınıf öğrencilerinin oran ve orantı problemlerindeki çözüm stratejileri üzerine bir araştırma [A research on solution strategies of 7th grade primary school students in ratio and proportion problems]. [Yayımlanmamış yüksek lisans tezi]. Selçuk Üniversitesi.
- Bagdat, O. (2013). İlköğretim 8. sınıf öğrencilerinin cebirsel düşünme becerilerinin SOLO Taksonomisi ile incelenmesi [Investigation of primary school 8<sup>th</sup>-grade students' algebraic thinking skills with SOLO Taxonomy]. [Yayımlanmamış yüksek lisans tezi]. Eskisehir Osmangazi Üniversitesi.

- Bagdat, O., & Anapa-Saban, P. (2014). İlkogretim 8. sınıf ogrencilerinin cebirsel dusunme becerilerinin SOLO taksonomisi ile incelenmesi [Examination of primary school 8<sup>th</sup>-grade students' algebraic thinking skills with SOLO Taxonomy]. *The Journal of Academic Social Science Studies*, 26(2), 473-496. <http://dx.doi.org/10.9761/JASSS2364>.
- Bart, W., Post, T., Behr, M., & Lesh, R. (1994). A diagnostic analysis of a proportional reasoning test item: An introduction to the properties of a semi-dense item. *Focus on Learning Problems in Mathematics*, 16(3), 1-11. <https://eric.ed.gov/?id=EJ364133>.
- Bayazit, İ., & Kirnap-Donmez, S. M. (2017). Ogretmen adaylArinin problem kurma becerilerinin orantısal akıl yurutme gerektiren durumlar baglamında incelenmesi [Examination of prospective teachers' problem posing skills in the context of situations that require proportional reasoning]. *TurkishJournal of Computer and Mathematics Education*, 8(1), 130-160. <https://doi.org/10.16949/turkbilmat.303759>.
- Baykul, Y. (2014). *Ortaokulda matematik ogretimi (5-8. sınıflar)* [Teaching mathematics in secondary schools (grades 5-8)]. Gelistirilmis İkinci Baskı. Pegem Akademi.
- Ben-Chaim, D., Fey, J., Fitzgerald, W., Benedetto, C., & Miller, J. (1998). Proportional reasoning among 7th-grade students with different curricular experiences. *Educational Studies in Mathematics*, 36(3), 247-273. <https://link.springer.com/article/10.1023/A:1003235712092>.
- Biggs, J., & Collis, K. (1991). Multimodal learning and the quality of intelligent behavior. Rowe, H. A. H. (Editor). *Intelligence, reconceptualization and measurement* içinde 57-76, New Jersey: LaurenceErlbaumAssociates.
- Biggs, J. B. (1995). *Assumptions underlying new approaches to educational assessment: Implications for Hong Kong*. *Curriculum Forum*, 4(2), 1-22.
- Biggs, J. B., & Collis, K. F. (1982). *Evaluating the quality of learning: the SOLO Taxonomy (structure of the observed learning outcome)*. New York, NY: Academic Press.
- Bilgen, O. B., & Dogan, N. (2017). Puanlayıcılar arası guvenirlik belirleme tekniklerinin karsılaştırılması [Comparison of inter-rater reliability determination techniques]. *Egitimde ve Psikolojide Olcme ve Degerlendirme Dergisi*, 8(1), 63-78. <https://doi.org/10.21031/epod.294847>.
- Bukova, E. (2006). *Ogrencilerin limit kavramını algılamasında ve diger kavramlarla iliskilendirilmesinde karsılaştırları guclukleri ortadan kaldıracak yeni bir program gelistirme* [Developing a new program that will eliminate the difficulties students face in perceiving the concept of limit and associating it with other concepts]. [Yayımlanmamış doktora tezi]. Dokuz Eylul Universitesi.
- Bukova-Guzel, E. (2008). Yapılandırmacılık ve matematiksel dusunme surecleri [Constructivism and mathematical thinking processes]. *Education Sciences*, 3(4), 678-688. <https://dergipark.org.tr/tr/download/article-file/185983>.
- Buyukozturk, S., Cakmak, E., Kılıc, A., Ozcan, E., Karadeniz, S., & Demirel, F. (2010). *Bilimsel araştırma yontemleri* [Scientific research methods]. Pegem Akademi.
- Cajori, F. (2015). *Matematik tarihi* [History of mathematics] (cev. D. İlalan). ODTU Yayıncılık No: 25744. (Eserin orijinali 2014'de yayımlandı).
- Cramer, K., & Post T. (1993). Connecting research to teaching proportional reasoning. *Mathematics Teacher*, 86(5), 404-407.
- Cramer, K., Post, T., & Currier, S. (1993). Learning and teaching ratio and proportion: research implications. Owens, D. (Editor). *Research ideas for the classroom* içinde 159-178, Macmillan Publishing Company.
- Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* ( 2. Baskı). SAGE Publications.

- Celik, A. (2010). *İlkogretim ogrencilerinin orantısal akıl yurutme beceriler ile problem kurma becerileri arasındaki iliski* [The relationship between proportional reasoning skills and problem posing skills of primary school students]. [Yayımlanmamış yüksek lisans tezi]. Hacettepe Üniversitesi.
- Celik, A., & Ozdemir, E. Y. (2011). *İlkogretim ogrencilerinin orantısal akıl yurutme becerileri ile oran-orantı problemi kurma becerileri arasındaki iliski* [The relationship between proportional reasoning skills and problem posing skills of primary school students]. Pamukkale Üniversitesi Eğitim Fakültesi Dergisi, 30(1), 1-11. <https://dergipark.org.tr/tr/download/article-file/114573>.
- Celik, D. (2007). *Ogretmen adaylarının cebirsel düşünme becerilerinin analitik incelenmesi* [Analytical examination of prospective teachers' algebraic thinking skills]. [Yayımlanmamış doktora tezi]. Karadeniz Teknik Üniversitesi.
- Cetin, B., & İlhan, M. (2016). SOLO taksonomisi [SOLO taxonomy]. Bingolbalı, E., Arslan, S. ve Zembat, İ. O. (Editorler). *Matematik eğitiminde teoriler içinde* 861-879. Pegem Akademi.
- Cetin, H. (2009). *İlkogretim ikinci kademe ogrencilerinin orantısal akıl yurutme becerileri ile denklem çözme başarıları arasındaki iliski üzerine bir çalışma* [A study on the relationship between proportional reasoning skills and equation solving success of primary school secondary school students]. [Yayımlanmamış yüksek lisans tezi]. Selçuk Üniversitesi.
- Cetin, İ. (2009). *7. ve 9. sınıf ogrencilerinin oran ve orantı konusundaki kavram yanlışları* [Misconceptions of 7th and 9th grade students about ratio and proportion]. [Yayımlanmamış yüksek lisans tezi]. Selçuk Üniversitesi.
- Debreli, E. (2011). *The effect of creative drama based instruction on seventh grade students' achievement in ratio and proportion concepts and attitudes toward mathematics*. [Unpublished master's thesis]. Middle East Technical University.
- Duatepe A., & Akkus-Cıkla O. (2002). İlkogretim matematik öğretmen adaylarının orantısal akıl yurutme becerileri üzerine niteliksel bir çalışma [A qualitative study on proportional reasoning skills of prospective elementary mathematics teachers]. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 23, 32-40. [http://www.efdergi.hacettepe.edu.tr/shw\\_artcl-947.html](http://www.efdergi.hacettepe.edu.tr/shw_artcl-947.html).
- Duatepe A., Akkus-Cıkla O., & Kayhan M. (2005). Orantısal akıl yurutme gerektiren sorularda ogrencilerin kullandıkları çözüm stratejilerinin soru türlerine göre değişiminin incelenmesi [Investigation of the change of solution strategies used by students in questions requiring proportional reasoning according to question types]. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 28, 73-81. [http://www.efdergi.hacettepe.edu.tr/shw\\_artcl-768.html](http://www.efdergi.hacettepe.edu.tr/shw_artcl-768.html).
- Ersoy, E., & Baser, N. (2013). Matematiksel düşünme ölçeğinin geliştirilmesi [Development of mathematical thinking scale]. *Kastamonu Eğitim Dergisi*, 21(4), 1471-1486. <https://dergipark.org.tr/tr/download/article-file/209980>.
- Fielding-Wells, J., Dole, S., & Makar, K. (2014). Inquiry pedagogy to promote emerging proportional reasoning in primary students. *Mathematics Education Research Journal*, 26(1), 47-77. <https://doi.org/10.1007/s13394-013-0111-6>.
- Goktepe, S., & Ozdemir, A. S. (2013). İlkogretim matematik öğretmen adaylarının uzamsal görselleştirme becerilerinin SOLO modeli ile incelenmesi [Examination of prospective primary school mathematics teachers' spatial visualization skills with SOLO model]. *Kalem Eğitim ve İnsan Bilimleri Dergisi*, 3(2), 91-146. <https://doi.org/10.23863/kalem.2017.26>
- Gozkaya, S. (2015). *Gerçekçi matematik eğitimi destekli öğretim yönteminin 7. sınıf oran-orantı konularının öğretiminde öğrenci başarısına ve öğrenmenin kalıcılığına etkisi* [The effect of realistic mathematics education supported teaching method on student success and permanence of learning in teaching 7th grade ratio-proportion topics]. [Yayımlanmamış yüksek lisans tezi]. Erciyes Üniversitesi.

- Groth, R. E., & Bergner, J.A. (2006) Pre-service elementary teachers' conceptual and procedural knowledge of mean, median, and mode. *Mathematical Thinking and Learning*, 8(1), 37-63. [https://doi.org/10.1207/s15327833mtl0801\\_3](https://doi.org/10.1207/s15327833mtl0801_3).
- Kaplan, A., & Ozturk, M. (2012). The effect of computer based instruction method on instruction of ratio- proportion and development of proportional reasoning. *Energy Education Science and Technology Part B-social And Educational Studies*, 4(3), 1663-1672. [https://www.researchgate.net/publication/273136193\\_The\\_effect\\_of\\_computer\\_based\\_instruction\\_method\\_on\\_instruction\\_of\\_ratio-proportion\\_and\\_development\\_of\\_proportional\\_reasoning](https://www.researchgate.net/publication/273136193_The_effect_of_computer_based_instruction_method_on_instruction_of_ratio-proportion_and_development_of_proportional_reasoning).
- Kaplan, A., İslleyen, T., & Ozturk, M. (2011). 6. sınıf oran orantı konusundaki kavram yanlışları [Misconceptions about 6<sup>th</sup>-grade ratio and proportion]. *Kastamonu Eğitim Dergisi*, 19(3), 953-968. <https://dergipark.org.tr/tr/download/article-file/817410>.
- Karakoca, A. (2011). *Altıncı sınıf öğrencilerinin problem çözmede matematiksel düşünmeyi kullanma durumları* [Sixth grade students' use of mathematical thinking in problem solving]. [Yayımlanmamış yüksek lisans tezi]. Eskisehir Osmangazi Üniversitesi.
- Kayhan, M. (2005). *6. ve 7. sınıf öğrencilerinin oran-orantı konusuna yönelik çözüm stratejilerinin; sınıf düzeyine, cinsiyete ve soru tipine göre değişiminin incelenmesi* [Examination of the change in solution strategies of the 6<sup>th</sup> and 7<sup>th</sup>-grade students for ratio-proportion according to grade level, gender, and question type]. [Yayımlanmamış yüksek lisans tezi]. Hacettepe Üniversitesi.
- Kocayigit S., & Moralı H. (2020). Matematik öğretmen adaylarının soyut matematik dersindeki bilgilerinin MATH taksonomi çerçevesinde analizi [Analysis of prospective mathematics teachers' knowledge in abstract mathematics course within the framework of MATH taxonomy]. *PESA Uluslararası Sosyal Araştırmalar Dergisi*, 6(2), 141-161. <https://doi.org/10.25272/j.2149-8385.2020.6.2.05>.
- Kocayigit Gurbuz, M. (2018). *Yedinci sınıf öğrencilerinin etkinlik temelli öğrenme yaklaşımı altında oran-orantı kavramlarını oluşturma süreçlerinin incelenmesi: APOS Teorisi* [Examination of the seventh grade students' process of forming ratio-proportion concepts under the activity-based learning approach: APOS Theory]. [Yayımlanmamış yüksek lisans tezi]. Eskisehir Osmangazi Üniversitesi.
- Kanyalihatipoglu, M. E. (2016). *Ortaokul 7. sınıf öğrencilerinin analitik ve bütüncül düşünme stillerinin SOLO Taksonomisi ile incelenmesi* [Investigation of secondary school 7<sup>th</sup>-grade students' analytical and holistic thinking styles with SOLO Taxonomy]. [Yayımlanmamış yüksek lisans tezi]. Recep Tayyip Erdoğan Üniversitesi.
- Kurdal, C. (2016). *Dinamik ve etkileşimli matematik öğrenme ortamlarında öğrencilerin kesirler ve oran orantı konusunda yaptığı hatalar ve çözüm önerileri* [Mistakes and solution suggestions made by students about fractions and ratios in dynamic and interactive mathematics learning environments]. [Yayımlanmamış yüksek lisans tezi]. Bayburt Üniversitesi.
- Kupcu, A. R. (2008). *Etkinlik temelli öğretim yaklaşımının orantısal akıl yürütmeye dayalı problem çözme başarısına etkisi* [The effect of activity-based teaching approach on success at proportional reasoning-based problem solving]. [Yayımlanmamış doktora tezi]. Marmara Üniversitesi Eğitim Bilimleri Enstitüsü, İstanbul.
- Kupcu, A. R., & Ozdemir, A. S. (2012). İlköğretim öğrencilerinin bilissel stil, cinsiyet ve orantısal düşünme seviyelerine göre orantı ilişkili problem çözme başarıları [Proportional problem solving success of primary school students according to cognitive style, gender and proportional thinking levels]. *Kastamonu Eğitim Dergisi*, 20(2), 451-472. <https://dergipark.org.tr/tr/download/article-file/806955>.
- Langrall, C. W., & Swafford, J. (2000). Three balloons for two dollars: Developing proportional reasoning. *Mathematics Teaching in the Middle School*, 6(4), 254-261. Retrieved from <http://www.jstor.org/stable/41180939>.

- Lesh, R., Post, T., & Behr, M. (1988). Proportional reasoning. Hiebert, J. ve Behr M. (Editorler). *Number concepts and operations in the middle grades* icerisinde 93-118. Reston, Lawrence Erlbaum & National Council of Teachers of Mathematics.
- MartínezOrtiz, A. (2015). examining students' proportional reasoning strategy levels as evidence of the impact of an integrated LEGO robotics and mathematics learning experience. *Journal of Technology Education*, 26(2), 46-69. <http://doi.org/10.21061/jte.v26i2.a.3>.
- Merriam S. B. (2015). *Nitel araştırma desen ve uygulama için bir rehber* [A guide to qualitative research design and practice] (cev. edt. S. Turan). Nobel Yayınları No 349. (Eserin orijinali 2013'de yayımlandı).
- Miles, M., & Huberman, A. (1994). *Qualitative data analysis: an expanded source book*. (2nd ed). Thousand Oaks, Sage.
- Misailidou, C., & Williams, J. (2003). Diagnostic assessment of children's proportional reasoning. *Journal of Mathematical Behavior*, 22(3), 335-368. [https://doi.org/10.1016/S0732-3123\(03\)00025-7](https://doi.org/10.1016/S0732-3123(03)00025-7).
- Musan, M. S. (2012). *Dinamik matematik yazılımı destekli ortamda 8. sınıf öğrencilerinin denklem ve eşitsizlikleri anlama seviyelerinin SOLO Taksonomisine göre incelenmesi* [Examination of 8<sup>th</sup>- grade students' understanding of equations and inequalities in a dynamic mathematics software-supported environment according to SOLO Taxonomy]. [Yayımlanmamış yüksek lisans tezi]. Pamukkale Üniversitesi.
- National Council of Teachers of Mathematics (NCTM). 2020. *Principles and standards for school mathematics*. Reston, Va.: NCTM.
- Ozdemir, A. S., & Goktepe-Yıldız, S. (2015). The analysis of elementary mathematics pre-service teachers' spatial orientation skills with SOLO model. *Eurasian Journal of Educational Research (EJER)*, 61, 217-236. <https://doi.org/10.14689/ejer.2015.61.12>.
- Ozturk, M. (2011). *Bilgisayar destekli öğretim yönteminin oran orantı konusunun öğretiminde akademik başarıya etkisi* [The effect of computer-assisted teaching method on academic achievement in the teaching of ratio and proportion]. [Yayımlanmamış yüksek lisans tezi]. Ataturk Üniversitesi.
- Pakmak, S. G. (2014). *6. sınıf öğrencilerinin niceliksel ve niteliksel orantısal akıl yürütme problemlerinin çözümündeki anlayışlarının incelenmesi* [Examination of 6<sup>th</sup>-grade students' understanding of solving quantitative and qualitative proportional reasoning problems]. [Yayımlanmamış yüksek lisans tezi]. Pamukkale Üniversitesi.
- Patton, M. Q. (2014). *Nitel araştırma ve değerlendirme yöntemleri* [Qualitative research and evaluation methods]. (cevedt. M. Butun ve S. B. Demir). Pegem Akademi No: 14749. (Eserin orijinali 2014'de yayımlandı).
- Pelen, M. S. (2014). *6. sınıf öğrencilerinin orantısal akıl yürütme becerilerinin problemlerin sınıflandırılması ve sayısal yapılarına göre incelenmesi* [Examination of the proportional reasoning skills of 6<sup>th</sup>-grade students according to the classification of problems and their numerical structures.]. [Yayımlanmamış yüksek lisans tezi]. Cukurova Üniversitesi.
- Pittalis, M., Christou, C., & Papageorgiou, E. (2003). *Students' ability in solving proportional problems*. Proceedings of the 3rd European Research Conference in Mathematics Education: Bellaria: Italy, 3.
- Rider, R. L. (2004). *The effect of multi-representational methods on students' knowledge of function concepts in developmental college mathematics*. [Unpublished doctoral dissertation]. North Carolina State University.
- Subasi, M., & Okumus, K. (2017). Bir araştırma yöntemi olarak durum çalışması [Case study as a research method]. *Ataturk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 21(2), 419-426. <https://dergipark.org.tr/tr/download/article-file/474049>.
- Sen, C., & Guler, G. (2017). Effect of strategy teaching for the solution of ratio problems on students' proportional reasoning skills. *Malaysian Online Journal of Educational Sciences*, 5(2), 1-15. <https://files.eric.ed.gov/fulltext/EJ1142503.pdf>.
- Tanriogen, A. (Editor) (2012). *Bilimsel araştırma yöntemleri* [Scientific research methods]. İkinci Baskı. Anı Yayıncılık.

- Toluk Ucar, Z., & Bozkus, F. (2016). İlkokul ve ortaokul öğrencilerinin orantısal durumlardan ayırt edebilme becerileri [Primary and secondary school students' ability to distinguish proportional from non-proportional situations]. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi*, 17(3), 281-299. <https://dergipark.org.tr/tr/download/article-file/1487457>.
- Tuna, A. (2011). *Trigonometri öğretiminde 5E öğrenme döngüsü modelinin öğrencilerin matematiksel düşünme ve akademik başarılarına etkisi* [The effect of the 5E learning cycle model on students' mathematical thinking and academic achievement in trigonometry teaching]. [Yayımlanmamış doktora tezi]. Gazi Üniversitesi.
- Umay, A. (2003). Matematiksel muhakeme yeteneği [Mathematical reasoning skills]. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 24, 234-243. <https://dergipark.org.tr/tr/pub/hunefd/issue/7812/102550>.
- Umay, A., & Kaf, Y. (2005). Matematikte kusurlu akıl yürütme üzerine bir çalışma [A study on flawed reasoning in mathematics]. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 28, 188-195. <https://dergipark.org.tr/tr/pub/hunefd/issue/7808/102434>.
- Unsal, A. (2009). *İlköğretim 7. sınıf öğrencilerinin orantısal akıl yürütme becerilerinin başarı, tutum ve cinsiyet değişkenleri açısından incelenmesi: Bolu ili örneği* [Examination of proportional reasoning skills of primary school 7<sup>th</sup>-grade students in terms of achievement, attitudes, and gender variables: The case of Bolu province]. [Yayımlanmamış yüksek lisans tezi]. Abant İzzet Baysal Üniversitesi.
- Van de Walle, J.A., Karp, K. S., & Bay-Williams, J. M. (2013). *İlkokul ve ortaokul matematiği gelişimsel yaklaşımla öğretim* [Teaching primary and secondary school mathematics with a developmental approach] (cev. edt. S. Durmus). Nobel Yayınları No: 521. (Eserin orijinali 2012'de yayımlandı).
- Wadhwa, S. (2008). *A handbook of teaching and learning*. New Delhi, Sarup and Sons Publishers.
- Yesildere, S. (2006). *Farklı matematiksel güçte sahip ilköğretim 6, 7 ve 8. sınıf öğrencilerinin matematiksel düşünme ve bilgiyi oluşturma süreçlerinin incelenmesi* [Examination of mathematical thinking and knowledge formation processes of primary school 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup>-grade students with different mathematical strengths]. [Yayımlanmamış doktora tezi]. Dokuz Eylül Üniversitesi.
- Yıldırım, A., & Simsek, H. (2008). *Sosyal bilimlerde nitel araştırma yöntemleri* [Qualitative research methods in social sciences]. Seckin Yayıncılık.
- Yıldırım, C. (2015). *Matematiksel düşünme* [Mathematical thinking]. Remzi Kitabevi.





**Authors**

**Contact**

Meltem Gulsum KARLI, works as a middle school mathematics teacher in a public school affiliated with the Ministry of National Education, Tokat Provincial Directorate of National Education. Her main research interests include misconceptions in mathematics, improving proportional reasoning skills, STEM, TPACK, and technology-assisted mathematics teaching.

Meltem Gulsum KARLI  
Ministry of National Education, Tokat, Turkey

E-mail: [meltemgulsumkarli@gmail.com](mailto:meltemgulsumkarli@gmail.com)

Esra YILDIZ is an assistant professor at Istanbul Medeniyet University, Faculty of Educational Sciences, Department of Mathematics and Science Education. She conducts scientific studies in the fields of technology-based mathematics teaching, development of technological pedagogical content knowledge. She is specifically interested in statistics and geometry teaching.

Assist. Prof. Dr. Esra YILDIZ  
Istanbul Medeniyet University, Faculty of Educational Sciences, Department of Mathematics and Science Education. Cevizli Campus, Istanbul.

E-mail: [esra.yildiz@medeniyet.edu.tr](mailto:esra.yildiz@medeniyet.edu.tr)

# Using Electronic Services Provided by the Ministry of National Education as a Decision Support System: A Grounded Theory Study\*

Tayfun YORUK\*\* İlhan GUNBAYI\*\*\*

## To cite this article:

Yoruk, T., & Gunbayi, İ. (2022). Using electronic services provided by the Ministry of National Education as a decision support system: A grounded theory study. *Journal of Qualitative Research in Education*, 29, 149-178, doi: 10.14689/enad.29.6

**Abstract:** This study aims to put forward a theory for transforming electronic services provided by the Ministry of National Education and used in the schools into decision support systems within the scope of management information systems. This study is a theoretical study based on qualitative research methods using the interpretive paradigm. School administrators, psychological counselors, and guidance counselors make up the research group on the premise that it is voluntary. In the research, semi-structured interview forms were used as a data collection tool, the answers of the participants were recorded on a voice recorder, the recordings were analyzed and transcribed. Themes were obtained by applying open, axial, and selective coding, which are the steps of theory studies based on content analysis, using the NVivo 10.0 program on the obtained transcripts. In the light of these themes, a general model has been obtained explaining the transformation of management information systems into decision support systems. When the findings were examined, it was seen that the model obtained was similar to the open system theory. Accordingly, "Effective User Interface", "Collective Participation Based Monitoring System" and "Statistical Reporting", which correspond to the elements of open system theory, form the basis of the decision support system model to be applied in schools.

**Keywords:** Decision support systems, grounded theory, educational technologies

## Article Info


Received:  
15 Dec. 2019  
Revised:  
27 Dec. 2021  
Accepted:  
14 Jan. 2022

## Article Type

Research

©2022 ANI Publishing. All rights reserved.

\* This study was prepared from the doctoral thesis of the first author, of which the second author was the advisor.

\*\*  Corresponding Author: Akdeniz University, Turkey, [tayfun@akdeniz.edu.tr](mailto:tayfun@akdeniz.edu.tr)

\*\*\*  Akdeniz University, Turkey, [igunbayi@akdeniz.edu.tr](mailto:igunbayi@akdeniz.edu.tr)



## Introduction

The management approach of our age is based on evaluating the organizational environment and its elements and making predictions, in other words, strategic management. In this way, institutions are not caught unprepared in matters such as how they will operate and take precautions against possible or sudden problems (Uzun, 2000). At this point, it is possible to say that managers need consistent, accurate, reliable, and objective information to take strategically important decisions.

Today, the existence of organizations in their fields of activity and their success in these fields are most closely related to how successful they are in creating, using, and utilizing information (Iraz & Zerenler, 2008). Information, vital for organizations, is an indispensable resource for organizational planning and control (Anderson, 1979). Because there is a linear relationship between "corporate planning" and "institutional effectiveness", it can be argued that there is a positive correlation between "knowledge" and "institutional effectiveness" (Simsek & Ogut, 1998). In other words, it can be claimed that effective information supply and management is an indispensable prerequisite for effective institutional functioning (Ogut, 2012).

In addition to the importance of information in the field of management, accurate information and the role of this correct information in decision making in management processes are of great importance to managers. Today's managers are aware of what the correct use of information in the decision-making process brings to the organizations or institutions in their competitive environment. This is why; Today's managers accelerate the achievement of strategic goals of organizations or institutions by investing in information technologies (Arslan & Yılmaz, 2010). According to McCamy (1947), although decision making forms the basis of management, the quality of the process is also reflected in the decision making. However, all elements of the management process are dependent on, surrounded by, and intertwined with decision making. In short, these items exist for decision-making (Aydin, 2010). According to Bursalioglu (2002), decision-making is an action in which the essence of management and other processes are in constant relationship. The continuity of the organization depends on the accuracy of the decisions made. For this reason, managers should be knowledgeable about both the models and stages of the process to be able to make correct and appropriate decisions. They should especially consider this process more than other processes (Bursalioglu, 2002).

Several instruments are used in organizations to facilitate the decision-making action and process. It is possible to say that management information systems and decision support systems (DSS) are among the main instruments. It is possible to come across many definitions in the literature regarding these two concepts, which can often be confused with each other. Kreitner (1983), while describing management information systems, stated that it is a computer-based network that collects, processes, and transfers information. In addition, Holt (1987) suggested that there is an integrated information system for management information systems so that the management can make



decisions. According to Sprague (1980), it is the set of systems and actions required for the use of information as a resource within the organization. Davis and Olson (1985) defined management information systems as an integrated human-machine system that provides support for managers to make decisions and perform managerial functions and actions. It is possible to summarize the prominent message in the definitions as computer-based integrated systems containing answers about determining what information is needed for managers to make more effective decisions and how to record this information.

The Ministry of National Education, which is one of the largest public institutions in Turkey, can be shown as one of the institutions that most successfully and widely implement the aforementioned electronic transformation process. With the electronic services it carries out under the name of the Ministry of National Education Information Systems (MEBBİS), the Ministry has optimized the transactions of its affiliated units in terms of both speed and convenience, allowing transactions to be carried out in secure environments. MEBBİS, which initially had different modules such as "PERSİS (Personnel Management Information System)", "İLSİS (Provincial and District National Education Directorates Management Information System)", "YOSİS (Higher Education Management Information System)", "BUTSİS (Budget Management Information System)", "İMİSİS (Administrative and Financial Affairs Management Information System)" and "YDSİS (Overseas Education Information System)", took its current name in 2006 and all its modules were gathered under a single title. As their names suggest, these modules operate on issues such as personnel and budget for the operations of the Ministry and provincial and district national education directorates affiliated to the Ministry. In addition to these issues, the management information system named "e-school - Ministry of National Education School Management Information System" was implemented in 2007 for students, who are the most important stakeholders of schools. With this system, the database created based on the students' identification numbers, keeps the students' information from the first time they register until they graduate. This information includes student absence information, grade information, report card, award and discipline, parent, family private information, etc. (Ozata and Sevinc, 2010). The e-school system, which has been constantly renewing itself since its inception, has paved the way for students' parents to benefit from the system with the "Parent Information System (PIS)", which it has put into practice primarily within its own body. The e-school system, which has gained functionality in more areas with the addition of sub-modules such as student transfer procedures, equivalence processes, elective course procedures, etc., has been designed and put into service so that it can also be used on mobile platforms to expand its use.

Since decision and decision making in management is an important process and this process is supported by computerised information systems in the last quarter of the twentieth century, attention has focused on the "data-information-decision" process and the approach called "decision support systems" has found its place on the agenda (Kuruezuem, 1998). O'Brien (1993) defined DSS as "information systems that provide interactive and de facto support to decision-making processes". (Ogut, 2012). In



addition, a skeptical approach to what DSS is has also been developed and it has been revealed that this system is a new form of information system in organizations. The history of DSS, which was first introduced with the term "management decision systems" by Morton (1971) in the early 1970s, dates back to Simon's (1947) classic book "Administrative Behaviour". There have been many studies on what DSS is, which has many definitions in the literature, and what features it should have. So much so that Alter (1980) examined 56 systems claiming to be DSS and produced summaries describing their characteristics. Similarly, Keen (1980) defined 30 different systems that he thought were DSS and compared their properties. When the items characteristically presented by Alter, Keen, and other researchers who have worked in the field are examined, the common points seen are as follows (Sprague, 1980):

- DSSs aim to solve less structured, highly uncertain problems faced by high-level managers.
- DSSs try to combine models or techniques that include classical data entry and data acquisition functions.
- DSSs focus on providing an interactive environment especially for users with a low level of computer skills.
- DSSs give the user the ability to easily adapt to changes in the decision-making approach and environment.

At this point, it would be appropriate to reveal the relationship and differences between management information systems (MIS) and DSS. The birth of DSS was due to the inadequacy of management information systems. The environment in which the decision is made is important for managers to make correct and timely decisions. (Sayin and Sen, 1996). Although the data sets informing about the daily functioning of the organization, which management information systems are responsible for, are sufficient for middle managers, top managers need more than the information provided by management information systems to perform their decision-making actions. Sprague and Carlson (1986) developed the "Hierarchical Approach" to express the relationship between DSS and MIS, and in this approach, they focused on the tasks of each unit in the "data - information - decision" stages.

As in other organizations, decision-making is a fundamental process of the management of educational organizations because, like all other institutions, schools are structures based on decision-making (Hoy & Miskel, 2010). So far, it has been tried to give information about the decision-making process, models and types in organizations in general. As with many other issues, some differences and difficulties may arise in decision making because of the unique aspects of education and schools. Since public educational organizations are non-profit, it is difficult and often impossible to calculate the relationship between cost-benefit and input-output, which economists or commercial organizations often focus on. This difficulty leads to the fact that the options are not taken into account as much as necessary in the decision-making process, which is already a process of making choices (Bursalioglu, 2002).

Even if there are difficulties, the essence of the work is that schools are structures based on decision-making and from that point on they experience a decision-making process. Today, the decision-making process in schools focuses on the situationality of educational institutions, human nature, technology, and institutional uncertainties (Estler, 1988). The solutions offered to the problems encountered with this focus have also diversified and become more complex. In this complex situation, it does not seem like the right approach to expect a school administrator to search for "synoptic", that is, the most appropriate solution. Instead, it would be more appropriate for the manager to find satisfactory solutions mentioned in the "managerial model" while explaining the decision models (Bursalioglu, 2010). While seeking satisfactory solutions, it should not be overlooked that schools are democratic organizations and that individuals affected by the decisions made in the organizations should have a say in this decision (Aydin, 2010). Since schools are not only democratic organizations but also physically large institutions, problems can't be solved by a single person. For this, all stakeholders, especially teachers, should be involved in decision processes at the maximum possible level. Based on this participation, school administrators also need the contribution of their colleagues with their knowledge and experience (Ozden, 2005). In addition to all these, because the forces affecting schools are dispersed and these influences are fluent, the decisions of the administrators should be definite and sudden most of the time (Bursalioglu, 2002). Since these sudden decisions will be unprogrammed as described in the decision types, school administrators will react instantly and experience the decision stage either alone or with limited external contribution. For this reason, school administrators will either use the traditional strategy to act with intuition and decide, or at this stage, they will use computers as a modern technique (Simon, 1960).

In the early 2000s, the Ministry of National Education aimed to both keep up with the needs of the age and speed up the processes in the public sphere by providing a number of electronic services within the scope of Management Information Systems. These electronic services, which were very successful when they came to life, have come with many updates until today. However, considering that even 1 year in the sector of information technologies is a very long time in terms of development, issues such as the current situation and the users' expectations show changes and developments during this time.

DSS, which is frequently mentioned today, enables end-users who want to work with these data to access data located outside or inside organizations easily. Thus, the necessary information can be accessed both quickly and on time, and it increases the efficiency, effectiveness, and quality of the decisions taken by helping the timing of the decision-making process in institutions (Arslan & Yilmaz, 2010). This research aims to reveal the conversion of existing electronic services offered within the scope of management information systems to DSS to make the decision-making process more effective in school management by using grounded theory work. The main question for the study to reach its goal is "What kind of theory can explain the transformation of management information systems into DSS in making school management and especially the decision-making process more efficient?"



## Method

It would be more appropriate to directly listen to and observe the people affected by any problem, instead of making measurements to make a study on facts, thoughts, and experiences about that problem. This study uses a theory study based on qualitative research designs, as it aims to put forward a theory for the conversion to a DSS by including especially the experiences and suggestions of the users regarding the electronic services currently offered by the Ministry of National Education. In addition, qualitative research is very effective, especially in theory development, and the information obtained through the real-world interviews and observations of the researcher himself is obtained by the inductive method and the theory is put forward (Patton, 2014).

Qualitative research can be defined as the explanation of previously unseen and unknown results in a relational context by revealing events and perceptions in their environment holistically and realistically through interviews, observations and document analysis (Yildirim & Simsek, 2011; Glaser, 1978). As it is known, over time, societies change voluntarily or involuntarily in the context of the social organizational structure and the functioning of this structure (Kurtkan, 1968; Gunay, 1993). Although the types of this change can be grouped under many different headings, Burrell and Morgan (1988) developed four different paradigms for how change occurs: radical structuralist, structuralist, radical humanist, and interpretive paradigms. Habermas (1987) analyzed the interpretive paradigm under two headings: the "Phenomenological Symbolic Interaction Approach", which describes the social world and arising from interpersonal interaction, and the "Ethnomethodological Approach", which describes the subjective world we create individually. Regarding the interpretive paradigm, it is possible to say that reality is created through the interaction between individuals, in other words, through "conversation - discussion - agreement - reconciliation" or as a result of the subjective experience of the person who is described as a phenomenon (Gunbayi, 2016).

The beginning of the century we are in in the Turkish education system is when many innovations were implemented, especially in electronics and informatics. Contrary to classical practices, the processing and evaluation of data through electronic services enabled the transfer of paper-based processes of the national education senior management and schools to digital media. Since ensuring the sustainability of innovation is as important as introducing innovation as a requirement of the age, the opinions of actual users of these services, which are the most important element of existing electronic services, are important in order to respond to changing needs and thus ensure sustainability. However, appropriate questions to be asked to them and the answers to these questions will enable to increase the efficiency of the use of electronic services in school management, which is the ultimate goal of the study, and to transform into DSS to make more effective decisions in schools. For this reason, in this study, qualitative research methods were used to present a model on the way to DSS, along with the experiences of the participants on the existing electronic services, their troubles, the causes and solutions of the problems, and to enable this model to explain a theory.



Many electronic services are provided to schools within the scope of management information systems in the Turkish education system. These systems appeal to all school stakeholders, especially school administrators, and help the school's business and operation. The main question is how these systems will be made more effective and can be used in the decision-making process, which is one of the important processes of management, especially for managers. This study explores ways to make the administrator's decisions in all management areas, especially in the academic field, more effective with the management information systems offered by the Ministry of National Education. In this study, a grounded theory study, which is guided by the theoretical perspective of phenomenological symbolic interactionism and ethnomethodological approaches, has been carried out, since organizational activities, which is one of the assumptions of the interpretive paradigm, are characterized as symbolic documents and these activities are tried to be interpreted through interpretation-science method analysis. In addition, the study is based on the interpretative paradigm, as it focuses on the evolution of currently offered electronic services.

Grounded theory is a method in which propositions or theoretical models are created based on the data obtained by examining the activities, behaviors, and procedures that take place in the environment where the study is carried out (Glaser and Strauss, 1967). Grounded theory, which is known to provide certainty, clarity, and flexibility to the researcher in the study process, the most basic feature of it, leads to the theory through the analysis of the data collected systematically at the end of the research process (Strauss & Corbin, 1990). Grounded theory studies, which are accepted as the most effective qualitative research model on social science, focus on creating the theory itself rather than starting from an existing theoretical framework (Denzin, 1997; Patton, 2014).

Changes have been made in the application and assumptions of grounded theory studies since the day it was put forward, both by those who contributed to the literature and by those working in this field (Caliskan, 2011). The grounded theory studies, which were initially carried out with a positivist approach, have been replaced by anti-positivist approaches over time. When the historical development of the grounded theory study is examined, it is observed that the theorists differ especially in the coding phases, although the end point is the same. In this study, Strauss and Corbin's (1990) 3-stage (open coding, axial coding and selective coding) coding is based.

In this design, the analysis consists of the interaction between the researcher and the data obtained, and in fact, the process itself is a "coding procedure" that directs the research and sets standards (Strauss and Corbin, 1990). Grounded theory studies, regardless of the subject studied, seek answers to questions such as "What is the theory that emerges from systematic comparative analysis? How are contributions to the field observed and theorized?" (Patton, 2014). Open coding, which is the first stage of grounded theory studies, is an interpretation process, and in this process, all the data obtained from the participants are analyzed and divided into small pieces. In other words, by labeling each idea provided by observation, interview and document analysis,



themes and sub-themes related to these themes are obtained. Open coding is carried out without losing time as soon as the data is obtained with the help of the specified techniques. In this study, following the individual interviews, open coding was started and the sub-themes were obtained without being tied to the upper theme. In the second stage, axial coding, the relationship of the obtained sub-themes with the parent theme to which they may be connected is tested. If the sub-theme's connection with the theme is not confirmed in this test, the researcher expands the theory by investigating the reasons for the participant's response to this sub-theme. In the last stage, which is selective coding, all the sub-themes obtained are combined with the parent themes to which they belong, on the "main theme" based on the main theory. In summary, the researcher generalizes the theory analytically by asking questions such as "If I were to sum up my findings in a few sentences, what would I say?", "What is the main analytical idea presented by this research?" (Strauss & Corbin, 1990). In addition, according to Patton (2014), theorizing primarily involves understanding or anticipating thoughts and concepts, and then formulating them in an explanatory and rational way. Based on these statements, the purpose of using grounded theory work in this study is to transform the management information system that already exists and includes all the data belonging to a micro-scale school. While performing this transformation in the study, the stages of grounded theory study were used by following the order of understanding the concepts presented by all the features of the system, establishing a relationship between the concepts with comparative analysis, and revealing the model obtained from the established relationships.

## **Study Group**

Purposive sampling method, one of the participant selection methods used in qualitative research, was used in the study. Purposeful sampling, which emerges as the opposite of probability-based sampling used to generalize to the population in quantitative research, ensures that participants who are thought to have mastered the subject are studied in detail. In addition, the "theoretical sampling" technique was also used in the study, since it included participants who were thought to be ready for theoretical knowledge. In theoretical sampling, which Glaser and Strauss (1967) used for the first time, the data collection process continues until the process or concepts that can answer the research question are repeated. For this reason, the researcher is not initially informed about the size of the study group (Yildirim & Simsek, 2011).

6 school principals, 5 vice principals and 6 guidance teachers, working in 4 state secondary schools, 3 state Anatolian high schools, and 2 state primary schools, participated in the study voluntarily. Demographic information of these participants is presented in Table 1. In the selection of participants, preference was given to those who were directly involved in the decision-making process in school administration. In addition, care was taken to ensure that participants worked in public schools. The reason for this is that private schools use various software similar to decision support systems in addition to the management information systems offered by the Ministry of Education. At this point, it can be questioned why the school principal, vice-principal, and guidance

teachers are preferred as participants in the study group. As it is known, school principals involve all the stakeholders of the school in this process in order to make effective decisions in schools. Although all stakeholders are involved in the process, the final decision belongs to the school principals.

For this reason, school principals should be included in the working group. In addition, school principals may need to take immediate action when faced with problems that require urgent decisions or in routinized decisions. The advisory authority is the assistant principals and guidance teachers in such cases. For this reason, these two groups need to take part in the study as participants.

**Table 1.**

*Demographic Information of Participants*

| Code | Title            | Branch                   | Seniority (Years) |
|------|------------------|--------------------------|-------------------|
| GT01 | Guidance Teacher | -                        | 22                |
| VP01 | Vice-principal   | Information Technologies | 8                 |
| GT02 | Guidance Teacher | -                        | 9                 |
| GT03 | Guidance Teacher | -                        | 14                |
| GT04 | Guidance Teacher | -                        | 24                |
| SP01 | School Principal | History                  | 16                |
| VP02 | Vice-principal   | Biology                  | 25                |
| VP03 | Vice-principal   | Foreign Languages        | 11                |
| VP04 | Vice-principal   | Information Technologies | 12                |
| GT05 | Guidance Teacher | -                        | 18                |
| GT06 | Guidance Teacher | -                        | 18                |
| SP02 | School Principal | History                  | 26                |
| VP05 | Vice-principal   | Physics                  | 22                |
| SP03 | School Principal | Primary School Teacher   | 26                |
| SP04 | School Principal | Primary School Teacher   | 16                |
| SP05 | School Principal | Information Technologies | 13                |
| SP06 | School Principal | Information Technologies | 18                |

Individual interviews used in grounded theory studies are coded instantly, as soon as the interviews are over. While this stage is called open coding, the interviews stop when the obtained themes repeat. For this reason, the opinions of 17 participants working from 9 different public schools provided the data that will form the basis of the study.



## **Data Collection Tools**

Observations and interviews with participants are the most commonly used data collection techniques in grounded theory studies. In addition, there may be a need for document analysis to support interviews and observations (Hancock, 1998). Data were collected through individual interviews with school administrators and guidance teachers through a semi-structured interview form. In addition, documents that help the education and training processes in schools and documents in the form of printed materials belonging to student personality services in school guidance services were also used as data sources in the research.

## **Data Collection**

Before starting the individual interviews, the purpose of the research, which was summarized in the interview form, was shared with the participant and the participant was informed as audio recording would be made throughout the interview; With permission, the interviews were recorded on a voice recorder. After each interview, before starting a new interview, the transcript of the last examined document and voice recording was analyzed and coding was carried out. For confirmation purposes, the interview transcripts were compared with the interview recordings by the field expert, and the transcripts and records were verified. In accordance with the coding logic of the grounded theory study, the code list created prior to the interviews was continuously compared with each transcript, and new codes identified as missing using an inductive approach and formed according to the existing transcript were added to the code list or changes were made to the existing codes. In this process, which Glaser and Strauss (1990) refer to as "continuous comparative analysis", the interview form was constantly updated and detailed with new codes. This update process ended with the repeated recurrence of the answers. Content analysis and descriptive analysis methods were used while analyzing the data during continuous comparative analysis.

## **Data Analysis**

According to Merriam (1998), data analysis to make sense of the data obtained is intense, tiring, and complex. In all this difficult analysis process, NVivo 10.0 package program was used, which partially facilitates the coding process in qualitative research and enables to master of the research in a holistic framework. Again, as mentioned before, data collection and analysis are carried out simultaneously in grounded theory studies.

In the first stage, open coding, the interviews were coded simultaneously, the field notes were reviewed after each interview, and the memos on the documents examined and the interview, in general, were evaluated. At the axial coding stage, to reach the main question of the research, it was tried to reach subcategories from the categories obtained in open coding.

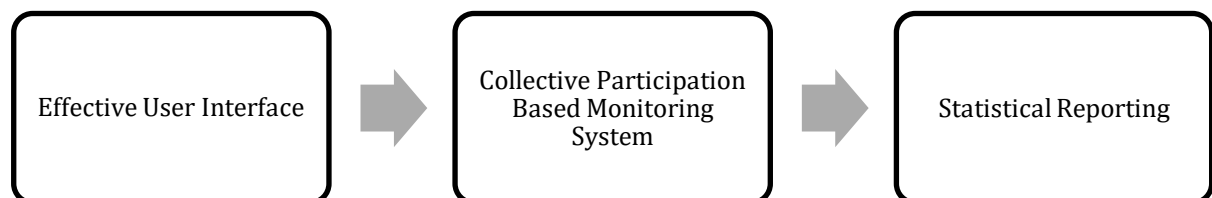
In the way of answering the question "What theory explains the use of electronic services as DSS for effective decision making in schools?", three intertwined sub-models were obtained and as a result, the transformation model to be made to DSS in school management was reached. To present this model with clear expressions, it was necessary to make changes in the themes and sub-themes obtained from the research, some themes were grouped or their names were changed. In this last stage, which is called selective coding, the main theme and sub-themes related to this main theme were obtained and the answer to the main question of the research was obtained.

## Findings

The results were examined under three subtitles. The first of these subtitles is "Effective User Interface", one of the main titles of the model that emerged as a result of the research, and the other two subtitles are "Collective Participation Based Monitoring System" and "Statistical Reporting". The general view of these titles, which are similar to the "input", "process", and "output" elements of the system approach and how these elements relate to each other, is shown in Figure 1.

Figure 1.

*Titles of the Suggested DSS Model*



Each sub-title will be referred to as "theme", which was finalized due to selective coding following the qualitative research terminology. These themes will be examined in detail with their own sub-headings and the term "sub-theme" will be used for these sub-headings. Only the findings will be included under this title, and the explanations of the themes and the researcher's opinions will be presented under the title of conclusion and discussion.

### Effective User Interface

The first of the main components of the model is the "Effective User Interface", which corresponds to the "Input" element in the system approach. Although the term interface is used in many areas, it is expressed in informatics as an audio-visual tool that provides communication between the user and the system through pictures, sounds, fonts and colors (Rudisill, 1996). Since it is the cornerstone of interaction between the software and

the user when using a software, it can be assumed that the designed user interface should have a structure that meets the needs and enables faster work. When the answers of the participants are examined, it is seen that the necessity of an effective user interface is emphasized in the model. In the light of the findings and as a result of selective coding, two sub-themes were formed under the theme of "Effective User Interface": Design, Active Update.

## Design

Under the heading of "Design," the first subtopic of the Effective User Interface theme, there are opinions on the visual features that should be included in the DSS, as evidenced by the selective coding applied to the participants' opinions. Examination of these opinions reveals that 12 participants expressed their opinions in the codes "Data reliability" and 4 participants expressed their opinions in the codes "Customizable interface with unorganised access"; accordingly, two codes were formed for this subtopic: Data Reliability, Customizable Interface with Disordered Access. Some of the opinions of 12 participants who expressed their opinions under the "Data Reliability" code are as follows:

My biggest doubt is whether this information is accurate or up-to-date when I get information from here... Examples that can be increased a lot, but in summary, I can say that to make a decision, there is a need for concrete, up-to-date, reliable information, or what you would call it. This has to be achieved first. (VP01,2,1,1)

But of course, if the information of the new students is not updated, the class teachers will ask how many siblings the student has, with whom he lives, where does he live, does he have any illness? Has he had any surgery? If the information such as whether he has a disability has not been updated, you do not have a chance to learn much about the child's special situation. (VP03,2,1,1)

All 4 participants expressed their problems with the currently used interface and expressed their views on the importance of interface design to be used in a DDS:

When you enter the e-school, there is something on the left side, the menus. There is so much that it is difficult to search even in it. These things need to be simplified further. There may be information about students, parents, academic success, but these need to be classified better. (VP03,2,1,2)

In other words, I think that the data we will need in these management processes should be included in these modules with a more accessible quality. I think that faster and more practical structures should be created for the data needed in both the e-school and MEBBIS systems. (SP06,2,1,2)

## Active update

Three sub-themes were formed when the opinions of the "Active Update" sub-theme were classified. The codes of these sub-themes are grouped under 3 headings: Proactive Agenda, External Data Sources, Instant Data Entry.

The opinions of the 6 participants regarding the "Proactive Agenda" code, which highlights the early warning system logic, are as follows:

In addition, as administrators, we are divided into too many situations during the day, schools are in trouble in terms of physical and cleaning, we need to determine our priorities. You know, we need information to take urgent measures for urgent matters related to the school. Additions can be made to these... For example, a class made absenteeism permanent at a certain time on a certain day of the week. I should be warned about this immediately to learn what is going on at that hour of the lesson, maybe there is something from the teacher or outside. It should warn me about these. (VP01,2,2,1)

There are different modules about the school for this information, but the information on the requirement does not appear there, for example, for the information about the school's needs. (VP03,2,2,1)

The views on the "External Data Sources" code, which 5 of the participants envisaged to transfer data sources from the common database, are as follows:

It is not enough in terms of special situations, of course, more specific information is needed. Like what? For example, the mother died, why she died, and how old was the child? What was the extent of the trauma experienced by the child when she died? These are important, for the more special of the child. (SP03,2,2,2)

Here, the truth of the matter is that it is not right to put too much pressure on the teacher. You mentioned being an information society at first. If we can fully reflect the characteristics of the information society, then it would be better if we could do this with a common database without waiting for anyone to enter this information. This is what it should be. (SP04,2,2,2)

4 of the participants agreed that the users of the system should be active data or information providers:

We, as administrators, cannot do this job of taking notes day by day. Our workload is already clear, either only a staff member for breakdown recording and solutions should be available for these works, or a system should be given to our teachers with a mechanism such as self-control, where everyone is responsible for their own class. When a problem is encountered, the class teacher tells me about it, and I take note of it. I'll write it down somewhere, but there's a chance I'll forget. At this stage, we can use electronic environments more efficiently, by giving our teachers responsibility with a slightly more flexible system, each classroom teacher should be able to share their problems regarding the physical condition of their classroom, and we can collectively see these problems and take precautions... Others will not start from the beginning if the same problem happens tomorrow. (VP05,2,2,3)

## **Collective Participation Based Monitoring System**

"Collective Participation Based Monitoring System", which corresponds to the "process" element within the framework of the system approach, appears as a theme in which data and information coming from the "Effective User Interface" are processed and transformed into information on the way to DSS. The most important factor for the theme to get this name is that all elements are in asynchronous communication with the system

to create a memory in the dimensions of teachers, students, and institutions within the institution, and these elements are kept under control in a follow-up system based on continuity. This monitoring system focused on three main stakeholders of the school, and sub-themes were formed according to these three stakeholders: School Monitoring, Teacher Monitoring, Student Monitoring.

## **School monitoring**

When the opinions of the participants are examined, it is remarkable that all the work of the school should be carried out electronically, both physically and based on structuring, for the DSS to be established in the electronic environment in schools. In particular, four codes belonging to this sub-theme were obtained from the statements of the participants who expressed their opinion that it would be appropriate to carry out this monitoring within the scope of "Institutional Memory", "SWOT Analysis", "Physical Equipment" and "Structuring and Decisions".

Eight of the participants stated that it is necessary for everyone involved in the school to compile all the data from the school's past to the present in a mass form, thus developing institutional memory. Some of the participants' opinions on this code are as follows:

For example, the school should have a report on a developmental past, present and future. Past experiences should be transferred to future administrators and teachers, in terms of both physically and educational. There can be such a study so that every newcomers do not start over again and again. (VP01,3,1,1)

Unfortunately, this is how the newcomer will learn. It will start from scratch. I try to associate it with decision making, but you need to know to make a decision. If not, you will falter, you will decide, wrong results will come out, you will make new decisions and make the right decision by making mistakes like this, but lost time, effort, maybe money is gone... Here, every newcomer will make new decisions, they will be wrong, they will be made again, etc. I should be able to write in the form of an information note. I should be able to enter information notes like the environment of this school, this school has a constant problem like this, the cafeteria is like this, these things have been done, these things have been tried to be done but it did not happen, it did not happen because of anything, so the next principal after me will go one step further. (SP02,3,1,1)

Again, eight of the participants emphasized the need for SWOT analysis of the strengths and weaknesses of the school, as well as the opportunities and threats that may arise from outside the school and from the elements of the school itself, based on this institutional memory code. Some of the participants' views are as follows.:

I must be able to see in detail the analysis of the current situation. Before I do anything, I must know about the threats and opportunities that have been updated from the past to the present. (VP01,3,1,2)

I'm trying to get to know the school, there is no information about getting to know the school's student profile. I try to learn it by asking questions, asking friends, talking to parents as I meet them. You cannot direct a school without knowing a parent's mentality about the school's environment. (VP04,3,1,2)

Three of the participants stated that the dysfunction of the existing information on behalf of the physical equipment of the school could be realized by including more detailed information and monitoring accordingly:

In fact, it does not give very clear information about the physical conditions of the school. I don't know, there is information such as the number of classrooms, the number of information technologies classrooms, how many square meters of the area it is established. (VP02,3,1,3)

There is a computer laboratory, but in what year were the computers purchased, what models are they, are they old or new, can they meet today's needs? Which computers are popular today? We cannot know these. Or there is a library, but we do not know how many students use it. We have classes, but how many desks do they have, how many of them need maintenance, if I need to know about them urgently, I have to visit the whole school, I have to make a scoreboard. (SP02,3,1,3)

All three participants pointed out that the information on the school's structuring and how this structuring will be available in the electronic environment will contribute to decision-making:

The school has a principal, a vice-principal, a guidance counselor, teachers, and an officer. Do you think there is much coordination between them? This is one of our biggest problems. Decisions are made to carry out a job, but who is responsible for those decisions is not known, so we are trying to find out by researching. We chose the first aid team, the drill will be done, let's call and find the first aid team, the teacher forgot that he is in the team, even though he knows, he doesn't know what to do. The teacher does not know which vice-principal is responsible for which level. A letter has come, the officer will write a reply, but he is not aware of the decisions of the teachers' board. (VP05, 3,1,4)

We set up a more advanced system of the e-school and gathered all the paperwork in one place. We aimed to improve the management system. We enabled every teacher to Access many papers such as BTB's (Branch Teachers' Board) Report, Teachers' Board Report by giving each teacher a password, and from the beginning of the year, everyone in the school could see all their duties in one place. If you ensure that the information is recorded regularly, you do not need to say "bring me the meeting reports". And in situations like ours, where there is public access, the teacher always knows what the assignments or groups are. But that's not the case with the current system. (GT02,3,1,4)

## **Teacher monitoring**

Teacher monitoring is another sub-theme of the "Collective Participation Based Monitoring System" is teacher monitoring. According to the participants, the monitoring of teachers focuses on making judgments about teachers, drawing conclusions and



making the necessary provisions for the problems that may arise in the educational and training processes according to the dimensions of "academic career", "in-service training" and "teacher attendance" of teachers working at the school.

Eight of the participants expressed the opinion that by including the academic career information of the teachers in the system in detail, consistent decisions can be made in order to employ the right person for the right job, especially in the education and training processes. Comments on this code are as follows:

What do we decide? Like whether the teacher should attend the 9th grade or the 10th grade. We make this decision by asking the teacher about it. Now, the curriculum of some levels is easy, the teacher insists on that level. We say, "What levels do you teach?" for example, "9th grades, I always taught classes". Well, then we say "you have to attend the 9th this year". It is the same next year and after that. For example, let's see which classes the teacher taught in his 20th year, that is, in 20 years, to decide how to proceed from there. Let's see an average grade, let's say, like "aha, successful at this level, insufficient at this level". MEBBIS can facilitate our work in these matters. (VP01,3,2,1)

Our expectation from MEBBIS is to support us in making inferences about the teacher. For example, what classes did the teacher teach in the past? If he could make our work easier with some information such as which of them was more successful. That's how I want it, so we decide more objectively. (VP03,3,2,1)

Three participants, arguing that teachers' in-service training information is effective in decision-making processes in schools, emphasized the importance of monitoring this information:

... there is a lot of information available, but I need a set of information about teachers. For example, he says, 'teachers who have received in-service training in this and that field'. But I can't find; I have to look at the in-service status of all the teachers one by one, it is an incredibly time-consuming situation. This is a school with 65 teachers, I can't think of those who are 100 or more. This information is actually available, but after looking at it one by one, what use is the electronic medium? By the way, let me give another example from in-service training. There are certain areas where our teachers need improvement, of course, and there will be in the future, but for example, if such a thing were to happen, which areas did the teachers receive in-service training, and who might need what, MEBBIS could guide us. (VP01,3,2,2)

But it would be better if there was a teacher version of the e-school, and it would be used more efficiently and frequently. For example, some things need to be done in schools, things that certain groups have to do. And these works are always contracted to certain people for some reason. For example, in that group, there is a teacher who has received in-service training on project development, but you can't give the job to a teacher who has never done a project before or has never been trained on this subject. Many of our teachers are still standing with almost university knowledge, they did not develop themselves, they did not go to a single in-service training related to their field or pedagogical field. We call it FATIH Project, but we encounter teachers who cannot use the learning management system. I should know about the teachers who are in such a

situation through the system and of course, I can force that teacher to improve himself by taking the legislation behind me. (VP02,3,2,2)

Two of the participants stated that the continuity of the teacher is also important on the educational processes and that if a decision is to be made in this area, it is absolutely necessary to follow up the teacher in this regard:

We are making a lesson plan, I am telling you because it happened to me. I have just been appointed to the institution, there is a certain amount of lessons in total. We distribute it equally to the teachers, but one of the teachers gets sick all the time. He has the legal right, what can I do, he is on a report for 10 days and 5 days, it's like he is on an excused leave. Later, I learned that the teacher, like the student, has made a habit of absenteeism. At that time, I learned that while the course distribution is being made, it is necessary to have information about such teachers and I thought that it is necessary to give the least possible lesson hours. If they attend fewer lessons, fewer children will be victims and a solution can be found. I am not saying that the teacher is necessarily malicious, he/she may have a small child or a patient. He/she can't come for 2 hours in the morning. Here, I tried to explain that if there is to be an indicator of the teacher, which I think should be, the attention the teacher gives to his work is equivalent to the time he spends at school. It is necessary to distinguish the teacher who is at the school, both for a lesson and for another activity. (VP05,3,2,3)

Analyzes, including reports such as sick leave, help us decide which teacher is more likely to be absent. (SP01,3,2,3)

## **Student monitoring**

According to participant views, if a DSS is to be implemented in schools, this system should also include elements of student follow-up. Since students are the main focus of education and training processes, it is also striking that the points to be followed on them are detailed and numerous. The most obvious indicator of this is the collection of opinions on topics under the headings of "Academical", "Orientation", "Student Affairs", "Psycho-Social Development" and "Developmental Health Status".

Eight of the participants stated that students need a system that includes their previous academic knowledge and experiences throughout their academic life, but that it will be possible to monitor a student in an academic sense. The opinions of the participants on this subject are as follows:

Especially as of this year. We cannot access the child's old data, we cannot access a graduate student... I think there is no point in entering the data for one year and closing it the next year. (VP04,3,3,1)

All grades of a student from the first day he/she enters primary school to high school... (SP01,3,3,1)

It cannot be said to be sufficient academically. There is no past grade information, for example, there is the year of the current period, but there is no history. The past is also important. (SP03,3,3,1)

Again, eight participants indicated that monitoring students would help guide the student properly so that students can be where they need to be in their next educational life, or that an approach can be developed for the student by understanding the reasons for a direction that has already been given. Participants' opinions on this code are as follows:

We accept students in the 9th grade. Until the 12th grade, I should be able to know in which courses this child's success has increased or decreased, what precautions can I take, whether his absenteeism has increased or decreased compared to the previous year. (VP01,3,3,2)

Elective courses are a little more difficult, but as far as I understand, the system we want to apply is a good system in my opinion. It is actually a similarity to the old credit system that students want. Let him choose the courses he wants many times within the legal framework, and graduate comfortably. But unfortunately, the next process, the higher education process, is not suitable for this. I think it will make sense for the child to choose it in elective courses if it is a course that he cannot benefit from in higher education. But children, you can choose courses easily after a certain grade at 9, 10, and you have trouble with elective courses at 11 and 12. (VP03,3,3,2)

Seven participants agreed that in addition to the academic monitoring and guidance system in DSS, it is necessary for schools to monitor the student in matters such as award disciplinary procedures, attendance absenteeism procedures so that decisions to be made about the student are more consistent:

Or a student with increased absenteeism needs to reveal the reasons for this. I think that the information about the guidance work should also be collected. (VP02,3,3,3)

Disciplinary punishments, if any... I must be able to access changes in family life... At what times was the child absent, especially? (SP01,3,3,3)

Five participants drew attention to monitoring their "Psycho-Social Development" to monitor students within the scope of DSSs in schools. The opinions of the participants of this code are as follows:

There is not much for our students either. Parent information, identity information, photocopies are already available to us. General information, these were height, weight. Who he sits with, his rewards or punishments. But if we are going to make an assessment, especially if we are going to assess the child's psycho-social development, we cannot do it by looking at the data there. There is only exam information, and that information can be seen only for that year. (VP04,3,3,4)

It can be improved of course. Particularly in my own guidance field, sections can be added. Interests and talents can be processed to see the child's interests and abilities from the past to the future... Learning styles can be added. (GT01,3,3,4)

Four of the participants are of the opinion that within the scope of the "Student Monitoring" sub-theme of the "Collective Participation-Based Monitoring System", it is also necessary to monitor the developmental health status of students, so that decisions to be made about students can be made by considering their health status:

Now the child got sick, he did not have diabetes, but later he became diabetic. I am 3 years this year, the boy graduated from here and went. "Do you know that my child has diabetes?" This information should be included in the e-school, when a child is enrolled in the school, information is entered randomly. In the format of the Ministry, this information will be more valid, reliable and will make our job easier, will be found in every school's system, and the student's health and family information will be at my fingertips at any time. We collect a lot of things on papers, I have 1620 students, a lot of paper expenses. (GT02,3,3,5)

What were the diseases he had, how long did it last, is there any continuation? (SP01,3,3,5)

## **Statistical Reporting**

"Statistical Reporting", the last element of the model, includes comparative statistical indicators that include both current situation analyzes and future predictions in the decision-making process. These statistical indicators are obtained by transforming the data from the "Effective User Interface" item into information through the "Collective Participation Based Monitoring System". This element can also be identified with the "output" step of the systems approach. When the participant opinions are examined, it is seen that the opinions are gathered under two sub-themes. First of all, obtaining information about the current situation expected from the system is to have the opportunity to make flexible reporting during this information acquisition process. The second feature expected from the system is that it allows users to make projections and make predictions about the future in light of existing data and information. Due to these expected features, it is possible to say that the "Statistical Reporting" theme consists of two sub-themes: Situation Analysis, Predictive Reporting.

## **Situation analysis**

According to the participants' opinions, it is important for the analysis of the current situation to report the data and information in detail so that the decision-making process can be based on sound, consistent and reliable information. Keeping data and information in the hands of customized reports to create output will form the basis of the final decision to be made and will allow a good understanding of the situation to be decided. While the participants gave information about which situations need analysis, they also expressed their opinions on reporting this information would be subjected to. Accordingly, the "Situation Analysis" sub-theme consists of "Education-Training

Processes Reporting”, “School Physical Equipment Reporting”, where the situations to be analyzed are collected, and “Flexible Reporting” and “Comparative Reporting”, where opinions are collected on how this reporting should be.

Ten participants felt that there should be flexibility in reporting on issues such as the selection of information to be reported and the nature of the report:

I've always thought of this. This information is entered every year, right? This information should be stored and I should be able to access data from 10 years ago, such as a search engine. Let me do my search myself. Instead of giving feedback, there are standard templates determined by the Ministry, instead, what we need at that moment is not only me, but many friends, everyone needs something different. It needs to work with the logic of a search engine for what we want... We should be able to search for more detailed data easily, store it nicely, and find it directly at the point where we decide. In this direction, collecting the data well and making it ready for us makes our job easier. I think it reduces time usage. (VP04,4,1,1)

The Ministry wants a list, with the identity and date of birth... Well, there is no such list. We collect all of them from different places, we take one from one place and the other from another. It would be better if we could choose these reports, many problems would be solved. (VP05,4,1,1)

While seven participants complained about the disorganization of the information in the current system, they especially pointed out the necessity of reporting detailed information about the physical equipment of schools, which have many physical elements. The participant opinions about this sub-theme are as follows:

The key information is there, it can be different to understand the environment by experiencing it. Again, it is up to you, the building is the same everywhere, but the contents and atmosphere are different, it is up to the person, namely the manager, to draw conclusions... Information is okay, but naturally, we need to create and present something. There is definitely a need for statistical studies. There should be a system that reveals the changes made from the past to the present so that we can make a faster and more precise interpretation. (VP02, 4,1,2)

The school has general information, but for example, if I want information about a classroom instantly, I don't have it. If I want instant information about my library, who uses it, how often, how many books are there and similar information is unavailable. (SP01,4,1,2)

In addition to reporting the physical equipment, six participants stated that the reporting to be made within the framework of the education-teaching processes is essential for deciding on all factors related to this situation, especially the academic status of the school:

These are physically; The situation is the same in terms of academics, especially the numbers, it's always just a student-based system. There is no general analysis, we need to be able to get information about classes, their problems, especially the situations that affect their education life... This does not contain information about which courses of a class are successful, which have low success levels, and their reasons. (VP01,4,1,3)

The Ministry of National Education constantly asks us for statistical information, believe me, we spend most of our time in the archives. It is also easy if data is requested only for this year. Still, when data is requested for 2015 and before, we cannot obtain this information in any way when information is requested about the reading rates or the status of X student... There is personal information, but no private information. According to the status of the report, for example, a warning can be made as "this person has received so many reports in a year, you can do research". After all, the permission information of the people is also included there. It is necessary to compile the data that we enter one by one. This information is necessary for the school administration. The administration can take precautions, it may encounter a different situation, this is needed for the school administration to have a plan B. (VP04,4,1,3)

All six participants expressed their views on the importance of the reporting process for DSSs to make comparative analyzes by making use of the possibilities of statistical science:

If we evaluate it from an educational point of view, what is the general success status of the school's classes? Compared to other classes or other schools, we do not have a chance to get any of the minuses and pluses of a class. (VP01,4,1,4)

Or when we want to compare grades between classes, we don't have such a chance. We only get the grade information of the class, other than that, we have no chance to make any adjustments ourselves. (VP05,4,1,4)

## **Predictive reporting**

The most important feature of DSS is that it allows users to make a prediction in the decisions to be made in the future in the light of the data, information, and knowledge obtained about the current situation. In this context, it is inevitable to encounter this issue in the participants' opinions from whom the research data were collected. Based on individuals, students, teachers; in summary, "Predictive Reporting" seeks answers to the following two questions:

1. "Well, what does this quantitative information mean?"
2. "What can be done for the future with this interpretation"

The "Predictive Reporting" theme includes two sub-themes: Interpretation, Guidance.

Six participants expressed that schools should develop interpretations from DSS to numerical indicators obtained by statistical reporting. Opinions on this sub-theme are as follows:

In addition, I think that whatever you may say about the information and reports I have obtained, I think that this information should be able to help you in terms of what it means or what it means for the future. For example, the student persistently wants a law school, but you see that his



numerical intelligence is at a high level and you cannot explain this to the student with the data at hand. (VP01,4,2,1)

You can access the information at that moment, but it leaves the job of interpretation to you. So you have to compile and collect the information and draw a conclusion yourself. Perhaps a statistical information study should be done. (VP02,4,2,1)

All four of the participants argued that the DSS for schools should not only interpret the information but also guide them in making decisions concerning the future:

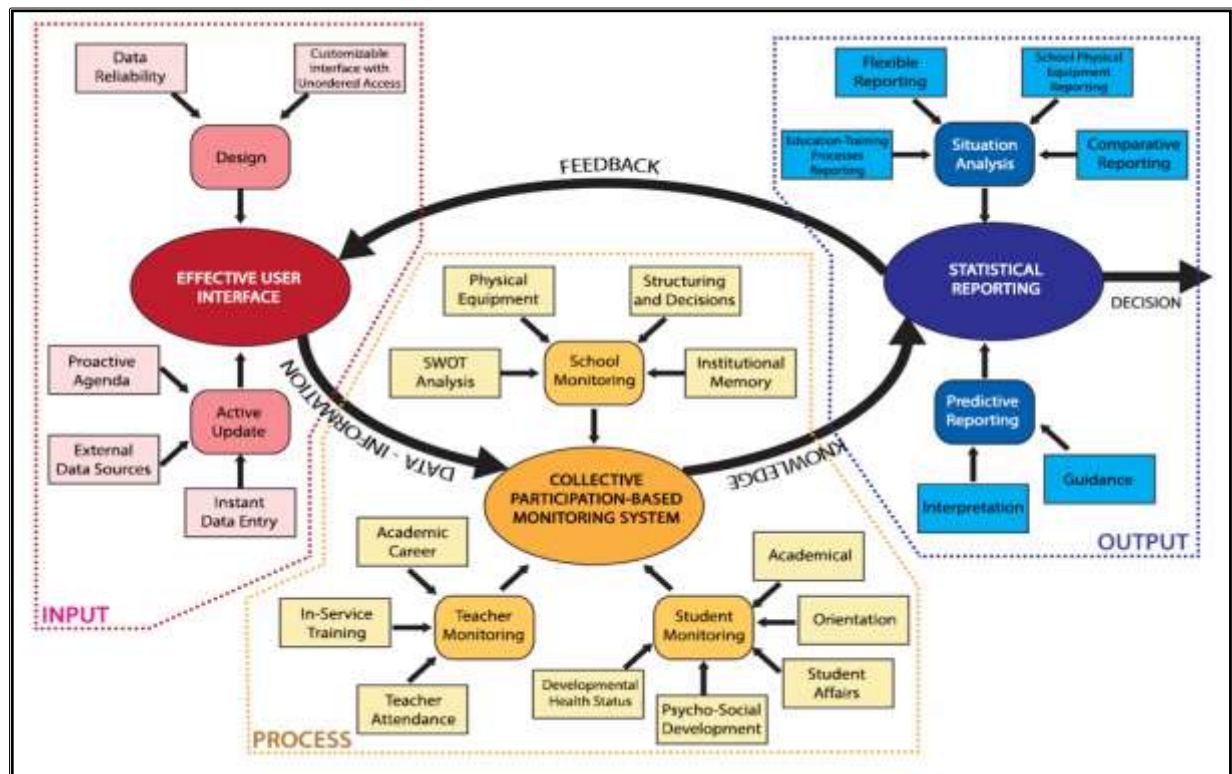
Also, no matter how much knowledge, it is necessary to spend time with the student to get to know the student. Maybe it would be more accurate to get information from the teachers who take the course. Since this time-wasting process is already time-consuming, the computer system can do it for me with the information at hand. As if it had spent time with the student, as if he were a friend of their. Just as a person advises a person they know by looking at his life or the situation they are in, the system should approach it in the same way. In the same way, the system should guide administrators, teachers, and parents. (VP01,4,2,2)

What has changed? There is a need for a study covering all the evaluations to be made from the past to the present on which course he/she is more successful, in which direction he/she should be directed, and where he/she can be more active. (VP02,4,2,2)

In the light of these findings, as will be detailed in the conclusion and discussion section, the visual of the proposed DSS model is presented in Figure 2 in relation to the open system theory.

Figure 2.

Decision Support System Model in Schools



## Conclusion and Discussion

Systems can be grouped in two ways, open and closed. An open system takes energy, information, or material from the environment and presents these inputs back to the environment as output after a certain process such as selecting and shaping. In this study, "What kind of theory can explain the transformation of existing e-services to DSS so that the decision-making process in schools can be more effective?" While searching for an answer to the question, analytical generalization has been reached using the systems approach theory. The theory of conversion to DSS has been tried to be explained.

As it can be understood from the definition of the open system, education systems are open systems and therefore schools operate according to the open system approach. According to the Ministry of National Education, while provincial directorates of national education are an open system at a macro level, provincial directorates of national education can be considered as an open system at a macro level for schools. Similarly, it can be said that the DSS model, which was created in this study and consists of the combination of 3 interconnected sub-models, is a low-level open system for schools and our education system.



As mentioned in the method section, one of the most important features of qualitative research is that no generalization can be made, but analytical generalization is possible. This is because of the limited number of participants and a smaller sample group compared to quantitative studies. A qualitative researcher can make analytical generalizations of the results obtained from qualitative data if he/she chooses a design that is appropriate for his/her situation (Yildirim & Simsek, 2013). The operation of open systems that receive information or energy from their environment depends on these inputs from the environment (Katz and Kahn, 1966). Just as schools are open systems, a DSS system to be implemented in schools can be considered as an open system since it will receive input from the school's environmental elements. One of the sub-models of the model presented in this study is the "Effective User Interface" corresponding to this input element of the open system. This sub-model can make inputs to the system, and "raw material" can be provided for the process. In the model described, since DSS is developed depending on computer technology, users need an interface to interact with the system and provide input. How this interface will be effective depends on the transfer of information or data to the system through this interface, which will be provided in the process of transforming information or meta-information. According to the research results, the effectiveness of this interface depends on two basic elements. One of them is the "Design" of the interface, and the other is that the interface allows "Active Update". With these two features and the sub-elements related to these two features, which will be explained in this section, it seems more likely to provide the system with the energy needed by the process.

Another feature of open systems is that they convert the information they accept as input into a product, process or service. Input has taken a new shape at this point (Katz and Kahn, 1966). The open system transforms the information received at this stage of the process into a form suitable for its purpose (Bursalioglu, 2010). It is possible to say that this element of the open system, which is also called the "Process", corresponds to the "Collective Participation Based Monitoring System", which is the second of the sub-models described in this study. As the name suggests, this submodel is a kind of tracking system and is based on monitoring the physical structure of the school, the teacher, and the student, which are the three important elements of the school. It performs this monitoring by providing information to the output element by shaping and grouping the data and information coming from the "Effective User Interface", which is accepted as input, according to needs. The operation of the system is in the form of transferring the data and information from the input unit to the relevant school stakeholder according to the purpose of making a decision and processing it there. Just as in the process of open systems there is a transformation into a product or service, in the model presented with DSS's "Collective Participation Based Monitoring System" a decision-making process is initiated regarding the physical condition of the school, students or teachers. In this phase, the data and information were classified and prepared for use in the output phase. The process operation, which is the link between the output unit and the input unit, and the element in which the actual transformation process takes place, is the most important component of the system (Soenmez, 1987).

An important feature of open systems is that they provide products to the environment. This product is called the system output. All the elements of the open system, which have been named as input - process - output so far, show a cyclical mode of action. The reason is that all or part of the product is used as input to the system. This input that comes back is called "feedback" (Katz & Kahn, 1966). In other words, feedback is information developed to determine the functioning of the system, the problems of its non-functioning parties, if any, and how to solve these problems, taking into account the degree of realization of the goal the system is trying to achieve (Soenmez, 1987). These feedbacks are used to find more effective and efficient by increasing as a pile, and they are elements that have regularity and continuity.

In the DSS model described in this study, the "Statistical Reporting" sub-model corresponds to the system's output, while it presents the "Status Analysis", which includes the indicators of the current situation, to the users. In addition, this sub-model also enables "Predictive Reporting", which facilitates the making of decisions that shape the future by supporting the comments developed by the users. The output of the process is a meta-information decision on the school, teacher and student within the scope of the educational processes. In addition, this output provides data and information as a re-input to the system with situation analysis.

Another point to keep in mind is that every system can consist of subsystems. Based on this fact, it is clearly seen that there are subsystems of DSS and subsystems of these subsystems in the schools revealed in this study. The system structure of DSS in schools is summarized in Table 2.

There is no need to discuss the importance and place of knowledge in our contemporary society. Everyone knows that today, societies that produce, distribute, market, and use information in the production of new information dominate the world. At the micro-level, this situation is also reflected in organizations. With both R&D studies and computer technologies supporting these studies, organizations are constantly trying to catch up with the era in knowledge production. For this reason, the society we live in is referred to as the information society, and for DSS to operate effectively, a society in which information production is prioritized is needed. According to the results of Cukurcayir and Celebi's (2009) study on the transformation process of our country into an information society, recent government policies and the joint efforts of both the public and private sectors have accelerated this transformation and brought the production of knowledge to the fore. This result is also consistent with the findings of this study. Because the emphasis of the research participants on the effectiveness of "knowledge production" in the definition of the information society shows that the society style perception required for the implementation of DSS in schools is as it should be.

The users of the system have to interact with the information devices since the DSS model that has been put forward works on the basis of information technologies and this technology is used at every stage (input - process - output). A user interface is needed for this interaction to take place. Jung and Yim (2015), in their study examining the effect of the user interface on the user-computer interaction, concluded that the applications

in which the interaction and learning are easy and with a user-friendly interface have a higher usability perception. The functionality of this interface has a direct impact on data and information entry into the system. This effect is achieved through two features of the interface: "Design" and "Active Update".

One of the most important points to be considered in the interface design of the DSS to be developed in schools is that the data come from a reliable source. To achieve this, the system prevents uncontrolled, unproven, or incomplete data or information from entering the process phase. In addition, the customizable areas that users try to access and operate in this interface will make the use of the interface more efficient. Users will be able to customize and group the connections where their work is constantly done, so that they will not waste time on functions that are not related to their work. When the literature on the subject is examined, many studies (Thomas, 2000; Hu, Ma and Chau, 1999; Lohse and Spiller, 1998) show that user interface design is directly effective in saving time for users and reducing the possibility of making mistakes.

**Table 2.**  
*Systems and Features of the Described Model*

|                                     | UPPER SYSTEM                                     | SUB-SYSTEM                             | FEATURE                                      |
|-------------------------------------|--|--|--|
| DECISION SUPPORT SYSTEMS IN SCHOOLS | EFFECTIVE USER INTERFACE                         | Design                                 | Data Reliability                             |
|                                     |  |  | Customizable Interface with Unordered Access |
|                                     |  | Active Update                          | Proactive Agenda                             |
|                                     |  |  | External Data Sources                        |
|                                     |  |  | Instant Data Entry                           |
|                                     |  |  | Institutional Memory                         |
|                                     | COLLECTIVE PARTICIPATION-BASED MONITORING SYSTEM | School Monitoring                      | SWOT Analysis                                |
|                                     |  |  | Physical Equipment                           |
|                                     |  |  | Structuring and Decisions                    |
|                                     |  | Teacher Monitoring                     | Academic Career                              |
|                                     |  |  | In-Service Training                          |
|                                     |  |  | Teacher Attendance                           |
|                                     | STATISTICAL REPORTING                            | Student Monitoring                     | Academical                                   |
|                                     |  |  | Orientation                                  |
|                                     |  |  | Student Affairs                              |
| Psycho-Social Development           |  |  |  |
| Developmental Health Status         |  |  |  |
| STATISTICAL REPORTING               | Situation Analysis                               | Flexible Reporting                     |  |
|                                     |  | School Physical Equipment Reporting    |  |
|                                     |  | Education-Training Processes Reporting |  |
|                                     |  | Comparative Reporting                  |  |
|                                     | Predictive Reporting                             | Interpretation                         |  |
|                                     |  | Guidance                               |  |

Another important feature of the effective user interface is that it allows "Active Update". In the open systems approach, a "Proactive Agenda" should be established on the decisions of repetitive work with the automation structure of DSS, such as reintegrating all or part of the respective output into the process as input. Thus, the system users will be able to learn about the routine works from the "Proactive Agendas" -which in a way act as an early warning system- and the process will be carried out without causing any loss of time or negligence. This approach is similar to cybernetic theory in one respect. Outputs are reintroduced into the system as inputs and the system develops an auto-control mechanism. The results of the study conducted by Kaban (1994) on general systems theory and cybernetics also support this finding. In the study, a definition of cybernetics that does not pacify people and whose subject is the individual has been reached. In addition, it is explained in the study that the purpose of cybernetics is to develop the individual and the automation system that enables the devices to do the repetitive tasks that occupy the individual's energy in vain. According to the model, each system user is also a data or information provider for the system. In this way, even the smallest information about the school, student or teacher will be able to be entered into the system by the users and everyone will be aware of this information at the same time. In this way, the school principal, vice principals and teachers will be able to follow the records kept about themselves, the school and the students. This will enable the development and spread of informal communication in schools, enriching communication channels and providing the time needed to communicate. Because, in Niehoff's (2010) study on information sharing in schools, it was pointed out that school principals communicate through peer sharing, especially informally, and time constraint was shown as the biggest communication barrier.

The second sub-model of the model, the "Collective Participation Based Monitoring System", connects the "Effective User Interface" with the third sub-model, "Statistical Reporting", which is the output unit, thanks to the computer technology running entirely in the background. In this sub-model, which is the field where data or information coming from the input unit called "Effective User Interface" is transformed into knowledge, monitoring can be done on the three basic elements of the school, "School - Teacher - Student". The study results conducted by Akbaba-Altun (2000) clearly state why such a monitoring system is needed. According to the study, school administrators use information technologies for correspondence and keeping records. However, this technology can provide too comprehensive services to be used for such a shallow purpose. This sub-model is not a stage where the decision is made, but a stage where the data or information that will produce the meta-knowledge necessary for the decision to be made is classified and meaning is created, and thus knowledge is created.

In the "Collective Participation Based Monitoring System", there will be an "Institutional Memory" of the school under the title of "School Monitoring". This "institutional memory" is a component in which the past experiences of the school are shared and all wrong or right actions are recorded, both in terms of physical and educational processes. Gul and Ozden (2011) also drew attention to the function of this component of the model in their studies; They stated that institutional memory is an indispensable element for the



creation, storage, processing, and sharing of information within the institution. Thanks to this component, the rediscovery of America will be prevented and the continuity of institutions will be ensured. In periods when there is manager circulation, the new manager will be able to continue from where the previous manager left off. One of the features proposed in the model and presented within the scope of "School Monitoring" is the analysis of the school's strengths, weaknesses, opportunities, and threats (SWOT) of the school in the system. This analysis, which will be updated according to the changing conditions, will be an informative note for all school stakeholders. Ozan, Polat, Gunduzalp, and Yaras (2015) also examined the effects of SWOT analysis on school management in their studies and concluded that this analysis is necessary for the coordination of employees and an effective management process in educational organizations.

Another element of the "Collective Participation Based Monitoring System" of the presented DSS is "Teacher Monitoring". It is important for the future of the education system to transfer teachers' experiences into practice, eliminate the deficiencies, if any, and develop these experiences (Erturk, Altinkaynak, Veziroglu, & Erkan, 2014). This element was mainly about the educational and teaching processes, and they wanted to benefit from the teachers at the highest level.

The last subsystem of DSS revealed in the research is "Statistical Reporting". The data entered in the current management information systems remain in raw form, statistical analyzes are not included, so meaningful information cannot be produced (Erdogan, Aydin, Akin, & Demirkasimoglu, 2014). As the name suggests, this sub-system functions to obtain an output by transforming the data and information entered with the "Effective User Interface" into knowledge with the "Collective Participation Based Monitoring System". In addition, this subsystem provides feedback to the system to be reintroduced to the system, as in the open system approach. The "Statistical Reporting" sub-system, on the one hand, provides the creation of tangible indicative reports for the current situation analysis, on the other hand, it enables the production of comparative information about the situation by applying statistical analyzes to the quantitative data.

Therefore, this study presented a model for the conversion of the electronic services of the Ministry of National Education within the framework of management information systems to DSS. In the light of the opinions obtained from the research participants while explaining the model, it was seen that the existing management information systems have an inactive, passive, and inflexible structure. Making existing management information systems more efficient will be possible if the decision-making process, which is considered the heart of management processes, is based on concrete information. To achieve this, the DSS model in schools has been put forward as consisting of three sub-models titled "Effective User Interface", "Collective Participation Based Monitoring System" and "Statistical Reporting". This model, which has principles that overlap with the principles of the open system approach, has shown that; Although it has subsystems, DSS is a whole. The output of each subsystem is the input of another subsystem, and this model, with the help of statistics, will ensure that data and decisions in schools are based on concrete information and rationale.



**Ethics Committee Approval:** This research followed the protocols set by the Akdeniz University of the Ethics Review Committee (ERC). However, since the research was produced from the thesis of the author T.Y titled "Using the electronic services provided by the Ministry of National Education within the scope of management information systems as a decision support system: A grounded theory study" in 2017 and there was no need for ethics committee approval for doctoral theses in that year, ethics committee approval was not available for this study.

**Informed Consent:** Informed consent was obtained from the participants.

**Peer-review:** Externally peer-reviewed.

**Authors' Contribution:** Research Study Design and Implementation, Data Collection and Analysis, Drafting the manuscript – T.Y.; Critical Review for Intellectual Content and Approval of the Final Version of the Manuscript - All authors.

**Conflict of Interests:** The authors have no conflict of interest to disclose.

**Financial Disclosure:** The authors declared that this study has received no financial support.

## References

- Akbaba-Altun, S. (2000). Okul mudurlerinin bilgi teknolojilerine iliskin gorusleri. *Kuram ve Uygulamada Egitim Yonetimi*, 37, 46-71.
- Alter, S. (1980). *Decision Support Systems: Current Practice and Continuing Challenges*. Massachusetts: Addison-Wesley Publishing Co.
- Anderson, R. G. (1979). *Data Processing and Management Information Systems*. (3rd ed.). Plymouth: Macdonald and Evans Ltd.
- Arslan, V., & Yılmaz, G. (2010). Karar Destek Sistemlerinin Kullanımı İçin Uygun Bir Model Gelistirilmesi. *Havacılık ve Uzay Teknolojileri Dergisi*, 4(4), 75-82.
- Aydin, M. (2010). *Egitim Yonetimi (Genisletilmis 9. Baski)*. Ankara: Hatiboglu Yayınları.
- Burrell, G., & Morgan, G. (1988). *Sociological Paradigms and Organizational Analysis*. New Hampshire: Heineman.
- Bursalioglu, Z. (2002). *Okul Yonetiminde Yeni Yapı ve Davranış (12. Baski)*. Ankara: Pegem A Yayıncılık.
- Bursalioglu, Z. (2010). *Egitim Yonetiminde Teori ve Uygulama (9. Baski)*. Ankara: Pegem Akademi.
- Caliskan Zeybekoglu Z. A. (2011) A grounded theory of school as a social system in an Atypical context. Doktora Tezi, Orta Dogu Teknik Universitesi Sosyal Bilimler Enstitusu, Ankara.
- Cukurcayir, M. A., & Celebi, E. (2009). Bilgi Toplumu ve E-Devletlesme Surecinde Turkiye, *ZKU Sosyal Bilimler Dergisi*, 5(9), 59-82.
- Davis, G. B., & Olson, M. H. (1985). *Management Information Systems*. New York: McGraw Hill.
- Denzin, N.K. (1997). *Interpretive Ethnography: Ethnographic Practices for the 21st Century*. Thousand Oaks, CA: Sage.
- Erdogan, C., Aydin, İ. ve Akın, U., Demirkasimoglu, N. (2014). Turkiye’de E-Okul Yonetim Bilgi Sisteminin İlkogretim Okulu Mudur Yardımcılarının Goruslerine Gore Degerlendirilmesi. *Egitim Bilimleri Arastırmaları Dergisi*, 4(1), 113-132.
- Erturk, H.G., Altıncaynak, S.O., Veziroglu, M., & Erkan, S. (2014). Okul Oncesi Ogretmenlerin Universite Deneyimlerinin Mesleki Yasantılarına Etkisine Iliskin Goruslerinin Belirlenmesi. *Kastamonu Egitim Dergisi*, 22(3), 897-908.
- Glaser, B. (1978). *Theoretical Sensitivity*. San Francisco: University of California.
- Glaser, G. B., & Strauss, L.A. (1967). *The Discovery Of Grounded Theory: Strategies For Qualitative Research*. Chicago: Aldine Publication.
- Gul, S., & Ozden, K. (Ekim, 2011). Kurumsal Ogrenme Baglamında Bilgi Haritalama. *Endustri Muhendisligi Yazılımları ve Uygulamaları Kongresi’nde sunulmustur*. Izmir.
- Gunay, U. (1993). *Din Sosyolojisi Dersleri*. Kayseri: Erciyes Universitesi Yayınları.
- Gunbayi, İ. (2016). Liderlik ve Toplumsal Degisme. N. Guclu ve S. Kosar (Editorler). *Egitim Yonetiminde Liderlik* (s. 245-282). Ankara: Pegem Akademi
- Habermas, J. (1987). *Knowledge and Human Interests* (Cev. Jeremy J. Shapiro). Cambridge: Polity Press (Eserin orijinali 1968 yılında yayınlandı).
- Hancock, B. (1998). *An Introduction to Qualitative Research*. Nottingham, UK: Trent Focus Group, Division of General Practice, University of Nottingham.
- Holt, D. H. (1987). *Management Principles and Practices*. New Jersey: Prentice-Hall
- Hoy, W.K., & Miskel, C.G. (2010). *Egitim Yonetimi* (Cev. S. Turan ve E. Arslanargun). Ankara: Nobel Yayınları.
- Hu, P.J., Ma, P., Chau, P.Y.K. (1999). Evaluation of user interface designs for information retrieval systems: a computer-based experiment. *Decision Support Systems*, 27, 125-143.
- İraz, R., & Zerenler, M. (2008). Turizm İşletmelerinde Yonetim Bilisim Sistemleri Kullanımının Yonetsel Kararlar Uzerindeki Etkisi. *Selcuk Universitesi İ.İ.B.F. Sosyal ve Ekonomik Arastırmalar Dergisi*, 15, 375-391.

- Jung, W., & Yim, H.R. (2015). Examining the Indirect Effect of User Interface on the Usability of Smartphone Applications. *Advanced Science and Technology Letters*, 99, 4-7.
- Kaban, Z.Y. (1994). Genel Sistem Teorisi ve Siberetik, *Marmara İletişim Dergisi*, 8, 219-226.
- Katz, D., & Kahn, R.L. (1966). *The Social Psychology of Organizations*. New York: Wiley.
- Keen, P. G. W. (1980). *Decision Support Systems: A Research Perspective*. Goran Fick and Ralph H. Sprague (Eds.), *Decision Support Systems: Issues and Challenges* (s. 23-44). England: Pergamon Press.
- Kreitner, R. (1983). *Management*. Boston: Houghton Mifflin Company.
- Kurtkan, A. (1968). *Koy Sosyolojisi*. İstanbul: İstanbul Üniversitesi Yayınları.
- Kuruuzum, A. (1998). *Karar Destek Sistemlerinde Çok Amaçlı Yöntemler*. Antalya: Akdeniz Üniversitesi Basımevi.
- Lohse, G.L., & Spiller, P. (1998). Electronic Shopping. *Communications of the ACM*, 41(7), 81-88.
- McCamy, J.L. (1947). An Analysis of the Process of Decision-Making. *Public Administration Review*, 7(1), 40-49.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. Revised and expanded from case study research in education. San Francisco: Jossey-Bass.
- Morton, S. M. S. (1971). *Management Decision Systems: Computer-Based Support for Decision Making*. Massachusetts: Division of Research, Harvard University.
- Niehoff, K.L. (2010). *Teachers' professional learning: The role of knowledge management practices*. Yayımlanmış Doktora Tezi, University of Connecticut, Connecticut, USA.
- O'Brien, J. A. (1993). *Management Information Systems: A Managerial End-User Perspective* (2nd Ed.). Illinois: Irwin Inc.
- Ogut, A. (2012). *Bilgi Çağında Yönetim* (5. Baskı). Ankara: Nobel Yayınları
- Ozan, M.B., Polat, H., Gunduzalp, S., & Yaras, Z. (2015). Eğitim Kurumlarında SWOT Analizi. *Turkish Journal of Educational Studies*, 2(1), 1-28.
- Ozata, M. ve Sevinc, İ. (2010). *Türk Kamu Yönetiminde Enformasyon sistemleri ve E-Donusum*. Konya: Eğitim Kitabevi Yayınları.
- Ozden, Y. (2005). *Eğitimde yeni değerler: Eğitimde donusum* (6. Baskı). Ankara: Pegem A.
- Patton, M.Q., (2014). *Qualitative Research & Evaluation Methods: Integrating Theory and Practice* (4th ed.). London: SAGE Publishing
- Sayin, E., & Sen, T. (1996). *Yönetim enformasyon Sistemi*. Eskisehir: Anadolu Üniversitesi Yayınları.
- Simon, H. (1947). *Administrative Behaviour*. New York: Harper Brothers
- Simon, H. (1960). *New Science of Management Decision*. New York: Macmillan.
- Sonmez, V. (1987). *Sevgi Eğitimi*. Ankara: Safak Matbaası.
- Sprague, R. H. Jr. (1980). A Framework for the Development of Decision Support Systems. *MIS Quarterly*, 4(4), 1-26
- Sprague, R.H. Jr. ve Carlson, E.D. (1986). *Building Effective Decision Support Systems*. New Jersey: Grolier Computer Science Library.
- Strauss, A., & Corbin, J. (1990). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. London: Sage Publications.
- Simsek, S., & Ogut, A. (1998). Planlama Yönetiminin Bölgesel Boyutu: GAP Yönetimi Örneği. *Atatürk Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 12:1-2, 279-300.
- Thomas, D.H. (2000). The Effect of Interface Design on Item Selection in an Online Catalog, *Library Resources & Technical Services*, 45(1), 20-46.
- Uzun, C. (2000). *Stratejik Yönetim ve Halkla İlişkiler*. İzmir: Eylül Yayınları.
- Yıldırım, A., & Simsek, H. (2013). *Sosyal Bilimlerde Nitel Araştırma Yöntemleri* (9. Baskı). Ankara: Seckin Yayıncılık.





**Authors**

*Contact*

Tayfun YORUK works as an assistant professor at Akdeniz University, Faculty of Applied Sciences, Department of Management Information Systems. He works in fields such as educational administration, educational technologies, distance education and human-computer interaction.

Assist. Prof. Dr., Akdeniz University, Faculty of Applied Sciences, Department of Management Information Systems, Campus, Antalya.

E-mail: [tayfun@akdeniz.edu.tr](mailto:tayfun@akdeniz.edu.tr)

İlhan GUNBAYI works as a professor at Akdeniz University, Faculty of Education, Department of Educational Sciences. He works in fields such as educational administration, mixed research methods, qualitative research methods.

Prof. Dr., Akdeniz University, Faculty of Education, Department of Educational Sciences, Campus, Antalya.

E-mail: [igunbayi@akdeniz.edu.tr](mailto:igunbayi@akdeniz.edu.tr)

# Teacher Empowerment Strategies: Reasons for Nonfulfillment and Solution Suggestions\*

Naciye CALISICI CELIK\*\* Bilgen KIRAL\*\*\*

## To cite this article:

Calisici Celik, N., & Kiral, B. (2022). Teacher empowerment strategies: Reasons for nonfulfillment and solution suggestions. *Journal of Qualitative Research in Education*, 29, 179-202, doi: 10.14689/enad.29.7

**Abstract.** This research was carried out to determine the empowerment strategies school principals should implement and the reasons for not being empowering. It was conducted with four elementary school teachers and four school principals in a city in the Aegean Region in the 2017-2018 academic year. In the study, descriptive phenomenology design, one of the qualitative research designs, was used. According to the results, it was revealed that the empowerment strategies to be implemented by school principals were classified under the categories of physical and psychological support, communication, school functioning, and teacher autonomy. The reasons for not making teacher empowerment by school principals were determined as personal, administrative, financial, and limited authority reasons. What the Ministry of National Education should do for teacher empowerment was revealed. They should adopt policies that support personal development and teacher autonomy, increase the authority of school principals, and make changes in the legislation. Following the findings, various suggestions were made on such issues as increasing financial resources that hinder empowerment.

**Key words:** Elementary school, teacher, principal, empowerment, teacher empowerment.

## Article Info

Received:  
20 Dec. 2019  
Revised:  
21 Feb. 2021  
Accepted:  
23 Jan. 2022


## Article Type

Research

©2022 ANI Publishing. All rights reserved.

\* This study was presented at the International X<sup>th</sup> Education Management Forum between November 07-10, 2019.

\*\*  Correspondence Author: Aydin Adnan Menderes University, Turkey, [naciye.celik@adu.edu.tr](mailto:naciye.celik@adu.edu.tr)

\*\*\*  Aydin Adnan Menderes University, Turkey, [bilgen.kiral@adu.edu.tr](mailto:bilgen.kiral@adu.edu.tr)



## Introduction

Teachers are the most important keystones of schools, having an important influence on the healthy functioning of the education systems, the realisation of educational activities and the development of organisational goals. Since today's youngers are tomorrow's elders, teachers have the most significant role in shaping the future. Indeed, it would not be wrong to describe teachers metaphorically as the architects of the future. Since teachers are the architects of society, increasing the qualifications of teachers are among the most important responsibilities of states.

Teachers should be encouraged, empowered, and supported in various ways to increase their qualifications and unlock their potential (Richards, 2005). In addition to increasing the qualifications of teachers should also be supported in various ways (Podolsky et al., 2019). Among these are such supports as improving teachers' social and personal rights, meeting the needs of the physical setting, professional and personal development, educational materials, valuing their ideas, and ensuring their participation in the decision-making processes (Short, 1992). These refer to the empowerment of teachers by the state or school principals.

The concept of empowerment is derived from the word "power". According to the Turkish Language Association (2021), power influences people physically, mentally, and morally or resisting this influence. In another definition, power is defined as the ability of a person to make others behave as they desire (Kocel, 2014). Empowerment is utilising the power emerging with common synergy consciously, purposefully, and in a controlled manner (Thomas & Velthouse, 1990). Empowerment is when employees are motivated by their increasing knowledge and expertise to use initiative in their duties (White, 1992). They feel they can control the problems (Foster, 1990) to perform tasks for the organisation. Increasing the authority of the staff in their work, having more decision rights and autonomy at work (Altug, 1997), and providing a free work environment where the employees can decide what to do and how, instead of emphasising what the manager should tell them to do is also called empowerment (Elma & Demir, 2012). Empowerment also contributes to the professional development of employees. Considering cognitive, motivational, and all other variables, empowerment can be expressed as a tool to increase the self-confidence of employees (Rehm, 1989).

The most emphasised concepts in the definitions of empowerment mentioned above are encouragement, self-sufficiency, and a free working environment (Kimwary et al., 2014). Empowered employees are influenced by their leaders, who follow their leaders' behaviours and internalise their duties (Ganiban et al., 2019). Empowering teachers in education systems is the task of school principals (Vrhovnik et al., 2018). The principals aware of this fact acknowledge that empowering an individual affects the whole organisation, opening various development paths for other individuals. In addition to its positive reflection on the relations, this situation ensures the improvement of the organisation (Harpell & Andrews, 2010) because empowered individuals share their knowledge, skills, opportunities, and visions with others (Alosaimi, 2016; Ledesma & Joyas, 2015; Longwell-McKean, 2012). For this reason, it should be noted that the

situation is not to be viewed only from the perspective of an empowered individual (Kiral, 2019). Principals' awareness of this empowers organisational development (Paynevandy, 2016) and use various empowerment strategies individually or synchronously (Kimwarey et al., 2014).

Today, principals look for and use different empowerment methods and strategies to succeed (Akcakaya, 2004) because the individuals working there must be empowered. The principals know empowerment for an organisation to achieve its goals (Celik & Konan, 2020). Empowerment strategies and tactics are required to create a positive organisational identity, which is important for prompting employees (Conger & Kanungo, 1988). For this reason, principals should be able to use various empowerment strategies to increase the potential of their employees, motivate them in various ways and prompt them for work (B. Kiral, 2015). Therefore, principals should be empowering leaders (E. Kiral, 2020; Konan & Celik, 2017) and use empowerment strategically. It can be said that using empowerment strategically is beneficial not only for the education system but also for the school, teachers, and students.

## **Teachers Empowerment Strategies of School Principals**

When examining the literature, it is found that school leaders use empowerment strategies such as rewarding, supporting teachers, communication, trust, developing a shared administration structure, and creating a decision-making environment (Avidov-Ungar & Arviv-Elyashiv, 2018; Celik & Konan, 2020; Cetin & Kiral, 2018; Ganiban et al., 2019; B. Kiral, 2015; Konan & Celik, 2017, etc.). The empowerment strategies implemented by school principals are described below.

**Rewarding.** One of the empowerment strategies is to empower through rewarding (Cheong et al., 2019). Rewards are divided into two; internal and external rewards. Internal rewards contribute psychologically to establishing a sense of achievement in the individuals. Praising and appreciating the employee and ensuring that the employee is recognised within and outside the organisation are internal rewards. External rewards are the economic or physical rewards presented by the administration. Promotion, pay rise, and extra pay is external rewards (Rhoades et al., 2001). It is revealed that rewarding in various ways increases employees' motivation, desire, and success (Maslow, 1943). Since rewarding increases the motivation of employees, principals hope to get the efficiency they wish from the employees by giving them economic, physical, or psychological rewards (McGregor, 1966). In this way, principals will be able to direct the behaviours of individuals and positively influence their social habits and attitudes (Ozkalp & Kirel, 2016). In their study, Blase and Kirby (2000) have also mentioned the strategies used by principals to affect teachers positively. According to them, the most effective strategy is to use various rewarding methods. For example, teachers value the attention of other teachers. The principals aware of this situation should reward the teacher who has proven their achievement to increase teacher performance. As a result, principals receive attention and warmth from teachers, and in a sense, benefit from this rewarding situation that allows them to be appreciated (Acaray, 2010). With rewarding,

the teachers' efforts in classroom management are increased, contributing to the positive change of the school climate and culture (Rangel et al., 2020) and helping the school achieve its goals (Yunus et al., 2021).

**Support teachers.** When the literature is examined, it can be seen that principals support employees in three ways. These are *emotional support* (i.e. caring and accepting the employee, showing affection, helping the employee to overcome difficulties at work etc.); *informational support* (i.e. giving feedback to employees about their performance, guiding and mentoring them etc.); and *financial support* (i.e. providing tools and materials to employees and supporting them financially) (Bhanthumnavin, 2001, cited in Kalagan, 2009). School principals provide support by enabling the personal development of teachers, promoting their professional development, providing materials, and helping to solve problems (Ahrari et al., 2021). Teacher empowerment is about creating opportunities (Yunus et al., 2021). Components of supporting teachers include providing them with opportunities for professional development, helping them solve school-related problems, implementing an open-door policy by principals, being available by phone, and ensuring that teachers feel that principals are there for them at all times (B. Kiral, 2015). It is always motivating for teachers to listen to them and try to solve the problem, respect their ideas in any case and make them feel trusted are motivating factors for teachers when they experience a problem with the students or parents (Blase & Blase, 1996). Teachers should be encouraged to perform all the school-based tasks on innovating, revealing their creativity, and taking risks for success (White, 1992). It is also important for school principals to support teachers' professional development activities (Rangel et al., 2020). As long as they act in this way, teachers' internalisation of their profession will increase, and thus, their job satisfaction (Romanish, 1993) and organisational commitments (B. Kiral, 2020) will increase. The more teachers improve themselves in their profession, the more beneficial they will be for their students, and the easier it will be for their students to reach the knowledge and skills they need to acquire. This situation will also enable the school principals to achieve the school's goals in a much shorter period.

**Communicating effectively with teachers.** Communication makes the school organisation dynamic by ensuring the establishment and continuity of the relationships between the stakeholders inside and outside the school. The administrative communication enables the principal to influence the teachers by communicating with them effectively, making teachers respond to the principal by acting under the school's goals (Kaya, 2007). Principals should set the necessary environment for teachers to be organised to express themselves at any time and should pay attention to the positive organisational climate (Rangel et al., 2020; Yunus et al., 2021). They should guide teachers in the methods and techniques of creating effective classrooms, being aware that effective schools can be achieved through effective classrooms (Balci, 2014). To present effective administration and quality education, principals should ensure that all school staff are happy to work and act together using communication channels (Kraft & Dougherty, 2013; Lacks, 2016).

**Providing trust.** Another strategy of teacher empowerment is to establish a mutual trust relationship between the principals and teachers within the school (Kimwarey et al., 2014). Embedding trust within the school environment is related to various people. Creating a sense of trust in a school is time-consuming (Acaray, 2010). To ensure this trust, school principals should be helpful (Akbasli & Dis, 2019), be sensitive to the problems faced by teachers in their professional or private life, and be interested in them sincerely (Blase & Blase, 1996). Principals are optimistic about emphasising the positive side of the events (Keser & Kocabas, 2014); honesty and truthfulness show that principals are sincere with teachers and open to all debates (Blase & Blase, 1996). If the principals possess these characteristics, they will create an atmosphere of trust. The fact that the principals give responsibility and authority to their employees leaves them alone with their job and explains that the principal trusts them (Kimwarey et al., 2014). It is important for the administration to trust the employees and for the employees to trust the administration. In such an environment, employees' morale and motivation will be higher (Foster, 1990). The more efficient employees will make an effort to come up with and develop new ideas. The employee with high self-confidence believes in the success and development, behaves and works eagerly to contribute to the organisation (Barutcugil, 2004).

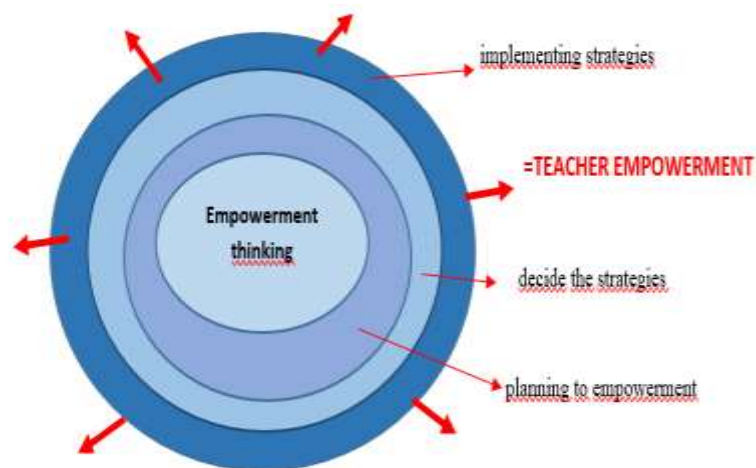
**Developing a shared administration structure and decision-making environment.** Another empowerment factor that principals should consider is taking joint decisions and sharing the results by participating in the decision (Conway & Calzi, 1995). Even though it seems simple, enabling participation in the decision-making process can be difficult for principals (Hallinger & Richardson, 1988). The principal informing teachers about the state of affairs in the school may motivate teachers internally (Kang et al., 2021), or forming problem-solving teams within the school and involving teachers in the decision-making process may be another route to empowerment (Short & Greer, 1997, cited in Acaray, 2010). Participation in decisions accelerates the need for individual autonomy of teachers working in an organisation and enables the administration to take more effective decisions (Spreitzer, 1996) and solve the organisation's problems more realistically.

For this reason, school principals need to realise and implement participation in the decision practice, which is a contemporary incentive tool (Duman, 2014). Participating in shared administration decisions may be related to such issues as organising programs, having a voice in educational activities, student discipline, and school budget (White, 1992). Besides, ensuring the active participation of teachers in the decision-making process during meetings, activating formal or informal structures when necessary, encouraging their participation in the teaching-learning process are among the behaviours enabling teachers' empowerment (Blase & Blase, 1996). The employees' participation in decisions within organisations is very important for the proper functioning of administration (E. Kiral, 2015). Various expectations are underlying the participation of employees in the decision-making processes. While aiming to make a healthier decision by benefiting from the expertise and skills of those involved in the decision, one also aims to gain the respect of, influence and encourage individuals by showing confidence in their abilities and skills (Aydin, 2017). The principal who considers

empowerment should act in a planned, programmed, and goal-oriented manner. For this, they must plan what to do at first, decide which strategies to use and implement them (B. Kiral, 2015). The phases principals follow before empowerment, in other words, the empowerment process, are given below in Figure 1.

**Figure 1.**

*Empowerment Process*



As seen in Figure 1, the thought of empowerment should be shaped in principals' minds before they make empowerment. If the figure given above is considered the "mind of the principal", empowerment for principals first begins as a thought. This thinking then requires principals to do the planning. They have to answer such questions as "how, where, when and which" "Which teacher will be empowered and how? When and where will the empowerment be made? How long will the empowerment continue? Which strategies will be implemented?" After carefully planning and thinking about such questions, principals should choose the appropriate strategies because the valid strategy for one teacher may not be appropriate for another. Once the strategies are selected, they should be implemented intentionally and consciously. As shown in the figure, the thick red arrows represent the intentional and predetermined strategies that principals implement in their environment for empowerment. After the empowerment strategies are implemented intentionally and willingly, the strategy should be renewed when necessary; empowerment activities should not be performed only once; they should be continuous.

As stated above, leader school principals intentionally and consciously implement several empowerment strategies to empower teachers (Kiral, 2019). First and foremost, it is about creating a positive communication environment by motivating teachers and supporting them in school, rather than involving them in the processes of management, school functioning, decision-making, and restricting them (Fidan Toprakci, 2019). Principals are aware that empowered teachers provide higher quality services to their students in line with the school's goals because they are more efficient in educational and instructional activities, have higher job satisfaction and self-confidence, and are aware of their potentials and strengths (Romanish, 1993; Sprague, 1992). Thanks to the empowerment strategies implemented by school principals, benefits such as being jointly

responsible for what is carried out within the school, providing the ability to see and solve the problems in administration, developing a unique and free perspective (Yenilmez & Yolcu, 2007) can be provided. Therefore, it can be said that it is important to determine the views and suggestions of principals and teachers to determine the empowerment strategies implemented by school principals to teachers and make teacher empowerment activities more effectively.

In reviewing the studies, it was found that there are numerous quantitative studies on teacher empowerment (Avidov-Ungar & Arviv-Elyashiv, 2018; Celik & Konan, 2020; Ganiban et al., 2019; B. Kiral, 2015; B. Kiral, 2020; Melenyzer, 1990, Short, 1992; Wilcoxon et al., 2019). There are also literature review studies (Akcakaya, 2004; Conger & Kanungo, 1988; Foster, 1990; Kiral, 2019; Thomas & Velthouse, 1990); however, there have been few qualitative studies on teacher empowerment (Cetin & Kiral, 2018; Yin, 2018). For this reason, it is thought that this study will provide a profound perspective to the literature in the light of its qualitative findings and will guide school principals.

Some studies on empowerment, e.g. Avidov-Ungar and Arviv-Elyashiv (2018)'s study on the relationship between teachers' professional roles, empowerment, and career development; Celik and Konan (2020)'s study on the relationship between principals' empowering leadership, teachers' self-efficacy, and organisational citizenship behaviours; Ganiban et al. (2019)' study on the antecedents of teachers' empowerment; B. Kiral (2015)'s description of the relationship between teachers' empowerment by school administrators and their cynicism; Melenyzer (1990)'s description of the events that explain teachers' empowerment success; Wilcoxon et al. (2019)'s study on empowerment of novice teachers through wellbeing support; Cetin & Kiral (2018)'s identification of teachers' and administrators' level of knowledge about teachers' empowerment; Yin (2018)'s study on teachers' empowerment as thoughts.

In the literature, there is a study conducted for Hong Kong schools by Wan (2005), which includes empowerment strategies in the compilation type, and a compilation study by Reep and Grier (1992). None of these studies investigated teacher empowerment strategies and why principals could not empower through qualitative research. For this reason, it is thought that this study will give a deep perspective to the literature in the light of qualitative findings and will guide school principals. In addition, it is believed that determining the empowerment experiences of teachers and principals in detail and revealing the experiences on this subject will set an example for practitioners.

Teacher empowerment strategies are sometimes implemented and sometimes cannot be implemented due to legal obstacles or other reasons. This study was conducted to reveal the empowerment strategies implemented by school principals according to the views of school principals and teachers and the reasons for nonfulfillment. Following this general aim, the answers to the questions below were sought. According to the experiences of teachers and principals/assistants;

- What are the empowerment strategies that school principals implement and should implement?



- What are the reasons for school principals not implementing empowerment strategies?
- What are the suggestions regarding what the Ministry of National Education should do for school principals to empower teachers?

## Method

### Research Design

This research was carried out in the phenomenology design, one of the qualitative research designs, using the interview technique. The phenomenon investigated was “*teacher empowerment strategies implemented by school principals*” In phenomenological research, data sources are the individuals or groups who have experienced the phenomenon that the research has focused on and who can explain and reflect this phenomenon (Ersoy, 2016). Phenomenology design is not solely a description. It aims to reveal people’s experiences, attitudes, perceptions of a phenomenon, the meaning of this phenomenon in the individual itself, and the structure and essence of the researched phenomenon (Creswell, 2007; Merriam, 2009). This research is “*descriptive phenomenology*” and aims to question and describe the participants’ experiences about the phenomenon (Kiral, 2021). Human behaviours aim to describe experiences independent of the individual’s social environment (Ersoy, 2016). In this study, the aim is to describe the experiences of individuals. Even before the study, principals and teachers said that they experienced and knew the empowerment of teachers because principals and teachers have previous training on this subject. The first researcher gave informative training and meeting on teacher empowerment beforehand. Before the research, the principals and teachers stated that they experienced and knew teacher empowerment because principals and teachers had already received training on this subject. Indeed, the schools selected had already been chosen accordingly. For this reason, the concept was known and experienced in advance. Since it was assumed to be used by school principals/assistants, the study was conducted in a phenomenological design.

### Participants

The research was conducted with four teachers and four school principals/assistants working in two different elementary schools in a city in the Aegean Region in the 2017-2018 academic year. The schools were selected using deviant case sampling, which is of the purposeful sampling methods. The deviant situation is that one of the two schools determined through the District Directorate of National Education is located in an advantaged region in terms of socio-economical aspect. In contrast, the other school is in a disadvantaged region. In addition, to determine whether the schools are advantageous and disadvantageous in socio-economic terms, the researchers examined the prices of rental houses in the two regions. They decided on the schools according to

this criterion because the rental prices of the houses are one of the important elements that give information about the socio-economic level of a region.

According to Yildirim and Simsek (2005), deviant situations provide richer data than normal situations, enabling an in-depth and multi-dimensional understanding of the research subject. While selecting the participants in the schools, the criterion sampling method, which is one of the purposeful sampling methods, was used. The criterion in this research was that the school principals' and teachers' seniority was over 15 years. This aimed to interview the participants with higher seniority and benefit from their experiences. It was also noted that the participants had worked at the same school for at least 10 years or more. It was assumed that they knew each other better because they had worked together at the same school for at least 10 years.

The participants' identities were kept secret in the study, and code names were used. One of the teacher participants was a male, whereas the other three were female elementary school teachers. Kaan, Esra, Aysel, and Sevgi were given to the teacher participants as code names. It has been observed that the average seniority of the teachers is 22 years, and the average working years at the school they are currently in is 13 years. Two of the participants were school principals, and the other two were principal assistants. Code names were given to school principals/assistants, such as Ahmet, Onder, Yilmaz, and Cemre. Three of them were male, and one was female. It has been observed that the average seniority of school principals is 24 years, and the average working years at the current school is 12 years. Within the scope of the research, it was attempted to get the views of the participants who had previous knowledge and experience of the concept because it was considered that the individuals who would give the best information about this concept were those who knew and experienced it.

## Data Collection Tool and Process

As the study's data collection tool, *"A semi-structured interview form on teacher empowerment strategies"* was used for school principals/assistants and teachers. The literature was reviewed, and the studies on the subject were searched to prepare the interview form. A draft interview form was prepared and presented to two faculty members for expert opinion based on the data obtained. The faculty members examined the interview form in terms of content validity, and a semi-structured interview form consisting of four questions to determine teacher empowerment strategies were created. After making the necessary refinements, a pilot application was made with the form created, and the interview form was finalised by the recommendations and applied to the participants. In the research, these questions were asked to the teachers *"What are the teacher empowerment strategies in your experiences?"*, *"What strategies do you think school principals should implement so that the teachers are empowered?"*, *"Does your school principal implement the teacher empowerment strategies you have mentioned?"*, *"If yes, which one do they implement?"* or *"If not, what do you think about the reasons?"*. In addition to the above two questions, principals/assistants were also asked, *"Which of the empowerment strategies you mentioned do you implement?"* and *"What are the*



*reasons you cannot reinforce?”*. Since the two questions of school principals and teachers were different, two separate forms were used.

## **Data Collection and Analysis**

The data collection process was carried out after obtaining the official research permission from the Provincial Directorate of National Education. The researchers recorded the interviews performed at different periods when the teachers and school principals were available. The data was recorded via a voice recorder by obtaining permission from the interviewees. The teachers and school principals who participated in the study were informed about the research. Besides, for the participants to express themselves explicitly, it was stated that their identities would not be used in the study. Thus, each participant was given a different code name. The audio recordings were first listened to by the participants, and their approval was obtained. Then the interviews were finished by expressing that they would be transcribed and given to them again as a written text. The interviews lasted around 40 minutes on average. Following this, the audio recordings were listened to and written on a computer. Then, the edited data was presented to the participants, and it was confirmed whether they had any comments they wanted to add or remove.

The participants' written views were analysed using the content analysis method in data analysis. In qualitative data analysis, the researchers' comments and the emerging categories must be related in a meaningful manner. In this regard, it is extremely significant to analyse the data through content analysis and reveal the facts that may be hidden within the data (Yildirim & Simsek, 2005). The concepts and themes that the descriptive approach cannot recognise can be discovered through content analysis. The main process in content analysis is gathering similar data within the framework of certain concepts and themes, organising and interpreting them so that the reader can understand (Merriam, 2009, Yildirim & Simsek, 2005). In this study, the researchers determined primarily important statements for content analysis. Then, similar and common expressions were grouped, descriptions were created, and categories and subcategories were formed by combining the necessary ones. Later, the abbreviated expressions were written under the category and subcategories (Moustakas, 1994; cited in Ersoy, 2016).

## **Credibility**

For the research's credibility, the participants' responses were verified during the interview, and after transcribing them, direct quotations and exact statements were included in the research (Creswell, 2007; Merriam, 2009). Expert opinions were obtained in creating the form, and pilot applications were made to ensure the face and content validity of the interview forms. The pilot applications were not included in the study; they were only performed to test whether the questions were easy to understand or not. Before starting the content analysis, the categories and subcategories in the findings section were created by the researchers, an expert Turkish language, and an

academic in educational administration. Then, one person coded the data, and the results were compared. The coding was presented to an expert and an academic staff in educational sciences, and control coding was made. Then, the research reliability was calculated using the Miles and Huberman (1994) formula. The reliability of this research was determined as 98%.

## **The Role of the Researchers**

The researchers directed their research questions to the participants away from their personal opinions and prejudices throughout the research process. They managed the process objectively at each phase of the interviews, data analysis, revealing, and interpreting the findings. Before starting the interviews in the research, written permission was obtained from the relevant Provincial Directorate of National Education, and then the interviews were conducted. The researchers followed the scientific and professional ethical rules during the research process. They avoided the expressions and directions that would reveal the identities and school names of the teachers and principals participating in the study. While direct quotations were given during the reporting process, the researchers did not include the expressions that would reveal the participants in the study. In the direct quotations made, the participants' views were given as they were, without making any changes or corrections. Each school principal and teacher participating in the study was given a code name more comfortably and sincerely.

## **Findings**

This section presents the findings that emerged from the data analysis from the perspective of classroom teachers and principals concerning the empowerment strategies implemented by principals and the interpretations of these findings.

### **Empowerment Strategies**

Regarding revealing the empowerment strategies, the participants were asked, "What are the teacher empowerment strategies in your opinion? What strategies do you think school principals should implement so that the teachers are empowered?". The findings obtained from the content analysis performed to examine the general views of school principal/assistant and teachers regarding teacher empowerment are given below in Table 1.

As seen in Table 1, four categories were revealed regarding empowerment. These categories were; support, communication, school functioning, and teacher autonomy. The support category was divided into two subcategories: physical and psychological support. The participants emphasised their views of motivating and rewarding more explicitly under the subcategory of psychological support. Among the views expressed under the subcategory of physical support, meeting physical needs and enhancing the physical environment came to the forefront. Under the category of communication,

ensuring teachers' integration and participation in the decision-making was expressed more. Under teacher autonomy, the freedom of using reference books was mentioned.

**Table 1.**

*Empowerment Strategies to be Implemented by School Principals*

| Categories         | Sub Category                                | Codes   | Teachers |      |       |       | Principals/Assist. |       |        |       |
|--------------------|---|---|----------|------|-------|-------|--------------------|-------|--------|-------|
|                    |   |   | Kaan     | Esra | Aysel | Sevgi | Ahmet              | Onder | Yilmaz | Cemre |
| Support            | Psychological                               | Motivating                                    | ✓        |      | ✓     | ✓     | ✓                  | ✓     |        | ✓     |
|                    |   | Rewarding                                     |          | ✓    |       |       |                    | ✓     | ✓      | ✓     |
|                    |   | Being with the teacher                        |          | ✓    |       | ✓     |                    |       | ✓      |       |
|                    |   | Ensuring personal development                 |          |      | ✓     |       |                    |       |        |       |
|                    |   | Improving status                              | ✓        |      |       |       |                    |       |        |       |
|                    |   | Encouraging for professional development      |          | ✓    |       |       |                    | ✓     |        |       |
|                    |   | Making feel valuable                          | ✓        | ✓    |       |       |                    |       |        | ✓     |
|                    |   | Providing career ladder                       |          |      |       | ✓     |                    |       |        |       |
|                    | Physical                                    | Physical needs (provide material supply etc.) | ✓        | ✓    | ✓     |       | ✓                  | ✓     |        | ✓     |
|                    |   | Improving the physical environment            |          |      | ✓     |       |                    |       |        |       |
| Communication      | Ensuring that teachers are integrated       |   |          |      | ✓     |       |                    |       | ✓      |       |
|                    | Communicating in all matters                | ✓   |          |      |       |       |                    |       |        |       |
|                    | Organising an out-of-school activity        |   |          |      |       |       |                    | ✓     |        |       |
| School Functioning | Participation in the decision               |   | ✓        |      |       |       |                    | ✓     | ✓      |       |
|                    | Developing common ideas for problem-solving |   |          |      |       |       |                    |       | ✓      |       |
|                    | Fair distribution of tasks                  |   |          | ✓    |       |       |                    |       |        |       |
|                    | Creating a democratic environment           |   |          |      |       |       |                    |       | ✓      |       |
| Teacher Autonomy   | Freedom to use resource books               | ✓   |          | ✓    |       |       | ✓                  |       |        |       |
|                    | Training program flexibility                |   | ✓        |      |       |       |                    |       |        |       |
|                    | In-class freedom                            | ✓   |          |      |       |       |                    |       |        |       |

The views of the participants regarding empowerment strategies are given below:

If you want to empower the teacher, there should be fair work distribution within the school. Class sizes must be equal. The employees who are hardworking and who are not must be distinguished from each other. The effort you spend should draw attention. At least, you should be appreciated so that you don't get discouraged. Nepotism must end. You shouldn't hurt the teacher by using daily politics. Our opinions should be asked when decisions affecting us are being made (Aysel).

The teacher should be supported and backed up to empower the teacher. In the problems arising, the teacher should not be scapegoated when a parent or a student complains. The teacher should be valued, and the teacher should feel this. The principals should not interfere with the classroom. Educational administrators should trust the teacher. Also, teachers should trust their principals.

Having tolerance and sincerely listening to our troubles will make us feel valuable in a peaceful school environment (Esra).

The directive about rewarding should be revised to empower teachers. Activities in terms of communicating effectively within the school, ensuring teachers integration inside and outside the school, and organising inclusion activities may empower teachers (Yilmaz).

Teachers are very valuable to us. Common ideas should be paid attention to in identifying and solving the problems. Indeed, making the teachers feel valued, motivating them, creating a democratic environment, ensuring the teachers' participation in the decision-making, and being in contact with them on every issue is our main duty as principals (Cemre).

## Empowerment Strategies Implemented

In terms of revealing the empowerment strategies implemented by school principals, the teachers were asked, "Does your school principal implement the teacher empowerment strategies you have mentioned? If so, which ones do they implement? If not, what do you think about the reasons?". The school principals were asked, "Which of the empowerment strategies you have mentioned do you implement? What are the reasons for not being able to make reinforcement?". All of the participants stated that they were sometimes making empowerment, but sometimes not. The empowerment strategies implemented by the school principals are given below in Table 2.

Table 2 revealed that principals/assistants and teachers expressed their opinions regarding support. The teachers stated that their principals exhibited psychological support; on the other hand, the principals stated that they empowered their teachers in terms of *physical, personal development, and psychological support* aspects. The teachers did not indicate the physical and personal development supports their principals or the principals provided or did not regard these aspects as support. The views of participants regarding the empowerment strategies implemented are given below.

Sometimes he reinforces us; sometimes, he can't. Our principal is always confused about whose side he will be on regarding the problems faced. In the end, you see that he is on everyone's side. He behaves politically. There are times he has a tolerance. He listens to our problems sincerely (Sevgi).

I make an effort to organise seminars and courses on the subject teachers feel deficient (educational technology use, cooperation, teaching methods, techniques, etc.) to empower teachers. I do my best to provide the working environment they wish. I try to supply the tools and equipment as much as I can according to our budget. I get suggestions from teachers about which subjects they would like to have training on (Onder).

Most teachers can talk to me about their requests. At first, some were hesitant to talk, but as time passed and as they got to know me and our communication got stronger, they began to behave more comfortably. I am trying to improve the working conditions. I try to be friendly and sincere as much as I can. I am trying to organise seminars and courses. I celebrate the teachers' birthdays. I pay great attention to being with them on special days and sad days (Cemre).

**Table 2.**

*Empowerment Strategies Implemented by Principals*

| Category                     | Codes                                      | Teachers |      |       |       | Principals/Assist. |       |        |       |
|------------------------------|--|----------|------|-------|-------|--------------------|-------|--------|-------|
|                              |  | Kaan     | Esra | Aysel | Sevgi | Ahmet              | Onder | Yilmaz | Cemre |
| Psychological support        | Listening problems                         |          |      |       | ✓     |                    |       |        |       |
|                              | Telling thanks                             | ✓        | ✓    |       |       |                    |       |        |       |
|                              | Tolerance                                  |          |      |       | ✓     |                    |       |        |       |
|                              | Smiling face                               |          |      |       |       |                    |       |        | ✓     |
|                              | Supporting on special days                 |          |      |       |       |                    |       |        | ✓     |
| Physical support             | Workplace environment improvement          |          |      |       |       | ✓                  | ✓     |        | ✓     |
|                              | Providing material                         |          |      |       |       |                    | ✓     |        |       |
| Personal development support | Preparing professional development courses |          |      |       |       |                    | ✓     | ✓      | ✓     |
|                              | Getting ideas to teachers                  |          |      |       |       |                    | ✓     |        |       |

### The Reasons for the Nonfulfillment of Empowerment

The findings obtained as a result of the content analysis regarding why the school principals were not able to make teacher empowerment according to the participants' views are given below in Table 3.

**Table 3.**

*The Reasons for the Nonfulfillment of Empowerment by the Principals*

| Category             | Sub Category                             | Codes                       | Teachers |      |       |       | Principals/Assist. |       |        |       |
|----------------------|--|-----------------------------|----------|------|-------|-------|--------------------|-------|--------|-------|
|                      |  |                             | Kaan     | Esra | Aysel | Sevgi | Ahmet              | Onder | Yilmaz | Cemre |
| Individual           | Personal Inadequacy                      | Not behaving fairly         |          |      | ✓     |       |                    |       |        |       |
|                      |  | Lack of communication       | ✓        |      |       | ✓     |                    |       |        |       |
|                      |  | Instability                 | ✓        |      |       |       |                    |       |        |       |
|                      |  | Inability to speak teacher  | ✓        |      |       |       |                    |       |        |       |
|                      |  | Not being smiling           |          |      | ✓     |       |                    |       |        |       |
|                      |  | Inability to influence      |          |      | ✓     |       |                    |       |        |       |
|                      | Administrative Inadequacy                | Inability to leadership     | ✓        |      |       |       |                    |       |        |       |
|                      |  | Not participate in decision | ✓        | ✓    |       |       |                    |       |        |       |
|                      |  | Professional incompetence   | ✓        | ✓    |       |       |                    |       |        |       |
|                      |  | Negative school climate     | ✓        |      |       |       |                    |       |        |       |
| Lack of control      |  | ✓                           |          |      |       |       |                    |       |        |       |
| Lack of expert power |  |                             |          | ✓    |       |       |                    |       |        |       |
|                      | Failure to implement an open-door policy |                             |          | ✓    |       |       |                    |       |        |       |
|                      | Lack of planning                         |                             |          | ✓    |       |       |                    |       |        |       |

|                |                      |   |  |   |   |   |
|----------------|----------------------|---|--|---|---|---|
| Organisational | Financial Inadequacy | Delay in the supply of equipment                          |  | ✓ | ✓ |   |
|                |                      | Physical environment arrangement                          |  | ✓ | ✓ |   |
|                |                      | The difficulty of taking needs                            |  |   | ✓ |   |
|                | Limited Authority    | Not have the authority to give awards                     |  | ✓ | ✓ | ✓ |
|                |                      | Not have the authority to give permission                 |  | ✓ |   |   |
|                |                      | Prohibition of using additional resources                 |  | ✓ |   | ✓ |
|                |                      | The inability of the principal to choose their assistants |  |   |   | ✓ |
|                |                      | Insufficient training quota                               |  |   |   | ✓ |

When Table 3 is examined regarding teachers' views that the school principals could not make empowerment, it was noticed that there were two subcategories under individual reasons. These were the subcategories of; the reasons stemming from personal inadequacy and administrative inadequacy. Among the views in the subcategory of reasons due to personal inadequacies, the most frequently repeated teacher view was unfair behaviour and lack of communication, followed by indecision, not being able to influence teachers, not being sympathetic, inability to influence, and inability to lead. Under the subcategory of the reasons stemming from administrative inadequacy, not being involved in decision-making and professional inadequacy were among the most frequently repeated views, followed by negative school climate, lack of supervision, lack of expert power, not implementing an open-door policy, and lack of planning.

Regarding the views of the school principals/assistants regarding the fact that they could not make empowerment, it was noticed that there were two subcategories under the category of organisational reasons. These were the subcategories of; the reasons stemming from financial inadequacy and the reasons stemming from limited authority. Among the views in the subcategory of reasons arising from financial inadequacy, principals' most frequently repeated view was the delay in providing tools and equipment, followed by the design of the physical environment and difficulty in meeting needs. Among the views in the subcategory of reasons arising from a limited authority were the views that the principal did not have the authority to issue a reward certificate, that the principal did not have the authority to give permission to the teacher, and professional incompetence, followed by the fact that the use of additional financial resources was prohibited, that they select their vice principals, and that the quota for in-service training was limited. The views of the participants regarding the reasons why the school principals could not make empowerment are given below:

He listens to our problems sincerely, but he does not find any solutions. When unsolvable problems grow like a mountain, the school begins to go backwards. The school principal must improve his communication skills and determine the causes of the problems very well. I think that he cannot make empowerment since he doesn't know these issues (Sevgi).

He doesn't make empowerment. As for the reason, he cannot speak to the teachers. When we talk to him about this, he explains that he acts like that so that the teachers aren't bored and feel free (Kaan).

It depends on the situation. To empower the teacher, administrators need financial resources first. Unfortunately, it is very difficult to meet the needs of the school and teachers by organising charity sales and collecting donations. It is necessary to reward hardworking teachers. We write officials



10 papers for them to give a certificate of appreciation. Then, the teachers gossip about what they did and get a certificate of appreciation. Some have resentment. Although there are hardworking teachers, there are also those who teach just to spend the day. If you want to empower the teacher, it is necessary to remove “those who just teach” from the system first (Onder).

I cannot fully implement the strategies of empowerment. The teacher wants a printer, but we cannot buy it. We hardly pay the salary of the school attendant and the security staff. Those who appear on TV and say that schools are forbidden to ask for money follow the policies of pushing public schools aside and giving incentives to private schools. In this case, it is wrong to think that we, those who have difficulties providing the tools and equipment that the teachers demand, will act in line with empowering the teachers. We must first solve our basic problems. We can only use intrinsic motivations to empower our teachers, and we can only appreciate them. But how much this situation positively affects them is a matter of question (Yilmaz).

### Things to Be Done by the Ministry of National Education

In terms of what the Ministry of National Education (MoNE) should legally do for teacher empowerment, the teachers and school principals were asked, “What kind of changes do you think the Ministry of National Education should make legally for teacher empowerment? What are your suggestions?”. According to the participants’ views, what the Ministry of National Education should do for the school principals to empower teachers are given below in Table 4.

**Table 4.**  
Suggestions to MoNE

| Categories           | Codes  | Teachers |      |       |       | Principals/Assist. |       |        |       |
|----------------------|--|----------|------|-------|-------|--------------------|-------|--------|-------|
|                      |  | Kaan     | Esra | Aysel | Sevgi | Ahmet              | Onder | Yilmaz | Cemre |
| Personal Development | Salary increase  |          | ✓    | ✓     |       |                    |       |        |       |
|                      | Career leader arrangement                                  | ✓        |      |       |       |                    |       |        |       |
|                      | Increasing the variety of rewards                          |          | ✓    | ✓     |       |                    |       |        |       |
|                      | Additional budget for professional training                |          |      | ✓     |       |                    |       |        |       |
|                      | Travel observation activities                              |          |      |       | ✓     |                    |       |        |       |
| Teacher autonomy     | Allowing the use of sourcebooks                            |          | ✓    | ✓     | ✓     |                    |       |        |       |
|                      | Curriculum flexibility                                     |          |      |       | ✓     |                    |       |        |       |
| Administrative       | Providing administrative training to principals            |          | ✓    | ✓     |       |                    |       |        |       |
|                      | Obligatory teacher opinions in decisions                   |          | ✓    |       |       |                    |       |        |       |
|                      | Providing empowerment training to principals               |          |      | ✓     |       |                    |       |        |       |
|                      | Merit in principal choosing                                |          | ✓    |       |       |                    |       |        |       |
| Increased authority  | Allowing the principal to give permission to the teacher   |          |      |       |       | ✓                  |       | ✓      | ✓     |
|                      | Authority to give a certificate of thanks and appreciation |          |      |       |       |                    |       | ✓      | ✓     |
|                      | Election of the school administration by the principal     |          |      |       |       |                    | ✓     |        |       |
| Law and regulation   | Increasing financial resources                             |          |      |       |       | ✓                  | ✓     | ✓      |       |
|                      | Increase in in-service training quotas                     |          |      |       |       | ✓                  |       | ✓      |       |

|  |  |  |   |
|--|--|--|---|
|  | Application of Teacher performance evaluation system |  | ✓ |
|  | Revision of 657                                      |  | ✓ |
|  | Flexing the central management                       |  | ✓ |

When Table 4 is examined, in terms of the teachers' views regarding what the Ministry of National Education should do for the school principals to empower teachers, it was noticed that there were three categories: personal development, teacher autonomy, and administrative. Among the views under the category of the suggestions in terms of *personal development*, the most frequently repeated teacher views were paid rise and career steps regulation, followed by the increase in the variety of rewards, additional budget for professional training, and travel-observation activities. Among the views of teacher autonomy proposals, the most frequently repeated teacher opinions were the permission to use reference books and curriculum flexibility. Among the under the category of *administrative* suggestions, the most frequently repeated teacher views were providing administrative training to school principals and making teachers' opinions mandatory in decision-making, followed by providing empowerment training to all school principals and meritocracy in administrator appointments.

In terms of the views of the *principals/assistants* regarding what the Ministry of National Education should do for the school principals to make empowerment, it was noticed that there were namely two categories; increased authority and law and regulation. Among the views under the category of *increased authority*, the most frequently repeated principal view was the ability of the school principal to give permission to the teacher, followed by the authority to give a certificate of appreciation and excellence, and the election of the school administration by the school principal. Among the views under the category of *law and regulation*, the most frequently repeated principals view was the increase in financial resources, followed by the increase in the quota of in-service training, the implementation of a teacher performance evaluation system, the revision of the law numbered 657, and flexing the central administration. The views of the teachers and school principals regarding what the Ministry of Education should do for the school principals to make empowerment are given below:

*MoNE should be able to operate the performance evaluation system properly. Teachers' career steps should be rearranged. The teacher who develops themselves should be distinguished from the stable teacher (Kaan).*

*Teachers should be given the autonomy for the activities such as using reference books, sightseeing and observation tours, visiting museums, visiting science houses, etc. The learning environment should be kept away from being stuck in the 4 walls of classrooms (Sevgi).*

*The rewarding system should be easier to function. There should be rewards other than the Certificate of Appreciation and Certificate of Excellence. It should be easier to get permission. While the school principal appears as the institution's chief, they do not even have the authority to give permission (Cemre).*

*Because of the central management of the education system, administrators stand by with folded arms. No matter what activity we will do, we are stuck due to financial insufficiency. Our vice-principals help us, but if we have the flexibility to set up the team we wish to work with and can work in harmony with, it would be really nice (Onder).*

## Conclusion, Discussion and Suggestions

The study was conducted to reveal the empowerment strategies that school principals should implement and the difficulties they face while implementing the empowerment strategies. According to the research results, the empowerment strategies that school principals should implement were collected under the headings of providing physical and psychological support to teachers, communicating effectively, making teachers participate in decisions about the functioning of the school, and providing teachers autonomy while performing their profession. For teachers to fulfil their duties effectively and feel that they belong to the institution, they need support from their school principals (Yunus et al., 2021). Similar results were found in studies on empowerment in various fields. For example, Cavus' (2006) research shows that empowerment affects organisational success. In the research of Cetin and Kiral (2018), participants used communication, feedback, reward, support, appreciation, observing needs, creating a team spirit, taking responsibility, and delegating authority for the concept of empowerment. Giderler (2015) identified them as employees' organisational commitment, job satisfaction, and performance improvement through empowerment. Wilcoxon et al. (2019)'s study shows that empowerment enables development, progress, and collaboration.

According to the research results, most of the teachers stated that they were aware of their importance for the school. They did not have any autonomy while performing their profession, and they could not participate in the decisions at school sufficiently. Teacher autonomy is a versatile and complex phenomenon since it depends on the different structural features of countries' education systems, the general conditions of schools, and teachers' personal characteristics (Celik & Atik, 2020). The subjects and the level of teacher autonomy may differ according to the countries. In the educational reforms carried out in Turkey, there were few efforts considering teachers' views regarding educational and instructional activities, improving their area of movement, and participating in the decisions. Teachers should be included in the education system as practitioners and decision-makers (Ozturk, 2011). It can also be thought that negative situations may arise considering the impact of teachers' characteristics on teacher autonomy within schools. Determining the limits of autonomy and putting this case into action on a legal basis may minimise possible problems.

For teachers to reach the determined organisational goals and raise qualified and modern generations, they must perform their profession affectionately by indigenising it and getting job satisfaction (Kauts & Kaur, 2020). In many studies (Babaoglan & Yilmaz, 2012; Demirtas & Alanoglu 2015; Thekedam, 2010; Yin, 2018, etc.), it was found that the job satisfaction of teachers who were asked for their opinions in the process of making administrative decisions and who participated in the decision-making process increased, and in this case, the decisions made could be implemented more easily, and the educational and teaching activities could function more effectively. Therefore, to increase the education systems effectiveness, asking teachers' opinions and benefiting



from their expertise can positively contribute to the increase in the quality of the interaction within the organisation and the sincerity of the teachers while working.

Demirtas and Kucuk (2014)'s studies conducted on the reasons affecting the performance of school principals revealed that such factors as the professional knowledge and personal characteristics of school principals, school culture, effective physical conditions, etc., increased the performance of school principals. In contrast, such factors as limited budget, frequent legislation changes, and the problems caused by staff, etc., decreased school principals' performance, which is similar to the findings of this study. It was also noted that the reasons attributed to personal inadequacies and the reasons attributed to administrative inadequacies were the reasons school principals were unable to empower teachers. In contrast, the reasons attributed to financial inadequacies and the reasons attributed to limited authority were the reasons school principals were unable to empower teachers. It was also concluded that the reasons stemming from personal inadequacy and administrative inadequacy were why school principals could not empower teachers (according to the teachers' views). In contrast, the reasons stemming from financial insufficiency and limited authority were why they could not empower (according to the principals' views).

In conclusion, the school principals could not empower due to financial insufficiency is quite significant. The school should have sufficient financial and human resources to ensure that the effectiveness and efficiency of educational services are sustainable and educational outputs exhibit the desired qualifications (Karakutuk, 2006). However, it can also be noted that how the financial resources allocated for education will be provided differs according to the countries' political philosophy, management style, and educational administration structure.

According to the research findings, principals indicated that they could not implement or provide reinforcement strategies that require financial resources, such as physical facilities and equipment needed by teachers, in the desired time due to financial inadequacies. Similar results were obtained in the study conducted by Cetin and Kiral (2018). In this regard, it can be suggested to increase the financial resources allocated by the state for education, transfer some of the taxes used by local governments to education, and ask for support from the businesses in the neighbourhood where the school is located.

Indeed, according to this research, the school principals indicated that they could not implement the empowerment strategies requiring financial resources such as physical needs of teachers, tools, equipment, etc., or provide them in the desired time due to financial insufficiency. In this regard, it can be suggested that the financial resources allocated by the state for education can be increased, some of the taxes used by local governments can be transferred to use compulsorily for education, support from the businesses in the neighbourhood where the school is located can be requested. The families can be persuaded to allocate a small amount of the budget they pay for study centres to the schools where they will receive these services.

One of the teachers' views on the changes that the Ministry of National Education should make for teacher empowerment was that the school principals could not make

empowerment since they did not receive any administration training. The countries that have developed their education system in this regard attach importance to the selection and training of school principals to provide effective learning in education and social functions of schools, creating a positive school climate, etc. In Turkey, the issue of training and appointing school principals has been a long-running topic of discussion for many years (Memduhoglu, 2007). School principals must be able to use the human and material resources of the organisation efficiently to ensure the proper functioning of educational organisations following their goals (Lunenburg & Ornstein, 2012). The school principals can achieve this effectiveness as long as they know the school administration theories and processes well and can implement them when necessary (Hoy & Miskel, 2013). It is a compulsory situation for school principals to have an academic education in this field to establish a connection between theory and practice in the problems experienced (Bursalioglu, 2008). By signing an agreement between the Ministry of National Education and the Council of Higher Education regarding this situation, the number of Educational Administration Departments in distance education and evening class programs may be increased, and school principals may be obliged to receive this training. In this way, it can be ensured that all school principals have the theoretical knowledge of school administration.

Another result of what the Ministry of National Education should do was that school principals should choose their vice-principals. The procedures for giving a certificate of appreciation should be simplified, and the job guarantee provided by the law numbered 657 should be limited. There is a strong relationship between teachers' professional motivation, school commitment, and job satisfaction (B. Kiral, 2020; Mooij, 2008; Schultheiss, 2008). For this reason, the teachers whose personal rights are restricted cannot be expected to perform their profession affectionately and feel motivated. In this regard, instead of limiting the job guarantees of teachers, as the majority of the school principals suggested, it can be recommended to establish a scientific performance evaluation system and encourage successful teachers. Therefore, by using one of the empowerment strategies, successful teachers will be distinguished from other teachers and supported.

The questions of this research can be implemented in public and private schools, and the results can be compared. This study, carried out with primary school principals, can be applied to different school levels. Furthermore, in the subsequent studies, the administrators in Higher Education Institutions may be selected as the study group. The empowerment strategies implemented to the academic or administrative staff can be investigated, and comparisons can be made.

**Ethics Committee Approval:** This study was carried out in the 2017-2018 academic year. The ethics committee report was not received because it was not obligatory to obtain an ethics committee report in those years. But there is the Ministry of National Education permission.

**Informed Consent:** Informed consent was not obtained from the participants.



**Peer-review:** It is externally peer-reviewed.

**Authors' Contributions:** Concept – B.K.; Design – B.K.; Supervision – B.K.; Data Collection and Processing – B.K., N.Ç.Ç.; Analysis and Interpretation - B.K., N.Ç.Ç.; Literature Review – B.K.; Writing – B.K., N.Ç.Ç.; Critical Review – B.K., N.Ç.Ç.

**Conflict of Interests:** There is no conflict of interest as the authors.

**Financial Disclosure:** We did not receive any financial support for our research.

## References

- Acaray, T. (2010). *The teacher empowerment patterns of principals in the public schools of central districts in Ankara province* (Unpublished Master Thesis). Ankara University, Ankara.
- Ahrari, S., Roslan, S., Zaremohzzabieh, Z., Rasdi, R. M., & Samah, A. A. (2021). Relationship between teacher empowerment and job satisfaction: A meta-analytic path analysis. *Cogent Education*, 8(1), 1-23.
- Akbasli, S., & Dis, O. (2019). Competencies of school managers as a leader according to teachers' views. *International Journal of Leadership Studies: Theory and Practice*, 2(2), 86-102.
- Akcakaya, M. (2004). Methods of staff reinforcement in organisations: Staff reinforcement in Turkish public administration. *Journal of Black Sea Studies*, 25, 145-174.
- Alosaimi, M. D. (2016). *The role of knowledge management approaches for enhancing and supporting education* (Unpublished Doctoral Dissertation). Universite Paris 1, Pantheon-Sorbonne, Paris.
- Altug, D. (1997). *Toplam kalite yonetimi analizi*. Haberal.
- Avidov-Ungar, O., & Arviv-Elyashiv, R. (2018). Teacher perceptions of empowerment and promotion during reforms. *International Journal of Educational Management*, 32(1), 155-170.
- Aydin, M. (2014). *Egitim yonetimi*. Ilksan.
- Babaoglan, E., & Yilmaz, F. (2012). Ilkogretim okullarinda karara katilma. *Mersin University Journal of the Faculty of Education*, 8, 1-12.
- Balci, A. (2014). *Etkili okul ve okul gelistirme*. PegemAkademi.
- Barutcuoglu, I. (2004). *Organizasyonlarda duygularin yonetimi*. Kariyer.
- Blase, J., & Blase, J. (1996). The micropolitical orientation of facilitative school principals and its effects on teachers' sense of empowerment. *Journal of Educational Administration*, 35(2), 138-164.
- Bursalioglu, Z. (2008). *Okul yonetiminde yeni yapi ve davranis*. PegemA.
- Cheong, M., Yammarino, F. J., Dionne, S. D., Spain, S. M., & Tsai, C. Y. (2019). A review of the effectiveness of empowering leadership. *The Leadership Quarterly*, 30(1), 34-58.
- Conger, J. A., & Kanungo, R. N. (1988). The empowerment process: Integrating Theory and practice. *Academy of Management Review*, 13(3), 471-482.
- Conway, J. A., & Calzi, F. (1995). The dark side of shared decision making. *Journal of Educational Leadership*, 53(4), 45.
- Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches*. Sage.
- Cavus, M. F. (2006). *An application in manufacturing industry on the effects of organisational creativity and innovativeness of employee empowerment applications in companies* (Unpublished doctoral dissertation). Selcuk University, Konya.
- Celik, O. T., & Atik, S. (2020). Preparing teachers to change: The effect of psychological empowerment on being ready for individual change. *Cukurova University Faculty of Education Journal*, 49(1), 73-97.
- Celik, O. T., & Konan, N. (2020). The relationship between school principals' empowering leadership with teachers' self-efficacy and organisational citizenship behaviors. *Education and Science*, 1-21.
- Celikten, M., & Niyazi, C. (2000). Alt duzey personelin guc kaynaklari. *Educational Administration: Theory and Practice*, 22, 269-290.
- Cetin, M., & Kiral, B. (2018). Opinions of teachers and administrators related to teacher empowerment of school administrators. *Mediterranean Journal of Educational Research*, 12(26), 281-310.
- Demirtas, H. (2014). Okul orgutu ve yonetimi. R. Sarpkaya, (Edt.) *Turk egitim sistemi ve okul yonetimi*. Ani.
- Demirtas, Z., & Alanoglu, M. (2015). The relationship between participation in decision-making of teachers and job satisfaction. *Ahi Evran University Kirsehir Faculty of Education Journal*, 16(2), 83-100.
- Demirtas, Z., & Kucuk, O. (2014). Criteria for the evaluation of school administrators' performance and causes of low performance: A qualitative study. *Journal of Educational Sciences*, 40, 47-67.
- Duman, N. (2014). *Motivation factors used by school managers and opinions of teachers* (Unpublished Master Thesis). Yeditepe University, Istanbul.
- Elma, C., & Demir, K. (2012). *Yonetimde cagdas yaklasimlar uygulamalar ve sorunlar*. Ani.

- Ersoy, A. F. (2016). Fenomenoloji. A. Saban & A. Ersoy (Edts). *Egitimde nitel arastirma desenleri*. Ani.
- Fidan Toprakci, D. (2019). *School administrator's level of teacher empowerment* (Unpublished Master Thesis). Aydin Adnan Menderes University, Aydin.
- Foster, K. (1990). Small steps on the way to teacher empowerment. *Educational Leadership*, 38-40.
- Ganiban, R., Belecina, R. R., & Ocampo, J. M. (2019). Antecedents of teacher empowerment. *International Journal for Educational Studies*, 11(2), 89-108.
- Giderler, C. (2015). Employee empowerment in social services enterprises. *Suleyman Demirel University the Journal of Visionary*, 58-88.
- Hallinger, P., & Richardson, D. (1988). Models of shared leadership: Evolving structures and relationships. *Urban Review*, 20(4), 229-245.
- Harpell, J. V., & Andrews, J. J. W. (2010). Administrative leadership in the age of inclusion: Promoting best practices and teacher empowerment. *Journal of Educational Thought*, 44, 189-210.
- Hoy, W. K., & Miskel, C. G. (2013). *Educational administration theory, research, and practice*. McGrawHill.
- Kalagan, G. (2009). *The relationship between research assistants' perceived organisational support and organisational cynicism* (Unpublished Master Thesis). Akdeniz University, Antalya.
- Kang, M. M., Park, S., & Sorensen, L. C. (2021). Empowering the frontline: Internal and external organisational antecedents of teacher empowerment. *Public Management Review*, 1-22.
- Karakutuk, K. (2006). Financing of higher education. *Milli Egitim Journal*, 17, 219-242.
- Kauts, A., & Kaur, H. (2020). Teacher empowerment as predictor of professional commitment and job satisfaction of teachers working in secondary schools. *Journal of Critical Reviews*, 7(16), 1856-1864.
- Kaya, Z. (2007). *Sinif yonetimi*. Pegem Akademi.
- Keser, S., & Kocabas, I. (2014). The comparison of elementary school administrators' authentic leadership and psychological capital features. *Educational Administration: Theory and Practice*, 20(1), 1-22.
- Kiral, B. (2015). *The relationship between teacher empowerment of high school administrators and cynicism behaviors of teachers* (Doctoral Dissertation). Ankara University, Ankara.
- Kiral, B. (2019). Egitim yonetiminde ogretmen guclendirme. N. Cemaloglu & M. Ozdemir (Edts). *Egitim yonetimi*. PegemAkademi.
- Kiral, B. (2020). The relationship between the empowerment of teachers by school administrators and organisational commitments of teachers. *International Online Journal of Education and Teaching*, 7(1), 248-265.
- Kiral, B. (2021). Phenomenology design in qualitative research: Types and research process. *Journal of Research in Education and Training*, 10(4), 92-103.
- Kiral, E. (2015). Decision in management and ethical decision making problematique. *Adnan Menderes University Faculty of Education Journal of Educational Sciences* 6(2), 73-89.
- Kiral, E. (2020). Excellent Leadership Theory in Education. *Journal of Educational Leadership and Policy Studies*, 4(1), 1-30.
- Kimwaley, M. C., Chirure, H. N., & Omondi, M. (2014). Teacher empowerment in education practice: Strategies, constraints, and suggestions. *Journal of Research & Method in Education*, 4(2), 51-56.
- Koc, H. (2007). Egitim sisteminin finansmani. *Gazi University Faculty of Education Journal*, 29, 39-50.
- Kocel, T. (2014). *Isletme yoneticiligi*. Beta.
- Konan, N., & Celik, O. T. (2017). Okul mudurlerinin guclendirici liderligine iliskin ogretmen algisi. *Bartın University Faculty of Education Journal*, 6(1), 322-335.
- Kraft, M. A., & Dougherty, S. M. (2013). The effect of teacher-family communication on student engagement: Evidence from a randomised field experiment. *Journal of Research on Educational Effectiveness*, 6(3), 199-222.
- Lacks, P. K. (2016). *The relationships between school climate, teacher self-efficacy, and teacher beliefs* (Unpublished Doctoral Dissertation). Liberty University, United Kingdom.
- Ledesma, J. M., & Lalaine M. J. (2015). *Filipino financial customers' views on customer empowerment: Report from the field*. <https://www.cgap.org/sites/default/files/Working-Paper-Filipino-Financial-Customers%27-View-on-Customer-Empowerment-May-2015.pdf>. Retrieved date: 20.01.2018.



- Longwell-McKean, P. C. (2012). *Restructuring leadership for 21st century schools: How transformational leadership and trust cultivate teacher leadership* (Unpublished Doctoral Dissertation). University of California, San Diego.
- Lunenburg, F. C., & Ornstein, A. C. (2012). *Educational administration concepts and practices*. Wadsworth.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370-396.
- McGregor, D. (1966). *Leadership and motivation*. MIT.
- Melenzyer, B. J. (16-20 November 1990). *Teacher empowerment: The discourse, meanings and social actions of teachers*. The Annual Conference of the National Council of States on Inservice Education, Orlando, Florida.
- Memduhoglu, H. B. (2007). Turk egitim sisteminde okullarin yonetimi ve okul yoneticilerinin yetistirilmesi sorunsali. *Milli Egitim Journal*, 176, 86-97.
- Merriam, S. M. (2009). *Qualitative research: A guide to design and implementation*. John Wiley & Sons.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis*. Sage.
- Mooij, J. (2008). Primary education, teachers' professionalism and social class about motivation and demotivation of government school teachers in India. *International Journal of Educational Development*, 28, 508-523.
- Ozkalp, E., & Kirel, C. (2016). *Orgutsel davranis*. Ekin.
- Ozturk, I. H. (2011). A conceptual analysis on teacher autonomy. *Electronic Journal of Social Sciences*, 10(35), 82-99.
- Podolsky, A., Kini, T., & Darling-Hammond, L. (2019). Does teaching experience increase teacher effectiveness? A review of US research. *Journal of Professional Capital and Community*, 4(4), 286-308.
- Paynevandy, S. G. (2016). The role of empowerment in organisation development. *International Academic Journal of Organizational Behavior and Human Resource Management*, 3(5), 9-16.
- Rangel, V. S., Suskavcevic, M., Kapral, A., & Dominey, W. (2020). A revalidation of the school participant empowerment scale amongst science and mathematics teachers. *Educational Studies*, 46(1), 117-134.
- Reep, B. B., & Grier, T. B. (1992). A review of pilot programs: Teacher empowerment strategies for success. *NASSP Bulletin*, 6(546), 90-96.
- Rehm, M. (1989). Emancipatory vocational education: Pedagogy for the work of individuals and society. *Journal of Education*, 171(3), 109-123.
- Rhoades, L., Eisenberger, R., & Armeli, S. (2001). Affective commitment to the organisation: The contribution of perceived organisational support. *Journal of Applied Psychology*, 86(5), 825-836.
- Richards, J. (2005). *Principal behaviors that encourage teachers: Perceptions of teachers at three career stages*. The Annual Meeting of the American Educational Research Association, Montreal, Quebec, Canada.
- Romanish, B. (1993). Teacher empowerment as the focus of school restructuring. *The School Community Journal*, 3(1), 47-60.
- Schultheiss, O. C. (2008). The role of implicit motivation in hot and cold goal pursuit: Effects on goal progress, goal rumination, and emotional wellbeing. *Journal of Research in Personality*, 42, 971-987.
- Short, P. M. (1992). *Dimensions of teacher empowerment*. <http://files.eric.ed.gov/fulltext/ED368701.pdf>. Retrieved date: 10.12.2014.
- Sprague, J. (1992). Critical perspectives on teacher empowerment. *Communication Education*, 41(2), 181-203.
- Spreitzer, G. M. (1996). Social structural characteristics of psychological empowerment. *The Academy of Management Journal*, 39(2), 483-504.
- Thekedam, J. S. (2010). A study of job satisfaction and factors that influence it. *Management and Labour Studies*, 35, 407-417.
- Thomas, K. W., & Velthouse, B. A. (1990). Cognitive elements of empowerment: An interpretive model of intrinsic task motivation. *Academy of Management Review*, 15, 666-681.
- Turkish Language Association Dictionary. (2021). <https://sozluk.gov.tr>. Retrieved date: 29.06.2021.
- Wan, E. (2005). Teacher empowerment: Concepts, strategies, and implications for schools in Hong Kong. *Teachers College Record*, 107(4), 842-861.
- White, P. A. (1992). Teacher empowerment under ideal school-site autonomy. *Educational Evaluation and Policy Analysis*, 14(1), 69-82.

- Wilcoxon, C., Bell, J., & Steiner, A. (2019). Empowerment through induction: Supporting the wellbeing of beginning teachers. *International Journal of Mentoring and Coaching in Education*. [www.emerald.com/insight/content/doi/10.1108/IJMCE-02-2019-0022/full/html](http://www.emerald.com/insight/content/doi/10.1108/IJMCE-02-2019-0022/full/html). Retrieved date: 29.06.2021.
- Yenilmez, K., & Yolcu, B. (2007). Contributions of teachers' behaviors on creative thinking abilities. *Eskisehir Osmangazi University Social Sciences Journal*, 18, 95-105.
- Vrhovnik, T., Maric, M., Znidarsic, J., & Jordan, G. (2018). The influence of teachers' perceptions of school leaders' empowering behaviours on the dimensions of psychological empowerment. *Organizacija*, 51(2), 112-120.
- Yildirim, A., & Simsek, H. (2005). Sosyal bilimlerde nitel arastirma yontemleri. Seckin.
- Yin, J. (2018). Empowering teachers through core reflection: A case in Korea. *Journal of Asia TEFL*, 15(4), 1005-1020.
- Yunus, M., Suakrno, S., & Rosyadi, K. I. (2021). Teacher empowerment strategy in improving the quality of education. *International Journal of Social Science and Human Research*, 4(1), 32-36.

**Authors**

**Contact**

Naciye CALISICI CELIK

She graduated from Aydin Adnan Menderes University, Faculty of Education, Department of Classroom Teaching in 2017. She received a master's degree in Education Administration Program in 2020. She continues her academic studies.

Aydin Adnan Menderes University  
Efeler/Aydin

E-mail: [naciye.celik@adu.edu.tr](mailto:naciye.celik@adu.edu.tr)

Dr. Bilgen KIRAL

She is an assoc. prof. of Aydin Adnan Menderes University, Faculty of Education, Educational Administration Department. She has been visiting scholar of University of Dayton in USA since 2020. Dr. Kiral works on teacher empowerment, children's rights, values education, and comparative education.

Aydin Adnan Menderes University  
Educational Administration Department  
Efeler/Aydin

E-mail: [bilgen.kiral@adu.edu.tr](mailto:bilgen.kiral@adu.edu.tr)

# Factors Affecting Innovative Work Behaviors of Teachers from the Perspective of Organizational Intelligence

Belgin TURA\* Sait AKBASLI\*\*

## To cite this article:

Tura, B., & Akbasli, S. (2022). Factors affecting innovative work behaviors of teachers from the perspective of organizational intelligence. *Journal of Qualitative Research in Education*, 29, 203-234, doi: 10.14689/enad.29.8

**Abstract:** This study aims at revealing the individual and organizational factors that affect teachers' innovative behaviors and examining and evaluating the results of organizational intelligence in these factors. The study group of the research included 20 teachers with different levels of education and different branches working in public schools affiliated with the Turkish Ministry of National Education (MoNE) in Ankara during the 2020-2021 school year. This study was designed in the basic qualitative research design, one of the qualitative research methods. The data collection tool was an open-ended questionnaire. Descriptive analysis and content analysis techniques were used to analyze the obtained data. In addition, direct quotations were included in this study to enable participant teachers to reveal their opinions more clearly. In line with the participants' opinions, it was determined that organizational intelligence produced results stimulating and strengthening individual and organizational factors that were effective in teachers' innovative practices. Therefore, it can be concluded that organizational intelligence with all its dimensions positively affects teachers' innovative work behaviors.

**Keywords:** Innovative work behavior, organizational intelligence, operational sub-dimensions of organizational intelligence, individual factors, organizational factors

## Article Info

Received:  
06 Dec. 2021

Revised:  
12 Jan. 2022


Accepted:  
22 Jan. 2022

## Article Type

Research

© 2022 ANI Publishing. All rights reserved.

\*  Correspondence Author: Meliksah Secondary School, Turkey, [belgintura@gmail.com](mailto:belgintura@gmail.com)

\*\*  Hacettepe University, Turkey, [sakbasli@gmail.com](mailto:sakbasli@gmail.com)



## Introduction

In the information age, where sudden changes, contradictions, and dilemmas in social, cultural, and political fields have become a fact of life, education is heavily affected by globalization and digitalization's change and transformation waves. The reforms and transformations required for several education systems around the world to be ready to meet the demands of a globalized world are the main agenda of many national governments worldwide. Transformation in education means bringing new structures and ways of functioning to educational organizations to grow individuals who will find ways to access information in the face of an ever-growing, changing, and renewed mass of information with the advent of the Internet and the digital world; who will learn how to learn; who will analyze, synthesize and use knowledge to solve problems and turn them into useful products; and who will play an important role in creating the intelligent societies of the future.

What is expected from educational organizations today is the responsibility of noticing, following, pioneering, and implementing innovations to realize the transformation in education, that is, to provide innovation in education. Innovation, whose importance is frequently mentioned, brings a quality increase and success in education and is also developed and spread through education. It is important to bring the culture of innovation to societies through education to increase social welfare and gain advantages in local and international competition. This is only possible by training a high-quality labor force with innovative skills. Education and innovation have a characteristic that mutually affects each other. Therefore, shaping education systems in a structure that develops innovative thinking and innovation awareness is necessary to create societies that can almost enjoy surfing instead of drowning in the waves of change and transformation of the 21st century.

Politicians, the business world, and educators have realized that education systems designed to prepare for an agricultural or industry-based economy will not provide students with the knowledge and skills they will need in the knowledge-based economy and societies of the 21st century. While the amount of knowledge produced in knowledge-based global societies doubles every 2-3 years, middle school graduates now encounter more information than their grandparents have learned over their entire lives (United Nations Educational, Scientific and Cultural Organization-UNESCO, 2002, pp. 14-15).

An unexpected important by-product of the revolution created on human society by the information age that came with advanced technology is the emergence of a generation of children who are dependent on multidimensional, interactive media resources and whose world understanding and expectations are very different from the previous generations. To succeed in a technology-intensive global future, a new educational practice for these children based on their local learning abilities and technological competence must replace traditional education methods (Das, 2015, p. 15). In this regard, what is expected from education today is to function as an institution that adapts to technological developments on one hand and develops innovative solutions to the

problems created by globalization on the other hand (Tunca, 2012, p. 20). In such a process, teachers are responsible for using technology effectively, determining appropriate teaching methods and tools for students' learning, designing effective teaching methods, and creating new teaching strategies (Demiraslan & Kocak Usluel, 2008, p. 471).

Teachers' innovative thinking and practices are becoming a sensitive subject of education in the 21st century, as teachers are central to improving the quality of education. Innovative teachers are the teachers who regularly care about their improvement in their field and give importance to their personal development, who can diversify the activities required from students with the effective learning-teaching tactics and methods they use, who can use new techniques and approaches in teaching and presenting information, who can increase students' participation by trying different methods, and who can expand their acquired knowledge and skills (cited by Korucu & Olpak, 2015, pp. 115-116 after Ritchhart, 2004). Haelermans & Blank (2012, p. 884) stated that the professionalization of education and the innovations made by teachers were positively related to the success of students and the efficiency of schools.

Teachers' innovation ability is at the center of organizational innovation in educational institutions. Innovation ability is the ability to adopt or implement new ideas successfully, processes, and/or products, in other words, the organization's innovation potential depends on the resources and competencies that the organization has. The most important resources and competencies in innovation ability are competencies related to organizational knowledge and learning (Kalkan, 2005, p. 48). Teachers are expected to realize innovative education and training processes by reflecting their innovation ability in their work behaviors.

Innovative work behavior as a concept was first described by West & Farr (1989) as the deliberate creation, promotion, and implementation of new ideas within a group or organization to benefit the role performance, group, or organization (Janssen, 2000, p. 288). Scott & Bruce (1994, pp. 581-582) address innovative work behavior as a multi-step process. According to this definition, innovative work behavior begins with defining the problem and generating new or adopted ideas or solutions. In the next stage of the process, the innovative individual seeks support for his/her idea and tries to form a support group. In the last stage, the individual transforms the idea of innovation into a model or prototype. Therefore, innovative work behavior is a process that includes different activities and different individual behaviors at each stage. Teachers demonstrating innovative work behavior can maintain their professional development, improve their work environment, increase their performance, and are willing to adopt the improvements proposed by their colleagues or other stakeholders outside of the school (Bos-Nehles, Bondarouk & Nijenhuis, 2017, p.382).

Innovation essentially includes intelligence. In other words, innovation is a new idea (Van de Ven, 1986, p. 591). Finding new and useful solutions to problems becomes difficult without the creative spark of innovative genius or the intelligence of organizational systems that recognize and support innovation. Today's most successful initiatives attract attention as smart startups (Glynn, 1996, p. 1081). Senge (1991, as cited in Ercetin,

2004a, p. 59) emphasizes that if the group intelligence emerging in an organization exceeds individual intelligence, this will contribute to individual development. Such a contribution reveals a process that triggers, accelerates, and repeats each other from individual to group and from group to organization.

Although the concept of intelligence is primarily associated with individuals, it has been conceptualized and measured at a collective level by some researchers (Glynn, 1996, p. 1087). The concept of intelligence in organizations was first introduced in 1967 by Harold Wilensky, an American professor. Wilensky (1967, cited in Azma, Mostafapour & Rezaei, 2012, p. 95) stated that intelligence information collected in organizations can be used to determine the right organization and suggested that intelligence has a great impact on organizational efficiency and effectiveness and that the characteristics and measurement of institutional information can be considered to support organizational decisions.

In this regard, Veryard (2018, p. 1) stated that organizational intelligence can be characterized by interpreting and acting effectively in complex situations that are accepted as collective capabilities; recognizing events and signs in the environment and acting accordingly; developing, sharing, and using information appropriate to the purpose of the work; and learning and reflecting on experiences. On the other hand, Ercetin (2001, p. 33) described the concept of organizational intelligence as the abilities enabling organizations to make decisions regarding ordinary and regular activities as well as unexpected situations in a dynamic global environment, and the potential to use these abilities. These abilities are defined below by Ercetin (2004a, pp. 68-74) as operational sub-dimensions of organizational intelligence.

- **Adapting to Changing Situations:** Organization's ability of the organization to create a new balance in different conditions. The organization can create new balances in different conditions, form and implement appropriate policies and strategies with joint decisions against various complex situations.
- **Being Open-Minded:** All employees in the organization can express their opinions clearly and an environment welcoming all opinions and suggestions is created.
- **Functioning Flexibly and Comfortably:** The rules determined regarding the functioning of the organization can be changed and the employees feel the comfort of this situation, the employees are in healthy interaction with each other, they cooperate, the bureaucratic works and procedures are performed at a level that does not reduce the pace of the organization, and the employees are free to make choices in every subject.
- **Taking Immediate Actions and Producing Instant Reactions:** It is the perception of the necessity of making and implementing decisions quickly at an organizational level. Organizations must develop action by responding rapidly, appropriately, and accurately to each situation and each stimulus affecting them as a whole.

- **Renewability:** It is the use of new information and technologies that will help the organization to develop.
- **Being Intuitive and Prescient:** Being able to notice, feel, and predict what might be the reflections of an organization or a possible situation, in other words, using emotional intelligence at an organizational level.
- **Using Imagination:** It uses individual creativity for individual and organizational development. The ability to use imagination should be evaluated in conjunction with other relevant abilities. For example, being instant is related to acting and developing a reaction, flexibility and comfortableness are related to creating options, and all these are related to using the imagination.

Schools that can use their organizational intelligence are also effective, and these schools reveal new roles for generating radical solutions by redefining their existing problems to achieve their educational goals (Izci, 2017, p. 71). The development of organizational intelligence in schools increases the use of resources and competencies related to knowledge and learning, supports the development of teachers' innovation ability, and demonstrates them with innovative work behaviors (Kalkan, 2005, pp.48-49). Therefore, organizational intelligence enables schools to use their potential most properly, allowing innovation and creativity to emerge in educational processes.

Kahkha, Pourghaz & Marziyeh (2015) conducted a study with 103 school principals working in high schools in Zahedan, Iran, and determined a positive and significant correlation between organizational intelligence level and innovation management as well as the correlation between organizational intelligence level and career development. Ordooi (2016), on the other hand, determined a positive and significant correlation between the organizational intelligence perception levels and creativity of 121 high school principals working in 6 different regions of the city of Isfahan. In a study they conducted with 328 teachers working in public secondary schools and Imam Hatip secondary schools in Ankara, Turkey, Tura & Akbasli (2021) concluded that the level of organizational intelligence of the schools where teachers worked greatly influenced innovative work behavior. Kalkan (2008) conducted a study with 223 employees of 65 companies operating in the Marmara Region, Turkey, and revealed that the organizational intelligence level of the companies had an impact on organizational innovation and organizational innovation had an impact on company performance.

In the 21st century, teachers are expected to have innovative work behaviors that will increase the quality of education and training and ultimately transform the education system. In addition to this, it is a known fact that teachers' behaviors are taken as examples by their students. It is considered that innovative behaviors and practices of teachers will create awareness and consciousness about innovativeness in students and, therefore, contribute to the formation of an attitude in this direction. However, the innovative work behaviors teachers exhibit in their education and training activities can be influenced by various factors arising from the individual herself/himself, the educational institution, and/or his/her environment. Determining these factors and evaluating the results of organizational intelligence, whose importance is widely accepted in revealing innovation and creativity in educational organizations, will make

the current situation of teacher innovation in Turkey more comprehensible. The analyzed studies on organizational intelligence and innovation were carried out using quantitative research methods. However, there is a need for an in-depth investigation of teachers' opinions and, therefore, qualitative research studies to reveal the factors affecting teachers' innovative work behaviors and the results of organizational intelligence on these factors.

This study aims at revealing the individual and organizational factors that affect teachers' innovative behaviors and examining and evaluating the results of organizational intelligence in these factors. Problem statement; "What are the consequences of organizational intelligence on individual and organizational factors affecting teachers' innovative work behaviors?" The sub-problems of the research determined as follows are listed below.

- According to teachers' opinions, what are the individual factors affecting their innovative work behaviors?
- According to teachers' opinions, what organizational factors affect their innovative work behaviors?
- According to teachers' opinions, what are the consequences of the organizational intelligence level of the schools they work on the individual and organizational factors affecting innovative work behaviors?

## Method

### Research Design

"Basic research design", one of the qualitative research methods, was used in this study. According to Merriam (2009, p. 23), basic qualitative research is a research design philosophically derived from constructivism, phenomenology, and symbolic interaction that seeks to understand how people make sense of their lives and experiences. In basic qualitative research, it is attempted to reveal how people interpret their experiences, construct their own experiences, and what meaning they attach to their experiences or the process. It is also possible to explore experience, make sense, and process in a single study. A basic qualitative research design does not focus solely on beliefs, opinions, attitudes, or ideas about events and phenomena. Beliefs, opinions, etc. may emerge as part of one's findings. However, this should not be the purpose of conducting a basic qualitative research design (Worthington, 2013). This study fits well with the nature of basic qualitative research design in interpreting the individual and organizational factors that affect teachers' innovative work behaviors through their experiences.

### Study Group

This study was carried out with teachers with different education levels and branches working in public schools affiliated with the MoNE in the 2020-2021 academic year in



Ankara, Turkey. Two different purposeful sampling methods were used to determine the study group's teachers. According to Patton (2014, p. 230), the basic rationale for the purposeful sample selection is to select information-rich situations to conduct the study in more depth. Information-rich situations are situations where the researcher can provide as much information as possible for the study.

The first purposeful sampling method used in the study is the snowball sampling method. According to Patton (2014, p. 237), this method is used to reach individuals or situations where most information can be obtained about the research questions. The process started with the "Who is the most knowledgeable about this subject? Whom should I talk to about this issue?" questions. In snowball sampling, more participants are included and the sample is expanded by moving to the second unit with the help of one of the units belonging to the universe and moving to the third unit with the help of the second unit. The names and situations obtained through the questions directed to the relevant participants will grow like a snowball. Certain names will start to come forward, the number of individuals to be interviewed, and the number of situations to deal with will decrease after a while (Yildirim & Simsek, 2016, p. 122). For this purpose, a study group was formed after obtaining the opinion of the R&D Unit of the Ministry of National Education, Turkey. In this regard, within the scope of this study, it was attempted to reach teachers who had a positive approach to innovation in education, who previously used innovative practices in teaching processes, or who took part in various projects on this subject. The second sampling method used in forming the study group is the criterion sampling method. According to Yildirim & Simsek (2016, p. 122), the basic understanding in the criterion sampling method is to work on all situations that meet predetermined criteria within the scope of the study. The researcher can create these criteria forming the basis of sampling or use a previously prepared criteria list. The criterion to be used in this study is that the study group will consist of teachers with have a positive approach to innovativeness in education, who previously applied innovative practices in teaching processes, or who took part in various projects on this subject.

According to Patton (2014, p. 244), there is no definite rule for determining the sample size in qualitative research. The sample size varies depending on the purpose of the research, what is wanted to be known, what can be done with the time and resources available. Considering the studies designed with a phenomenological method, Creswell (2013, p. 78) argues that the sample group should consist of 3-4 participants and 10-15 participants. In this regard, this study was conducted with 20 innovative teachers. Within the research ethics framework, participating teachers were coded from T1 to T20 (T: Teacher). Considering the study group, thirteen of the participants were female and seven were male. Three of the participant teachers were working at primary schools, seven were working at middle schools, three were working at Imam Hatip middle schools, one was working at an Anatolian high school, three were working at Vocational and Technical Anatolian High Schools, two were working at science and art centers, and was working at a special education practice school. Personal information about the participating teachers and the studies they have carried out is included in the appendix of this article.

## **Data Collection**

The data collection tool was an open-ended questionnaire. According to Buyukozturk (2005, p. 136), open-ended questions are preferred if participants are asked to respond freely. Through open-ended questions, it is ensured that the participants answer the research questions in the direction they want and express what they want with their own words (Patton, 2014, p. 354). To prepare the open-ended questionnaire questions used in this study, literature was reviewed comprehensively and, then, the operational dimensions of the organizational intelligence defined in Ercetin (2004b)'s study were used. Ercetin (2004b) conducted a focus group study with 48 students from the Department of Educational Administration, Inspection, Planning, and Economics of the Institute of Education Sciences (Faculty of Education Sciences, Hacettepe College, Ankara) to define the capabilities related to organizational intelligence for schools and to highlight the operational dimensions of organizational intelligence. As a result of the study, it was determined that the abilities related to organizational intelligence can also be defined for schools and each skill had 7 operational dimensions that interact with each other and enable the formation of each other. These operational dimensions were adapting to changing situations, being open-minded, functioning flexibly and comfortably, taking immediate actions and producing instant reactions, renewability, being intuitive and prescient, and using the imagination. Questions representing each operational dimension of organizational intelligence were included in the open-ended questionnaire questions.

The participant teachers were contacted through the internet and voluntary participation statements were obtained before conducting the study. It was specifically stated that the identity information of the teachers participating in the research would be kept confidential and that the data they provided would not be used outside of scientific studies. Educators are expected to have moral values and instill moral values in their students. Education systems need researchers who have moral maturity and avoid academic dishonesty. In today's world, academic dishonesty is becoming more common and it is vital to reduce ethical and dishonest behavior in research (Akbasli, Ercetin & Kubilay, 2019). Therefore, special attention was paid to comply with the ethical issues in this study. In this regard, teachers were informed that participation in this study was voluntary and that the study would not impose any responsibility on them. They were informed that their personal information would be protected and not be shared anywhere. Participating teachers were also informed that the study results would be used for purely scientific purposes and that they could withdraw from the study at any time. Upon the requests of the participating teachers, all interviews were conducted in the digital environment and the data related to the study were obtained using an internet-based digital data collection tool.

## **Data Analysis**

The information obtained from the participating teachers was rewritten in the word processing program and transferred to digital media, and each question was examined

separately. The data obtained for the first research question were analyzed based on descriptive analysis, and the data related to the second and third research questions were analyzed based on the content analysis. According to Yildirim & Simsek (2016, p. 239), in the descriptive analysis, data are interpreted according to previously determined themes. The data can be analyzed according to the themes revealed by the research questions or they can be presented by considering the questions or dimensions used in the interview and observation processes. On the other hand, content analysis can be considered an effort to reduce and interpret qualitative data to determine the basic consistencies and meanings by obtaining a voluminous qualitative material (Patton, 2014, p. 453). The main purpose of content analysis is to reach the concepts and relationships that can explain the collected data. Data summarized and interpreted in the descriptive analysis are subjected to deeper analysis in content analysis. The concepts and themes that are not noticed with a descriptive approach are revealed as a result of this analysis. In the research data analysis, frequency values were determined by considering the frequency of the data. Calculated frequency values were used to make sense of the data. In addition to these, direct quotations were included in this study to enable the participant teachers to reveal their opinions more clearly.

### **Validity and Reliability Studies**

Analyses performed to determine the validity and reliability of qualitative studies are quite different from quantitative studies. In addition to this, it is seen that many researchers developed different criteria. Qualitative researchers attach importance to interviewing with different perspectives rather than singular truths (Patton, 2014; Creswell, 2013). The fact that the researcher is not in a static, but a dynamic process is one of the important characteristics of qualitative studies. In other words, the researcher can develop new techniques, ask different questions, or conduct interviews in a way different from his/her plans in the research process (Yildirim & Simsek, 2016). The opinions of three experts were consulted to ensure the content validity of the research questions and the questions were reorganized in line with the expert opinions. The reliability formula ( $\text{Reliability} = \frac{\text{Agreement}}{\text{Agreement} + \text{Disagreement}} \times 100$ ) suggested by Miles & Huberman (1994) was used to calculate the reliability of the study. According to the coding control showing the internal consistency, it is expected that the consensus between coders should be at least 80% (Miles & Huberman, 1994, p. 64). As a result of the calculation made in this regard, the reliability of this study was determined to be 90%.

### **Findings**

This study was structured within the scope of individual and organizational factors affecting teachers' innovative work behaviors, and the results of organizational intelligence on these factors. In this section, the findings obtained from interviews with participating teachers were included.

The first sub-problem of the study is to determine the individual factors affecting innovative work behaviors according to teachers' views. To reveal the individual factors affecting the innovative working behaviors of the teachers, the following questions were asked: "What are the characteristics that you think are effective in your innovative practices?" and "What are the sources of motivation that lead you to make new practices professionally as a teacher performing innovative practices/activities?". The personal characteristics of teachers that they think were effective in their innovative practices and the motivation sources that lead them to make new practices in professional terms were presented in Table 1.

**Table 1.**

*The Individual Characteristics That the Teachers Considered to be Effective in Their Innovative Practices and The Motivation Sources*

| Individual Characteristics                                      | n  |
|---|----|
| Enjoy conducting research                                       | 8  |
| Passion for learning  | 7  |
| Curiosity   | 7  |
| Intrinsic motivation  | 5  |
| Creativity  | 5  |
| Determination to work   | 5  |
| Patience  | 4  |
| Management and coordination skills                              | 4  |
| Love for the profession   | 2  |
| Problem-solving   | 2  |
| Self-confidence   | 2  |
| Effective communication   | 1  |
| Entrepreneurship  | 1  |
| Versatile thinking  | 1  |
| Interest for technology   | 1  |
| Motivation Sources  | n  |
| Catching the era of technology                                  | 10 |
| The desire to make lessons enjoyable                            | 5  |
| The ability to attract the attention of new generation students | 4  |
| Feeling professionally inadequate                               | 2  |
| The desire to expand students' horizons                         | 2  |
| 21. Being familiar with century skills                          | 1  |

Considering Table 1, among the individual characteristics that the teachers participating in this study considered to be effective in their innovative practices, the most expressed characteristics were conducting research (n=8), passion for learning (n=7), and curiosity (n=7). T5 expressed himself/herself in this regard as follows: "I like conducting research. I'm curious and I enjoy learning something new and practicing them". Intrinsic motivation (n=5), creativity (n=5), and persistence (n=5) were determined as other individual characteristics predominantly mentioned by teachers. Effective communication (n=1), entrepreneurship (n=1), versatile thinking (n=1), and interest in technology (n=1) were among the individual characteristics that teachers mentioned the least to be effective in their innovative practices. Half of the participants (n=10) highlighted the

need to catch the era of technology as the source of motivation helping them to adopt new practices. T8 expressed himself/herself in this regard as follows: *"To catch up with the age. I want to prepare my students for real-life without being behind the changing and developing world"*. In addition to this, considering the motivation source for new practices, 4 of the participants pointed out the desire to attract the attention of the new generation students while 5 of the participants expressed their desire to make lessons enjoyable. The least expressed motivation source was the feeling of professional incompetence (n=2), the desire to broaden the horizons of the students (n=2), and the familiarity with 21st-century skills (n=1).

According to teachers' views, the second sub-problem of the study is to determine what organizational factors affect innovative work behaviors. To identify the organizational factors that influence teachers' innovative work behaviors, the following questions were asked: *"Given the new practices, what kind of reactions do you receive from school staff?"* and *"What kind of support/help do you receive for your new practices and from whom do you receive support/help?"*. The themes and sub-themes related to the responses provided by the teachers to the questions were presented in Table 2.

Considering the innovative practices implemented by the teachers participating in this study, 15 teachers stated that they received positive reactions from the school administration, teachers, and other employees. T7 explained the perspective of school principals and teachers about innovative practices as follows: *"We are lucky that our school principal supports the perfectionist education-oriented employees. In addition to this, our group teachers and teachers from other branches are also eager. They would help us if there were a practice to be implemented"*. 5 of the participants stated that they received negative reactions from some administrators and teachers against their innovative practices at school contrary to the general situation. T6 expressed himself/herself in this regard as follows: *"Teachers from the same branch with us may react. This is because they feel obliged to do something when we do something. Therefore, they react. I was exposed to some obstacles of the teachers from the same branch as me. For example, they can direct students from your project group not to work with us. The administrators may try to prevent you from doing something at school. I remember some teachers asking me why I was still struggling even though the school principal did not want us to do something. I was struggling to do something for the students, not the school principal"*.

The teachers participating in this study stated that they received support mostly from school administrators (n = 15), other teachers in their schools (n = 9), parents (n = 7), and students (n = 6). It was determined that the teachers received support from the school principals to procure equipment and materials, financial support, and facilitate bureaucratic procedures such as leaves, etc. T12 expressed himself/herself as *"Our school administrators are very supportive when it comes to materials. Since innovation is the corporate mission of our school, all kinds of project-based and innovative ideas are supported in every sense"* and, therefore, revealed how important the influence of the institutional mission, which emerged under the leadership of school administrators, was on teachers' innovative practices. The teachers participating in this study expressed that

they received support from other teachers working in their schools, parents, and students in terms of helping and participating in innovative projects and activities. Projects, innovative practices, and activities often require teamwork. Therefore, this result is logical.

**Table 2.**

*The Individuals and Institutions That Teachers Receive Support in Their Innovative Practices*

| Theme   | Sub-theme   | n  |
|---|---|----|
| School administrators                           | The procurement of equipment and materials              | 15 |
|   | Financial support                                       | 9  |
|   | Facilitating leaves etc.                                | 2  |
| Teachers at school                              |   | 4  |
|   | Helping and participating in the project and activities | 9  |
| Parents   |   | 7  |
|   | The procurement of equipment                            | 1  |
| Students  | Helping and participating in the project and activities | 6  |
|   |   | 6  |
| Universities                                    | Helping and participating in the project and activities | 6  |
|   |   | 6  |
| TUBİTAK   | Educational support                                     | 4  |
|   | The procurement of equipment and materials              | 2  |
| Other schools/Science and Art Education Centers | Project support   | 5  |
|   |   | 5  |
| Municipalities                                  | The procurement of equipment and materials              | 4  |
|   | Technological support                                   | 1  |
| Ministry of National Education                  |   | 3  |
|   | Project support   | 2  |
| Provincial and District Directorates of MoNE    | The procurement of equipment and materials              | 2  |
|   | Project support   | 2  |
| National agencies                               | Project support   | 2  |
|   |   | 2  |
| Other ministries                                | Project support   | 2  |
|   |   | 2  |
| Social media                                    | Project support   | 2  |
|   | Exchange of ideas                                       | 2  |
| Private companies                               |   | 1  |
|   | Software and training support                           | 1  |

The teachers participating in the study stated that although they got support mostly from the school organization in their innovative practices, they also got support from various institutions outside the school. In this regard, participating teachers benefited from universities (n=6), the Scientific and Technological Research Council of Turkey (TUBİTAK) (n=5), other schools/science and art education centers (n=4), and municipalities (n=4) in their innovative practices. It was determined that teachers obtained educational support, equipment, and materials from the universities and acquired training and donation opportunities through TUBİTAK. It was determined that teachers also acquired help and donations from other Schools/Science and Art Education Centers and

municipalities to procure equipment and materials and use technological software and programs.

The institutions where the teachers participating in this study received the least support for their innovative practices were private companies (n=1). It is thought that this may be as the teachers participating in this study worked in public schools and, therefore, they request support from the state institutions instead of receiving support from different institutions.

In addition, the following questions were asked to the teachers participating in the research to determine the adequacy of the physical conditions of the schools where they work to reveal the organizational factors affecting the innovative work behaviors of the teachers: "Do you think the physical conditions of your school are sufficient for your innovative practices?" and "If you do not think the physical conditions are insufficient, in which terms do you think the physical conditions are insufficient?". The themes and subthemes related to the teachers' responses to the physical conditions of the schools were presented in Table 3.

**Table 3.**

*The Sufficiency of The Physical Conditions of Schools According to Teacher Opinions*

| Theme      | Sub-theme   | n  |
|------------|---|----|
| Adequate   |   | 10 |
| Inadequate |   | 10 |
|            | Lack of technological equipment and infrastructure      | 7  |
|            | Lack of a design skill workshop belonging to the branch | 3  |
|            | Crowded classrooms                                      | 2  |

Considering the physical conditions of the schools, half of the teachers (n=10) participating in this study found the physical conditions sufficient, while the other half of the participants (n=10) found the physical conditions insufficient. The teachers considering the physical conditions of their schools to be insufficient explained this inadequacy through the lack of technological equipment and infrastructure in schools (n=7), the absence of a design skill workshop in the school (n=3), and crowded classroom sizes (n=2). T8 expressed himself/herself in this regard as "Lack of technological infrastructure and computer support centers, and crowded classroom sizes are the main reasons for inadequacy" while T17 expressed himself/herself as "Unfortunately, there is no workshop suitable for my branch. In this regard, I can't see any effort from our school administrators and other group teachers" and highlighted that the school administration and teachers were insensitive towards the problem faced by them as well as the inadequacy in the physical conditions.

The third sub-problem of the study is to determine the results of the organizational intelligence level of the schools in which they work, on individual and organizational factors affecting innovative work behaviors, according to the teachers' opinions. To this end, the teachers who participated in the study were asked questions about their thoughts on the 7 operational subdimensions of organizational intelligence (adaptation to

changing situations, open-mindedness, flexible and comfortable working, immediate actions and immediate reactions, renewability, intuitiveness, and foresight, imagination). The findings obtained from the research are given below.

Concerning the Adaptation to Changing Situations dimension of organizational intelligence, participants were asked a question about teachers' involvement in decisions about education and training in schools and the impact of that involvement on their innovative practices. The themes and subthemes, including teachers' opinions about the impact of participation in school decision-making on their innovative practices, are presented in Table 4.

**Table 4.**

*The Effects of Participation in Decisions on The Innovative Practices of Teachers*

| Theme  | Sub-theme  | n |
|--|--|---|
| Having a voice in participating in decisions | High professional motivation                     | 6 |
|  | Being supported by the school administration     | 2 |
|  | Increased trust in the organization              | 2 |
|  | Environment for new ideas                        | 2 |
|  | Cooperation opportunities                        | 2 |
|  | Increased faith in work                          | 1 |
|  | Task performance increase                        | 1 |
|  | Supporting autonomy                              | 1 |
|  | Not having a voice in participating in decisions |   |

Considering the participation of teachers in the decisions regarding the education and training at school, 15 of the teachers stated that they had a say in the process while 5 of the teachers stated that they could not participate in the decisions taken at school. Similarly, 15 of the participants stated that participation in the decisions taken at school was effective in their new ideas and practices. The effects of participation in the decisions taken about the education and training at school on teachers' new ideas and practices were presented in Table 4. Teachers' participation in the decisions taken at school was most effective on the motivation increase (n=6). Participants' sense of support from school administrators (n=2) and increased confidence in the institution (n=2) were seen as factors that reinforced teachers' innovative practices. T15 expressed himself/herself in this regard as follows: "Decisions made by exchanging ideas and finding middle ways always have a positive effect on the employees. This way, I can develop new ideas more easily and without hesitation. I can also clarify what kind of support I can get from my friends". The least expressed opinions about teachers' participation in decisions were expressed as increasing belief in work (n=1), increasing performance (n=1), and supporting teachers' autonomy (n=1).

The effects of teachers' participation in decisions regarding education and training on their innovative practices create a situation that activates and strengthens individual factors the teachers considered to be effective in their innovative practices. For example, motivation, creativity, problem-solving, self-confidence, and love for the profession,



which were among the individual characteristics expressed by participating teachers, were in parallel with participation in decisions and considered the results of organizational intelligence. In addition to this, creating opportunities for cooperation through participation in decision-making was considered an important organizational factor in the cooperation and collaboration between the school administrators, teachers, parents, and students in teachers' projects and activities.

Considering the being open-minded organizational intelligence dimension, the teachers asked a question about expressing their ideas clearly at school and the effects of this on their innovative practices. The themes and sub-themes including teachers' opinions on the effects of expressing their ideas clearly on their innovative school practices were presented in Table 5.

**Table 5.**

*The Effects of Being Able to Express Ideas on Teachers' Innovative Practices*

| Theme                                   | Sub-theme                              | n |
|---|--|---|
| Expressing ideas clearly                | The emergence of new ideas             | 9 |
|   | Healthy progress of planned works      | 3 |
|   | Increase in self-confidence            | 3 |
|   | Solving problems effectively           | 2 |
|   | Making the best decisions for students | 1 |
| Not being able to express ideas clearly |  | 2 |

Almost all the teachers (n=18) participating in the study stated that they could express their ideas clearly at school. 17 of the teachers stated that this was effective in their new ideas and practices. The effects of expressing ideas clearly at school on teachers' new ideas and practices were presented in Table 5. Participating teachers indicated that expressing their ideas allowed new ideas to emerge (n=9), that planned studies/practices were healthier (n=3), that their confidence was increased (n=3), that they were able to solve problems effectively (n=2), and that they were able to make the best decisions for students (n=1). T7 expressed himself/herself as *"In environments where there is freedom of thought, discussions can be held within the framework of respect and you can reach mutual consensus. It is easier for you to develop new ideas when you know that your idea will be accepted rationally. This way, it is easier to go further"* and emphasized the importance of this situation.

Based on the opinions of the teachers participating in the study, it can be said that the being open-minded dimension of organizational intelligence prepares a clear ground for revealing and applying new ideas in school. In addition to this, the ability of teachers to express their ideas played a role in stimulating self-confidence and problem-solving skills, which were among the individual factors they considered to be effective in their innovative practices. In this regard, the statement of T15 was quite remarkable: *"I can share my new ideas and practices with our school administrators, teachers, parents, and students without hesitation. I didn't have even a single idea that was rejected until now. This increases my self-confidence"*.

Considering the functioning flexibly and comfortably dimension, the teachers participating in this study were asked whether the school administrators were tolerant towards criticism, opinions, and suggestions or not. The themes and sub-themes including the effects of the school administrators' being tolerant towards criticism, opinions, and suggestions on teachers' new ideas and practices were presented in Table 6.

15 of the teachers participating in this study stated that the school administrators were tolerant towards criticism, opinions, and suggestions while 5 of the teachers stated that they could not see this tolerant behavior. 14 of the teachers stated that this was effective in their new ideas and practices. Participants stated that when the school administrators tolerated criticism, opinions, and suggestions, a democratic environment allowing the emergence of different ideas in the school was formed (n=7), the projects and practices were performed in a more positive environment (n=4), their motivation increased (n=2), they produced solutions to problems much faster (n=1), and they could express themselves more easily (n=1). Therefore, the tolerant attitude of the school administrators towards the criticism, opinions, and suggestions created a positive atmosphere in the school and paved the way for innovative work behaviors. T5 commented as follows: "The fact that school administrators support new ideas and practices and create an environment that allows different ideas to be proposed is very effective for teachers to develop innovative practices" and T15 commented as follows: "Positive criticism does not cause problems anyway. The important thing is to be able to accept negative criticism and use it for personal or business development. *All school administrators I have worked with so far considered all my negative criticism. In this way, new ideas and practices are executed and finalized on time and as they should*".

**Table 6.**

*The Effects of School Administrators' Being Tolerant Towards Criticism, Opinions, and Suggestions on Teachers' New Ideas and Practices*

| Theme  | Sub-theme  | n |
|--|--|---|
| School administrators are tolerant of criticism, opinions, and suggestions | Creating a democratic environment that allows different ideas to emerge        | 7 |
|  | Realizing projects and applications in a positive environment                  | 4 |
|  | Increasing motivation  | 2 |
|  | Producing solutions to problems much faster                                    | 1 |
|  | Expressing oneself comfortably   | 1 |
|  | School administrators are not tolerant of criticism, opinions, and suggestions |   |

Functioning flexibly and comfortably dimension of organizational intelligence provides schools with an important infrastructure in creating a positive school climate and opening the way for new ideas. It was determined that the environment of tolerance created by the school administration also activated the motivation and problem-solving skills of teachers, which were among the individual factors considered to be effective in their

innovative practices. On the other hand, the organizational factors that participants considered effective for their innovative practices, such as the provision of equipment, materials, and financial support by school administrators and the facilitation of bureaucratic procedures, such as leaves, were also found to be related to the flexible and convenient dimension of organizational intelligence.

Considering the taking immediate actions and producing instant reactions dimension, the teachers participating in this study were asked whether their schools could produce fast, effective, and timely solutions to the problems arising or not and its effect on their innovative practices. The themes and sub-themes including the effects of producing fast, effective, and timely solutions to the problems arising in the school on teachers' innovative practices were presented in Table 7.

15 of the teachers participating in this study stated that their schools could produce fast, effective, and timely solutions to the problems arising while 5 of the teachers stated that their schools couldn't. 14 of the teachers stated that this was effective in their new ideas and practices. The effects of producing fast, effective, and timely solutions to the problems arising at school on teachers' new ideas and practices were presented in Table 7. 7 of the teachers participating in this study stated that producing fast and effective solutions for the problems arising prevented time loss. T15 expressed himself/herself as *"Producing fast and effective solutions prevent time loss and ensure that activities and practices progress in a timely and regular way"* and revealed the importance of time and time management in the functioning of the school. 2 of the teachers stated that bringing fast and effective solutions to problems increased the possibility of implementing new ideas while 2 of the teachers stated that they could move on to other issues as the problems were solved quickly. T11 expressed himself/herself in this regard as *"Quick solutions to problems support the applicability of our innovative ideas"* and highlighted that fast and effective intervention to problems opened up space for new ideas and new issues. The least frequent responses in this regard were intervening in the problems before they intensify (n=1), being able to focus more on education and training (n=1), moving forward without facing bureaucratic obstacles (n=1), increasing teachers' trust in the organization (n=1), and increasing motivation (n=1).

**Table 7.**

*The Effects of Producing Fast, Effective, and Timely Solutions to The Problems Arising in The School on Teachers' Innovative Practices*

| Theme   | Sub-theme                                 | n |
|---|---|---|
| Producing timely, fast, and effective solutions to problems | Preventing time loss                      | 7 |
|   | Increasing the applicability of new ideas | 2 |
|   | Switching to different topics             | 2 |
|   | Being able to intervene in problems       | 1 |
|   | Focusing on the educational works         | 1 |
|   | Avoiding bureaucratic obstacles           | 1 |
|   | Increased trust in the institution        | 1 |
|   | Increased motivation                      | 1 |

---

|   |   |
|---|---|
| Not being able to produce timely, fast, and effective solutions to problems | 5 |
|---|---|

---

As it can be understood from the opinions of the teachers participating in this study, taking immediate actions and producing instant reactions provides the right use of time and effective time management and provides opportunities and space for new ideas and practices. The organizational intelligence dimension-immediate actions and immediate responses-was found to have an impact on the individual factors that teachers considered effective in their innovative practices, such as increasing their confidence and motivation, as well as organizational factors.

Considering the renewability dimension of organizational intelligence, the teachers participating in this study were asked whether their schools could easily adapt to new technologies and practices or not and its effect on teachers' innovative practices. The themes and sub-themes including the effects of school's easy adaptation to new technologies and practices on teachers' innovative practices were presented in Table 8.

**Table 8.**

*The Effects of School's Easy Adaptation to New Technologies and Practices on Teachers' Innovative Practices*

| Theme                                    | Sub-theme   | n |
|--|---|---|
| Adapting to new technology and practices | Increasing the quality of innovative practices          | 7 |
|  | Ensuring the work progress quickly and accurately       | 4 |
|  | Increasing the desire and enthusiasm for new works      | 2 |
|  | Making works easier                                     | 1 |
|  | Not being able to adapt to new technology and practices |   |

15 of the teachers participating in this study stated that their schools easily adapted to new technologies and practices while 5 of the teachers stated that their schools couldn't adapt easily. 14 of the teachers stated that school's adaptation to new technologies and practices was effective in their new ideas and practices. The effects of the school's easy adaptation to new technologies and practices on teachers' new ideas and practices were presented in Table 8. Teachers participating in this study stated that their schools' adaptation to new technologies and practices easily increased the quality of their innovative practices (n=7) as follows: "Our school became one of the schools performing projects. We adapt quickly to the conditions of the world. For example, we started producing masks as soon as the pandemic started in Turkey. Then, we increased the quality of these masks. In this regard, I can tell that I'm working at a qualified school" (T6). The teachers also highlighted that this helped procedures progress faster and more accurately (n=4) by saying "A good command of technological practices enables our business to progress faster and more solidly" (T3) while some others highlighted that their schools' adaptation to new technologies and practices easily increased their desire and enthusiasm for new studies (n=2) by saying "Technology is at the focal point of our lives. For example, programs enriched with web 2 designs arouse a sense of success and desire

in children” (T7). One of the teachers stated that the school’s adaptation to new technologies and practices made the works of their school easier.

The renewability dimension prepares a technical and technological ground for innovative practices in the school as well as providing an intellectual infrastructure for the emergence of new ideas in teachers. In this regard, T11 expressed himself/herself as “Our innovative ideas can be implemented with technological and physical infrastructure. For example, a new artificial intelligence classroom was established in our school. This way, it will be possible for us to produce projects related to artificial intelligence”. On the other hand, individual factors considered by teachers to be effective in their innovative practices, such as enjoying conducting research, passion for learning, and curiosity, directly reflected teachers’ need for innovation as an organizational intelligence factor.

Considering the being intuitive and prescient dimension of organizational intelligence, the teachers participating in this study were asked whether the school administrators could anticipate and intervene in possible conflicts in the school or not and its effect on the innovative practices of teachers and its effects on the innovative practices of teachers. The themes and sub-themes including the opinions on the effects of school administration’s ability to predict possible conflicts in the school and take the necessary intervention on teachers’ innovative practices were presented in Table 9.

**Table 9.**

*The Effects of School Administration’s Ability to Predict Possible Conflicts in The School and Take the Necessary Intervention on Teachers’ Innovative Practices*

| Theme   | Sub-theme                                 | n |
|---|---|---|
| Anticipating and responding to the conflicts              | Ensuring the work continue in cooperation | 5 |
|   | Completing the works                      | 3 |
|   | Creating a peaceful working environment   | 1 |
|   |   |   |
| Not being able to anticipate and respond to the conflicts |   | 6 |

14 of the teachers participating in this study stated that the school administrators could anticipate and intervene in possible conflicts in the school while 6 of the teachers stated that the school administrators could not anticipate and intervene in the possible conflicts. 7 of the teachers stated that this was effective in their new ideas and practices. 5 of the teachers stated that this attitude of the school administration has ensured that teaching in the school continues in collaboration, 3 of the teachers stated that teaching runs smoothly, and 1 of the teachers stated that a peaceful working environment has been created.

It was determined that being intuitive and prescient dimension allowed the organization to continue smoothly and maintain the environment of cooperation by ensuring that expected or unexpected possible situations within the organization were predicted and

intervened. T11 expressed himself/herself in this regard as “Cooperation is very important in innovative practices, but there may be conflicts regarding the ideas. Once these conflicts are overcome, a collaborative environment can be ensured” and highlighted the importance of being intuitive and prescient. Being intuitive and prescient dimension of organizational intelligence emerges as an important organizational factor in the innovative practices of teachers as it promotes cooperation and teamwork.

Considering using the imagination dimension of organizational intelligence, the teachers participating in this study were asked whether the teachers were encouraged by the school administrators to produce creative solutions to the problems encountered at school and the effects of this on the innovative practices of teachers. The themes and sub-themes including the effects of teachers’ encouragement by the school administration to produce creative solutions for the problems encountered in the school on their innovative practices were presented in Table 10.

**Table 10.**

*The Effects of Teachers’ Encouragement by The School Administration to Produce Creative Solutions for The Problems Encountered in The School on Their Innovative Practices*

| Theme   | Sub-theme   | n |
|---|---|---|
| Being encouraged by the school administration | Improving creativity                              | 8 |
|   | Increasing motivation                             | 5 |
|   | Broadening the horizon                            | 3 |
|   | Encouraging new works                             | 2 |
|   | Increasing job satisfaction                       | 1 |
|   | Increasing the sense of belonging                 | 1 |
|   | Strengthening communication                       | 1 |
|   | Not being encouraged by the school administration |   |

16 of the teachers participating in this study stated that they were encouraged by the school administrators to produce creative solutions to the problems they encountered at their schools. However, 4 of the teachers stated that they were not encouraged in this regard. It was determined that 15 of the teachers stated that being encouraged by the school administrators to produce creative solutions to the problems encountered at school was effective in teachers’ new ideas and practices. The teachers participating in this study stated that being encouraged by the school administrators to produce creative solutions to the problems encountered at school developed their creativity (n=8), increased their motivation (n=5), and broadened their horizons and perspectives (n=3). T6 expressed himself/herself in this regard as follows: “When you are supported, you work with great enthusiasm and can find more creative solutions”. The least frequent responses were the increase in job satisfaction (n=1), the increase in the sense of belonging to the school (n=1), and the strengthening of communication at school (n=1).

Using the imagination dimension is a key organizational intelligence factor that reveals creativity, which is the most important element of innovation, and employs teachers’

creative thinking skills. This dimension is associated with all dimensions of organizational intelligence and includes the individual factors considered to be effective on teachers' innovative practices through promoting creativity, motivation, investigation, learning, and curiosity as well as including organizational factors through job satisfaction, organizational belonging, and organizational communication effects.

## **Discussion, Results, and Recommendations**

As in all organizations, innovation activity is vital for educational organizations to survive by adapting to the information age and competing with other organizations. It is also a process that consists of generating ideas, supporting, realizing, and spreading the idea, and generating innovative work behaviors. As every stage of the innovation processes in educational organizations requires the efforts of teachers and the school community, determining their motivation to realize innovation and the factors that affect these motivations is an important element for ensuring organizational innovation in particular and innovation in the education system in general. In this regard, this study was structured within the scope of individual and organizational factors affecting teachers' innovative work behaviors, and the results of organizational intelligence on these factors. In line with the findings of this study, the following results were obtained:

It was determined that the individual factors considered to be effective in teachers' innovative practices focused on enjoying conducting research, passion for learning, curiosity, intrinsic motivation, creativity, and persistence. Similarly, Messmann & Mulder (2011) identified curiosity, Borasi & Finnigan (2010) identified perseverance, and Messmann & Mulder (2011), Loogma, Kruusvall & Uemarik (2012), and Suharyati (2017) identified motivation level as the individual factors influencing teachers' innovative work behaviors in their studies. Motivation is the psychological force that determines the direction of individuals' behavior within the organization, the level of their effort, and their resistance against the obstacles. Employees can be motivated to help the organization achieve its goals or prevent it from achieving them (Demir, 2019, p. 295). A teacher who is motivated for success in school will continue to strive and demonstrate the necessary behaviors until he/she reaches this goal. In this study, the sources of motivation promoting the teachers to perform new practices were determined to be the desire to catch up with the age, to keep up with the age of information and technology, to make the lessons more fun, and to attract the attention of the new generation students. It was determined that the factors promoting the teachers stemmed from their intrinsic motivation. Teachers who are intrinsically motivated value their work and derive their sense of accomplishment and inspiration from their profession and their students.

Considering the innovative practices implemented by the teachers participating in this study, the teachers stated that they received positive reactions from the school administration, teachers, and other employees. It was determined that the participants of this study got the most support from school administrators, other teachers in their schools, parents, and students in their innovative practices. It was also determined that

the teachers received support from the school administrators in terms of the procurement of equipment and materials, financial support, and bureaucratic procedures such as leaves while they received support from the other teachers working at their schools, parents, and students in terms of helping and participating in innovative projects and activities. In this regard, Binnewies & Gromer (2012) found that support from school administrators and colleagues was significantly effective in generating new ideas, developing and implementing those ideas that were accepted as innovative behavioral processes by teachers, and that support from school administrators increased teachers' motivation to develop creative ideas at work. Similarly, Kurtulus (2012) determined the support of school administration as a factor affecting teachers' innovativeness.

The teachers participating in the study stated that although they got support mostly from the school organization in their innovative practices, they also got support from various institutions outside the school such as TÜBİTAK, other Schools/Science and Art Education Centers, and municipalities. Half of the teachers participating in the study considered the physical conditions of the schools they work to be sufficient for their innovative practices while the other half considered the physical conditions of their schools insufficient. In a study conducted by Celik (2006), the lack of physical resources was an important factor among the barriers to change and innovation in primary schools.

Within the scope of this study, teachers' opinions on 7 operational dimensions of organizational intelligence were also evaluated. Considering adapting to changing situations dimension of organizational intelligence, teachers expressed their opinions on participation in the decisions taken at school. Decision-making is the selection of the most appropriate among the possible ways for solving a problem (Erdogan, 2000, p. 55). Employees of democratic and intelligent organizations have the right to present their opinions on issues that concern them and that will affect their work, and to participate in the decisions to be made. Teachers participating in this study stated that they could participate in the decisions considering the education and training at school, which affected their innovative practices. Teachers' motivation and confidence in the institution increase when they are involved in school decision-making and feel supported by the school administration. Innovative organizations should have flexible structures that can get the information they need from their environment and turn it into innovation by sharing and discussing it internally through organization members (Uzkurt, 2010, p. 45). Therefore, participation in decisions emerges as a factor that paves the way for new ideas and practices in school organizations.

Considering the being open-minded dimension of organizational intelligence, teachers provided their opinions on expressing their ideas at school. Silence in organizations is the conscious withholding and silencing of employees' opinions and thoughts on functional and/or behavioral issues for improving and developing the organization (Cakici, 2007, p. 149). Organizational silence may hinder democratic administration in schools, create a negative school climate, and decrease productivity. Therefore, it is recommended to create a democratic environment in schools, to provide information, and to create environments where teachers can express their ideas clearly for preventing organizational silence (Ayduğ, Himmetoğlu, & Turhan, 2017, p. 1120) Almost all of the



teachers participating in this study stated that they could express their opinions clearly at school and this was effective in their new ideas and practices. Teachers' ability to express their ideas clearly at school results in coming up with new ideas, maintaining planned studies/practices healthily, and increasing teachers' self-confidence.

Considering the functioning flexibly and comfortably dimension of organizational intelligence, the teachers participating in this study stated that the school administrators were tolerant towards criticism, opinions, and suggestions and that this affected their new ideas and innovative practices. Participants stated that when the school administrators tolerated their criticism, opinions, and suggestions, a democratic environment allowing the emergence of different ideas in the school was formed, the projects and practices were performed in a more positive environment, and their motivation increased. This study concluded that functioning flexibly and comfortably provided schools an important infrastructure in creating a positive school climate and opening the way for new ideas. Similarly, in a study they conducted, Chang, Chuang, & Bennington (2011) determined a significant relationship between organizational climate and innovative and creative teaching. This study showed that the school climate promoting innovation encouraged innovative and creative teaching. Organizational climate is the quality that affects the behaviors of the employees by providing the organization its identity and is perceived by the employees (Sezgin & Sonmez, 2017, p. 179). Successful educational practices are ensured by creating working environments with happy, safe, and diligent teachers and school administrators who know how to live together effectively (Peker, 1978, as cited in Dagli, 2018, p. 7).

Considering the taking immediate actions and producing instant reactions dimension, the teachers participating in this study stated that timely, fast, and effective solutions could be produced against problems arising at school. Participants stated that producing fast and effective solutions against the problems arising at school prevented time loss and increased the possibility of implementing new ideas. Participants also stated that they could move on to other issues requiring attention as the problems were solved quickly. Similarly, in a study they conducted, Carungay & Tsuruoka (2002) evaluated time pressure as one of the factors motivating innovation. Time is an uninterrupted process in which events come from the past to the present and follow each other toward the future, and it is the main element that gives meaning to movement. Although time is the most valuable asset of individuals, many people make use of their invaluable time through coincidences and luck factors. However, the time that cannot be saved, that is only consumed and lost, and that cannot be recovered should be used effectively and efficiently (Gurbuz & Aydin, 2012, pp. 16-17). Time management is essentially self-management. In other words, controlling the events we experience is managing the events by directing the individual (Guclu, 2001, p. 89).

Considering the renewability dimension, the participants explained that the schools they worked in could easily adapt to new technologies and practices. The participants stated that their schools' adaptation to new technologies and practices increased the quality of their innovative practices, enabled the works to progress faster and more accurately, and increased their desire and enthusiasm for new studies. In a study they conducted,



Loogma, Kruusvall, & Umarik (2012) concluded that teachers' Information and Communication Technologies (ICT) competencies served as a predictor for innovation and that the development of e-learning related competencies was closely related to innovation. ICT competence is a determining factor in teachers' innovative behavior, especially in developing, adopting, and disseminating technological innovations. To reach the knowledge and skills required in the teaching process, the teachers must follow the technology and use information communication technologies effectively. Information and Communication Technologies are a core function of schools today and the teachers are expected to use these technologies (Akbasli, Taskaya, Meydan, & Sahin, 2012, p. 114).

Considering the being intuitive and prescient dimension, the teachers participating in this study stated that the school administrators could anticipate possible conflicts in the school and make the necessary intervention. Conflict is an interaction based on the perception of connected individuals in some way that something is not appropriate or does not correspond. The divisions and inconsistencies arising in the relations and activities between the parties in the interaction process reveal the conflict between the two parties. Despite all efforts, it is not easy to prevent conflicts in organizations. The fact that individuals' knowledge, experience, interests, and abilities are quite different from each other creates conflict environments. Therefore, the school administrators must be always ready for conflicts as the forces and groups in the school environment are more fluid and even minor frictions can lead to conflicts (Gokyer, 2017, pp. 391-392). The teachers participating in this study stated that the school administrators' anticipation of possible conflicts in the school and making the necessary interventions ensured that the work in the school continued in cooperation, the studies were completed smoothly, and a peaceful working environment was created. Similarly, in a study they conducted, Tomic & Brouwers (1999) demonstrated that teachers received support from their colleagues in the process of developing new ideas and highlighted the importance of cooperation in terms of innovative practices.

Considering using the imagination dimension, the teachers participating in this study stated that they were encouraged by the school administrators to produce creative solutions for the problems encountered in their schools. The teachers participating in this study stated that being encouraged by the school administrators to produce creative solutions to the problems encountered at school developed their creativity, increased their motivation, and broadened their horizons and perspectives. In a study they conducted, Borasi & Finnigan (2010) mentioned that creative problem solving was an effective factor in innovative behavior. Ucus & Acar (2018) revealed a positive and significant relationship between teachers' creative classroom behaviors and innovative behaviors. Creativity is the process of perceiving problems or lack of knowledge, creating hypotheses for this, testing and changing these hypotheses, and communicating the results (Torrance, 1977, p. 7) Creative thinking, which is a concept related to creativity, is the association of observation, knowledge, experience, or thoughts in a way that produces new thought and concept (Yildirim, 2002, p. 38). All innovations start with creative thinking. While creativity is the generation of new and useful ideas in any field, innovation successfully implements creative ideas in a community. For individuals and

societies, creativity is a starting point for innovation. Creativity serves as the seed of all innovations and, likely, individuals' perceptions (implementation of people's ideas) towards innovations in a society affect their motivation to generate new ideas in that society (Amabile, Conti, Coon, Lazenby & Herron, 1996, pp. 1154-1155).

As can be seen, the organizational intelligence factors discussed in this study reveal results that activate and strengthen the individual and organizational factors teachers considered to be effective in their innovative practices. Therefore, it can be concluded that organizational intelligence with all its dimensions positively affects teachers' innovative work behaviors. The following recommendations can be made based on the results of this study:

As it is the responsibility of the school administrators to create an environment that paves the way for innovative behavior in schools, it should be ensured that school administrators are trained to gain leadership behaviors based on innovation and organizational intelligence. In schools, the school administrators and all employees should work together to ensure that all stakeholders understand and develop organizational intelligence and its dimensions. In this regard, the school administrators should make arrangements together with the administration staff and stakeholders to strengthen the individual characteristics that are effective in the innovative practices of teachers and make the organizational conditions suitable for new ideas and practices. For this purpose, the school administrators should focus primarily on teachers and ensure that they feel the administrative support they need. Sharing information among teachers, supporting cooperation and collaboration, making decisions on non-urgent issues with the participation of school administrators and teachers, finding solutions with the participation of teachers by using problem-solving techniques such as brainstorming and Pareto analysis to solve the problems encountered, and creating a learning organization and an innovative climate in the school through studies such as school resource exploration, as well as project support and institutional collaboration by transforming the emerging ideas, are considered to be actions that will have a significant impact on creating an intelligent and innovative school organization.

**Ethics Committee Approval:** In this research, the ethics committee approval notification document containing the eligibility decision for the research was received from the Ethics Committee of Hacettepe University Senate (Date: 24 November 2020, No: 35853172-101.02.02).

**Informed Consent:** An informed consent was obtained from all participants prior to their inclusion in the study.

**Peer-review:** Externally peer-reviewed.

**Authors' Contribution:** Research Study Design and Implementation – B.T, S.A.; Data Collection and Analysis, Drafting the manuscript – B.T, S.A.; Critical Review for Intellectual Content and Approval of the Final Version of the Manuscript – B.T, S.A.;

**Conflict of Interests:** There was no conflict of interest between the authors.



**Financial Disclosure:** No financial support was received for this study.

## References

- , S., Taskaya, S., Meydan, A. & Sahin, M. (2012). Teachers and Computer Technology: Supervisors' Views. *International Journal of Research in Social Sciences*, 2(2), 113-124.
- Akbasli, S., Erceetin, S. S. & Kubilay, S. (2019). Relationship Between Prospective Teachers' Deontic Justice Attitudes and Academic Dishonesty Tendencies. *South African Journal of Education*, 39(3), 1-12.
- Amabile, T., Conti, R., Coon, H., Lazenby, J. & Herron, M. (1996). Assessing The Work Environment for Creativity. *Academy of Management Journal*, 39(5), 1154-1184.
- Aydug, D., Himmetoglu, B. & Turhan, E. (2017). Ogretmenlerin Orgutsel Sessizlige İlişkin Goruslerinin Nitel Bir Arastırma İle İncelenmesi. *Abant İzzet Baysal Universitesi Egitim Fakultesi Dergisi*, 17(3), 1120-1143.
- Azma, F., Mostafapour, M. & Rezaei, H. (2012). The Application of Information Technology and Its Relationship with Organizational Intelligence. *Procedia Technology*, 1, 94-97.
- Binnewies, C. & Gromer, M. (2012). Creativity and Innovation at Work: The Role of Work Characteristics and Personal Initiative. *Psicothema*, 24(1), 100-105.
- Borasi, R. & Finnigan, K. (2010). Entrepreneurial Attitudes and Behaviors That Can Help Prepare Successful Change-Agents in Education. *The New Educator*, 6(1), 1-29.
- Bos-Nehles, A., Bondarouk, T. & Nijenhuis, K. (2017). Innovative Work Behaviour in Knowledge-Intensive Public Sector Organizations: The Case of Supervisors in the Netherlands Fire Services. *The International Journal of Human Resource Management*, 28(2), 379-398.
- Buyukozturk, S. (2005). Anket Gelistirme. *Turk Egitim Bilimleri Dergisi*, 3(2), 133-151.
- Carungay, R. & Tsuruoka, Y. (2002). Innovativeness in Secondary Science Teachers of The Philippines. *Journal of Science Education in Japan*, 26(3), 227-234.
- Chang, C., Chuang, H. & Bennington, L. (2011). Organizational Climate for Innovation and Creative Teaching in Urban and Rural Schools. *Quality & Quantity*, 45(4), 935-951.
- Creswell, J. (2013). *Nitel Arastırma Yontemleri: Bes Yaklasıma Gore Nitel Arastırma ve Arastırma Deseni*. (Trans. Eds., M. Butun & S. Demir) Ankara: Siyasal Kitabevi.
- Cakici, A. (2007). Orgutlerde Sessizlik: Sessizligin Teorik Temelleri ve Dinamikleri. *Cukurova Universitesi Sosyal Bilimler Enstitusu Dergisi*, 16(1), 145-162.
- Celik, M. (2006). *İlkogretim Okullarında Degisimin ve Yeniliklerin Uygulanmasını Engelleyen Faktorlerin Ogretmen ve Yoneticiler Algilarna Gore Belirlenmesi (Gaziantep İli Merkez İlceleri Ornegi)*. (Yuksek Lisans Tezi). Gaziantep Universitesi Sosyal Bilimler Enstitusu Egitim Bilimleri Anabilim Dalı, Gaziantep.
- Dagli, A. (2018). *Teoriden Uygulamaya Orgutsel İklim* (3 b.). Ankara: Pegem Akademi.
- Das, M. (2015). Innovative Practices in Teacher Education: An Overview. *International Research Journal of Interdisciplinary & Multidisciplinary Studies (IRJIMS)*, 1(4), 15-18.
- Demir, K. (2019). Motivasyon. N. Cemaloglu & M. Ozdemir (Eds.) In, *Egitim Yonetimi* (s. 295-314). Ankara: Pegem.
- Demiraslan, Y. & Kocak Usluel, Y. (2008). ICT Integration Processes in Turkish Schools: Using Activity Theory to Study Issues and Contradictions. *Australasian Journal of Educational Technology*, 24(4), 458-474.
- Erceetin, S. (2001). *Orgutsel Zeka*. Ankara: Nobel Yayın Dagıtım.
- Erceetin, S. (2004a). *Orgutsel Zeka ve Orgutsel Aptallık*. Ankara: Asil Yayın Dagıtım.
- Erceetin, S. (2004b). Okullarda Orgutsel Zekanın Eylemsel Boyutları. *Turk Egitim Bilimleri Dergisi*, 2(1), 1-13.
- Erdogan, I. (2000). *Okul Yonetimi ve Ogretim Liderligi* (2 b.). İstanbul: Sistem Yayıncılık.
- Glynn, M. (1996). Innovative Genius: A Framework for Relating Individual and Organizational Intelligences to Innovation. *Academy of Management Review*, 21(4), 1081-1111.
- Gokyer, N. (2017). Orgutsel Catısma. S. Ozdemir, & N. Cemaloglu (Ed) In, *Orgutsel Davranıs ve Yonetimi* (s. 391-420). Ankara: Pegem Akademi.
- Guclu, N. (2001). Zaman Yonetimi. *Kuram ve Uygulamada Egitim Yonetimi*(25), 87-106.
- Gurbuz, M., & Aydın, A. (2012). Zaman Kavramı ve Yonetimi. *Kahramanmaraş Sutcu İmam Universitesi Sosyal Bilimler Dergisi*, 9(2), 1-20.
- Haelermans, C. & Blank, J. (2012). Is a Schools' Performance Related to Technical Change? – A Study on the Relationship between Innovations and Secondary School Productivity. *Computers & Education*, 59(3), 884-892.
- Izci, I. (2017). *Okul Yoneticilerinin Orgutsel Zeka ve Performans Degerlendirme Algıları Arasındaki İlişki*. (Doktora Tezi). Canakkale Onsekiz Mart Universitesi Egitim Bilimleri Enstitusu Egitim Bilimleri Anabilim Dalı Egitim Yonetimi ve Denetimi Bilim Dalı, Canakkale.
- Janssen, O. (2000). Job Demands, Perceptions of Effort-Reward Fairness and Innovative Work Behaviour. *Journal of Occupational and Organizational Psychology*, 73(3), 287-302.
- Kahkha, A., Pourghaz, A. & Marziyeh, A. (2015). Examining the Relationship of Organizational Intelligence with Innovation Management and Career Advancement in an Organization. *Journal of Behavioral and Brain Science*, 5(10), 395-404.
- Kalkan, V. (2005). Organizational Intelligence: Antecedents and Consequences. *Journal of Business & Economics Research*, 3(10), 43-54.
- Kalkan, V.D. (2008). Orgutsel Zekanın Yenilik Yetenegine ve Firma Performansına Etkileri. (Doktora Tezi). Gebze Yuksek Teknoloji Enstitusu Sosyal Bilimler Enstitusu, Gebze.

- Korucu, A. & Olpak, Y. (2015). Öğretmen Adaylarının Bireysel Yenilikçilik Özelliklerinin Farklı Değişkenler Açısından İncelenmesi. *Eğitim Teknolojisi Kuram ve Uygulama*, 5(1), 111-127.
- Kurtulus, M. (2012). *Eğitimde İnovasyon: Öğretmen ve Öğrencilerin İnovasyona Bakışı ve Yeterliliğinin Sorgulanması*. (Yüksek Lisans Tezi). Gebze Yüksek Teknoloji Enstitüsü Sosyal Bilimler Enstitüsü Strateji Bilimi Anabilim Dalı, Gebze.
- Loogma, K., Kruusvall, J. & Umarik, M. (2012). E-learning as Innovation: Exploring Innovativeness of the VET Teachers' Community in Estonia. *Computers & Education*, 58(2), 808-817.
- Merriam, S. B. (2009). *Qualitative research: A Guide to Design and Implementation*. San Francisco, CA: Jossey-Bass.
- Messmann, G. & Mulder, R. (2011). Innovative Work Behaviour in Vocational Colleges: Understanding How and Why Innovations Are Developed. *Vocations and Learning*, 4, 63-84.
- Miles, M. & Huberman, A. (1994). *Qualitative Data Analysis. An Expanded Sourcebook*. (2 b.). California: SAGE Publications.
- Ordooie, M. (2016). Evaluation of Organizational Intelligence on Creative of High School Principals in The academic Year 2013-2014. *International Journal of Humanities and Cultural Studies (IJHCS)*, 3(2), 1410-1423.
- Patton, M. (2014). *Nitel Araştırma ve Değerlendirme Yöntemleri*. (M. Butun, S. Demir, Eds., B. Tarman & M. Yigit, Trans.) Ankara: Pegem Akademi.
- Scott, S. & Bruce, R. (1994). Determinants of Innovative Behavior: A Path Model of Individual Innovation in The Workplace. *Academy of Management Journal*, 37(3), 580-607.
- Sezgin, F. & Sonmez, E. (2017). Orgut Kültürü ve İklimi. S. Ozdemir & N. Cemaloglu (Ed.) In, *Orgütsel Davranış ve Yönetimi* (s. 179-226). Ankara: Pegem Akademi.
- Suharyati, H. (2017). Interaction of Relationship between Job Motivation with Teacher Innovativeness in Improving Education. *Journal of Education, Teaching and Learning*, 2(2), 228-232.
- Tomic, W. & Brouwers, A. (1999). Where Do Teachers Get Their Ideas From? *Creativity and Innovation Management*, 8(4), 262-268.
- Torrance, E. (1977). *Creativity in the Classroom: What Research Says to the Teacher*. Washington, D.C.: National Education Association.
- Tunca, N. (2012). *İlköğretim Öğretmenleri İçin Mesleki Değerler Olceğinin Gelistirilmesi ve İlköğretim Öğretmenlerinin Mesleki Değerlerinin Belirlenmesi*. (Doktora Tezi). Anadolu Üniversitesi Eğitim Bilimleri Enstitüsü, Eskişehir.
- Tura, B. & Akbaşlı, S. (2021). Orgütsel Zekâ Düzeyinin Öğretmenlerin Yenilikçi Çalışma Davranışları Üzerindeki Etkisi. *OPUS- Uluslararası Toplum Araştırmaları Dergisi*, 18(43), 6790-6805. DOI: 10.26466/opus.937986.
- Ucus, S. & Acar, İ. (2018). Teachers' Innovativeness and Teaching Approach: The Mediating Role of Creative Classroom Behaviors. *Social Behavior and Personality*, 46(10), 1697-1711.
- UNESCO. (2002). *Information and Communication Technologies in Teacher Education: A Planning Guide*. United Nations Educational, Scientific and Cultural Organization. Retrieved 25.04.2020 from <https://unesdoc.unesco.org/ark:/48223/pf0000129533>
- Uzkurt, C. (2010). İnovasyon Yönetimi: İnovasyon Nedir, Nasıl Yapılır ve Nasıl Pazarlanır? *Ankara Sanayi Odası Yayın Organı*, 36-51.
- Van de Ven, A. (1986). Central Problems in the Management of Innovation. *Management Science*, 32(5), 590-607.
- Worthington, M. (2013). Differences Between Phenomenological Research and A Basic Qualitative Research Design. Retrieved from, 1149861.
- Yıldırım, A. & Şimşek, H. (2016). *Sosyal Bilimlerde Nitel Araştırma Yöntemleri* (10 b.). Ankara: Seckin.
- Yıldırım, R. (2002). *Yaratıcılık ve Yenilik*. İstanbul: Sistem.

## Authors

## Contact

Belgin TURA, teacher, is a Ph.D. student at Hacettepe University, Department of Educational Administration Supervision Planning and Economics. His areas of interest include innovativeness in education, intelligence, and qualitative research.

Belgin TURA, Meliksah Secondary School, Ankara.

E-mail: [belgintura@gmail.com](mailto:belgintura@gmail.com)

Prof. Dr. Sait AKBASLI is a faculty member at Hacettepe University, Department of Educational Sciences, Program of Educational Management. His areas of work include school administration and education supervision, teacher training, lifelong learning, and education policies.

Prof. Dr. Sait AKBASLI, Hacettepe University, Faculty of Education Ankara.

E-mail: [sakbasli@gmail.com](mailto:sakbasli@gmail.com)

## ATTACHMENT-1: PARTICIPANT CODES

T1, male, science teacher at a middle school, professional seniority: 5 years, working time at the related school: 3 years, bachelor's degree, continues to perform various STEM practices and eTwinning projects at the school he works.

T2, male, science teacher at an Imam Hatip Middle School, professional seniority: 5 years, working time at the related school: 5 years, bachelor's degree, continues to perform various STEM practices and eTwinning projects at the school he works.

T3, female, technology and design teacher at a middle school, professional seniority: 12 years, working time at the related school: 5 years, Ph.D. degree, performed university-based projects and especially foreign-oriented projects (such as NASA, ASU, ESA, ESO, and JAXA) and TÜBİTAK projects.

T4, female, class teacher at a primary school, professional seniority: 12 years, working time at the related school: 5 years, postgraduate degree, continues to perform eTwinning projects at the school she works.

T5, male, mathematics teacher at an Imam Hatip Middle School, professional seniority: 13 years, working time at the related school: 2 years, Ph.D. degree, performs ERASMUS projects at the school he works.

T6, male, information technologies teacher at a Vocational and Technical Anatolian High School, professional seniority: 14 years, working time at the related school: 4 years, postgraduate degree, performed foreign-oriented projects (European School Network partnership with AIRBUS). Served as a Scientix Ambassador.

T7, male, science teacher at a middle school, professional seniority: 14 years, working time at the related school: 7 years, postgraduate degree, continues to perform eTwinning projects at the school he works.

T8, female, science teacher at a middle school, professional seniority: 14 years, working time at the related school: 8 years, postgraduate degree, performed new practices projects in mathematics, coding, and solving numerical problems at the school she works.

T9, female, Turkish language teacher at a middle school, professional seniority: 15 years, working time at the related school: 6 years, bachelor's degree, served as the school coordinator of the Nutrition Friendly School, School Health, Sister School, and Capital Teacher Workshops Projects.

T10, female, mathematics teacher at an Imam Hatip Middle School, professional seniority: 16 years, working time at the related school: 4 years, bachelor's degree, performed STEM practices at the school she works. Provided project consultancy and guidance in competitions organized by TÜBİTAK, Turkey.

T11, female, technology and design teacher at a science and art center, professional seniority: 16 years, working time at the related school: 2 years, postgraduate degree, took part in the Teknofest-Tubitak Projects and the Ministry of Youth and Sports Project at the school she works.

T12, female, mathematics teacher at a science and art center, professional seniority: 20 years, working time at the related school: 2 years, Ph.D. degree, performs ERASMUS projects at the school she works.

T13, female, class teacher at a primary school, professional seniority: 21 years, working time at the related school: 15 years, bachelor's degree, participated in international events on STEM and Coding, took part in webinars related to eTwinning projects, and continues to perform eTwinning projects.

T14, male, technology and design teacher at a middle school, professional seniority: 21 years, working time at the related school: 13 years, bachelor's degree, performed projects that increased the readiness of the students in his school by attracting the attention of the students with lectures and examples. Continues to share information, experience, and documents for Technology and Design teachers through various social media platforms.

T15, female, science teacher at a middle school, professional seniority: 22 years, working time at the related school: 8 years, bachelor's degree, continues to perform various STEM practices and eTwinning projects at the school she works.

T16, male, technology and design teacher at a special education practice school, professional seniority: 22 years, working time at the related school: 11 years, bachelor's degree, took part in the ERASMUS projects at the school he works. Provided coding training.

T17, female, technology and design teacher at a middle school, professional seniority: 23 years, working time at the related school: 6 years, postgraduate degree, performed various STEM practices and eTwinning projects at the school she works.

T18, female, class teacher at a primary school, professional seniority: 24 years, working time at the related school: 23 years, bachelor's degree, performed various STEM practices and eTwinning projects at the school she works.

T19, female, health services teacher at a Vocational and Technical Anatolian High School, professional seniority: 27 years, working time at the related school: 14 years, postgraduate degree, performed ERASMUS projects, and continues to serve as a project manager at the school she works.

T20, female, cloth production technology and fashion design teacher at a Vocational and Technical Anatolian High School, professional seniority: 29 years, working time at the related school: 6 years, postgraduate degree, performed ERASMUS projects at the school she works. Served as the project manager of an IPA project.

# Determination of Primary School Teachers' Mathematical Gender Stereotypes and Examination of Their Reflection on Students\*

Ozge NURLU USTUN\*\* Naciye AKSOY\*\*\*

## To cite this article:

Nurlu-Ustun, O., & Aksoy, N. (2022). Determination of primary school teachers' mathematical gender stereotypes and examination of their reflection on students. *Journal of Qualitative Research in Education*, 29, 235-264, doi: 10.14689/enad.29.9

**Abstract:** This study aims to investigate primary school teachers' mathematical gender stereotypes and to discover whether these stereotypes, if any, are reflected on students. The study was designed as a multiphase mixed methods study. Accordingly, in the quantitative and qualitative stages of the study, different sample groups including both fourth-grade teachers and fourth-grade students in Ankara were studied. Teachers' Gender Stereotype Scale toward Mathematics, observation form, Students' Gender Stereotype Questionnaire and Mathematics Achievement Test were sequentially used to collect data. The data were analyzed by Mann Whitney U test and content analysis. Results demonstrate that in comparison to the teacher who has neutral gender related beliefs toward mathematics, the teacher with strong traditional mathematical gender stereotypes favouring their male students. However, results show that students do not internalise their teachers' mathematical gender stereotypes, and, hence, there is reflection of teachers' gender stereotypes on students' mathematical achievements. By carrying out longitudinal studies, it should be followed at which educational level students begin to acquire such gendered perspectives, which academic fields and professions they choose, and thus the effects of teacher characteristics on students should be revealed more comprehensively.

**Keywords:** Equity in mathematics education, gender stereotypes in mathematics, Mathematics achievement

## Article Info


Received:  
16 Jun. 2021  
Revised:  
10 Aug. 2021  
Accepted:  
20 Jan. 2022


## Article Type

Research

© 2022 ANI Publishing. All rights reserved.

\* This study is derived from the Doctoral Dissertation completed by the first author under the supervision of the second author at Gazi University Institute of Educational Sciences in 2018.

\*\*  Corresponding Author: Erzincan Binali Yildirim University, Turkey, [ozgenurlu@hotmail.com](mailto:ozgenurlu@hotmail.com)

\*\*\*  Gazi University, Turkey, [naciye@gazi.edu.tr](mailto:naciye@gazi.edu.tr)



## Introduction

The starting point of this study is the fact of male domination in mathematics. Even though Carl Friedrich Gauss regarded mathematics as the queen of the sciences and assigned it a female characteristic, many people agree that the female nature and mathematical thought are incompatible (Koblitz, 2002). However, in Turkey at least, there are no statistically significant differences in the mathematical achievement of boys and girls at primary (Ergun, 2003; Kulunk-Akyurt, 2019; Sari & Ekici, 2018), and secondary school (Akhan, 2015; Ayvaz, 2013; Yilmaz, 2015; Yucel & Koc, 2011) levels. The examination determines student competence to attain higher education, named Higher Education Institution Examination (YKS) 2018 that boys are just slightly more likely to secure the top grades. Still, the differences are small and not viewed as significant. In stark contrast to these results, students' choice to study in mathematics-related fields remains highly gendered in Turkey. For example, the number of male students entering mathematics-related fields in Turkey is much higher than females. Male enrolment to Information and Communication Technologies departments is almost four times more than female students.

Similarly, male students prefer Engineering, Manufacturing and Construction departments, approximately two and a half times more than females. When it comes to the fields of Arts and Humanities, the picture changes and female domination can be seen clearly (OSYM, 2018). This gender disparity in specific fields can be seen in more men than women working in mathematics-related occupations.

Some researchers have emphasized biological differences in mathematical ability between women and men to explain gender differences in mathematics and mathematics-related occupations (Baron-Cohen et al., 2005; Chapman et al., 2006), while others believe that studies examining the effects of biological differences between women and men on mathematical ability provide contradictory and insufficient results (Ceci et al., 2009). According to Caplan and Caplan (2005), no significant gender differences in mathematical ability have ever been proven. When such differences are found, they are based on factors related to individual experiences. Suppose biological differences in mathematical ability do not necessarily force women out of mathematics and fields closely related to mathematics. In that case, some researchers have instead, focused on the question of what kind of experiences do young women have that cause them to leave mathematics in classroom settings (Keller, 2007).

As Philipp (2007) states, to understand students' experiences within the classroom, it is important to understand teachers as a central factor. Therefore, researchers have focused on teachers' traditional gender stereotypes in mathematics related to the belief that males are more capable and successful in mathematics (Beilock et al., 2010), how these gender stereotypes influence their interactions with students in mathematics classrooms and affect their students' mathematical achievement, and whether these stereotypes are passed on to students. Studies have shown that teachers stereotype mathematics as a masculine domain (Keller, 2001), consider boys to be more capable than girls (Kurtz-Costes et al., 2008), believe that boys have more developmental

resources in mathematics than girls, attribute girls' failure to low ability rather than lack of effort than boys, rate mathematics as a more difficult subject for girls than for boys (Tiedemann, 2000), and believe that girls need more explanations than boys (Chionidou-Moskofoglou & Chatzivasiliadou-Lekka, 2008). Keller (2001) asserts that teachers' mathematical gender stereotypes affect teacher-student interaction. Studies have explored that when teachers who maintain mathematical gender stereotypes ask a question, they often select boys over girls to answer questions posed (Mittelberg et al., 2011), therefore, boys are provided more opportunities to receive feedbacks than girls (Chionidou-Moskofoglou & Chatzivasiliadou-Lekka, 2008). In addition, teachers can transfer mathematical gender stereotypes to students through their classroom interaction (Keller, 2001). Keller and Dauenhimer (2003) found that teachers and students stereotype mathematics as a male domain and teachers' stereotypes significantly affect their students' stereotypes, mathematical achievement, self-efficacy and interest.

Due to the importance of mathematics as a selection criterion for further education steps and the most prestigious occupations (Keller & Dauenhimer, 2003; Martinot & Désert, 2007; Roman, 2004), teachers' mathematical gender stereotypes and their influences on mathematics classrooms and students have been studied as a starting point of maintaining gender equality, especially in western cultures. However, it is well known that sexist behaviours and attitudes are prevalent among teachers in Turkey (Esen, 2015; Sayilan, 2012). These sexist behaviours and attitudes show a wide range of variety. Some of them are the intervention of looks and turn out, accusation and pressure of friendships with the opposite sex, not giving girls the opportunity to respond and ignoring their questions during classroom discussions, sortation of course content, order of seating, and organization of tasks regarding students' gender (Tan, 2008). Nevertheless, there is no evidence of Turkish teachers' mathematical gender stereotypes and their reflection on teacher-student interactions in mathematics classrooms and students. Therefore, this study focuses on teachers' mathematical gender stereotypes to explore their stereotypes' reflections on teacher-student interaction in mathematics classrooms and students.

To achieve this aim, the following broader research questions are addressed:

1. How do teacher-student interactions in the classrooms of teachers who hold traditional and neutral gender related beliefs about mathematics?
2. Do teachers' mathematical gender stereotypes influence students' gender beliefs about mathematics?
3. Do teachers' mathematical gender stereotypes influence students' mathematics achievement by gender?

## Method

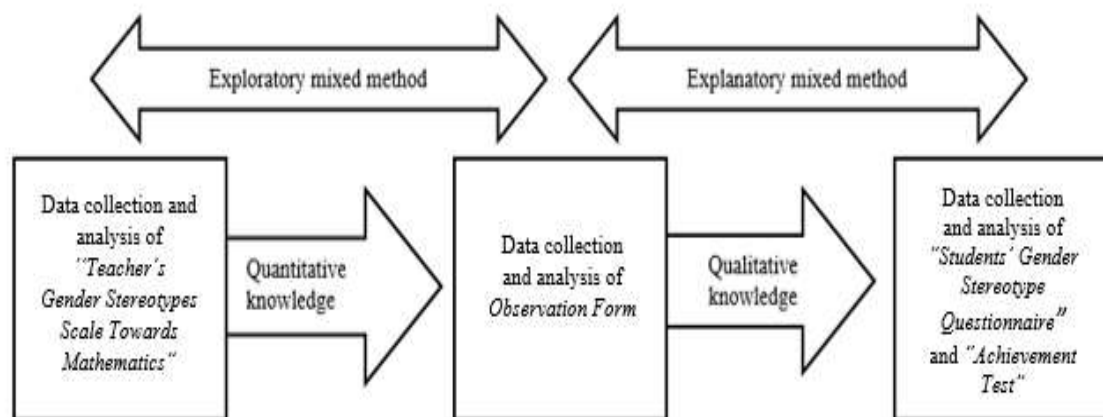
### Research Design

Multiphase mixed methods study design (Creswell, 2017) is used in this study. As it is shown in Figure 1, both explanatory and explanatory mixed method research designs

are utilised utilized together in the research. Data is gathered through a serail of phases. A survey is conducted and then classroom observations are used. Later, a questionnaire and an achievement test are applied to students. For the first, in the quantitative phase, teachers' gender stereotype in mathematics is determined. Later, in the follow-up, qualitative phase, teachers' classroom practices are addressed. Then, again in the quantitative phase, these teachers' students' mathematics achievement and stereotypes in mathematics are investigated.

**Figure 1.**

*Multistages Feature of the Research*



## Participants

In this study, different sampling strategies are utilized. Firstly, Teachers' Gender Stereotype Scale towards Mathematics is administered to 393 4th grade primary school teachers (299 females and 94 males) in 60 schools from each central county of Ankara, Turkey to reveal teachers' mathematical gender stereotypes and determine the further participant group of teachers. Secondly, one teacher having the strongest traditional mathematical gender stereotype beliefs (Ms. Nevin –nickname-) and one teacher having the most gender-neutral beliefs about mathematics (Ms. Nilgun –nickname-) are chosen as cases for the qualitative phase of the study based on their scores on Teachers' Gender Stereotypes Scale Towards Mathematics. Thirdly, students of these two teachers (30 females and 16 males) are participated in the study to take a mathematical achievement test and gender stereotype questionnaire to find out their mathematics scores and stereotypical beliefs about mathematics. Finally, from each classroom, 6 students (gender x achievement) are determined regarding their gender and achievement level to make student-teacher interaction observation.

## Data Collection and Procedure

### Teachers' gender stereotype scale towards mathematics

The Teachers' Gender Stereotype Scale Towards Mathematics developed by the first Nurlu (2017) was used to determine teachers' gender stereotypes in mathematics. The scale has two different forms and 34 items in total. Total score which can be taken from the scale is 170. Girls Form is constituted by items showing the superiority of girls to boys in mathematics, such as "Girls are more successful than boys in predicting how to solve mathematical problems". On the other hand, Boys Form has items that show the superiority of boys to girls, as "Boys understand mathematical problems more easily than girls do". Items of each form are produced based on the literature and exploratory and confirmatory factor analysis are established. The Cronbach Alpha value of Boys Form is found as .884, and of Girls Form is calculated as .91.

The Scale is administered to 393 fourth grade teachers in 60 primary schools. Firstly, the schools are determined randomly. Then, with official permission of the Ministry of National Education, 4th grade teachers are met one by one to explain the research's aim and request their consent. Teachers willing to participate in the study but do not have enough time to fill the scale during the day are given the researcher's phone number to send photos on some applications.

### Observation form

The researchers develop an observation form by utilizing Teacher-Child Dyadic Interaction System observation instrument (Brophy & Good, 1970). The observation form focuses on three areas in the teacher-student interaction: teacher-initiated interactions, student-initiated interactions and feedbacks given by teachers.

A sample of analysis of each code is given below:

#### *Teacher initiated interactions*

Teacher initiated interactions are related to the direct questions asked to a particular student. These questions are also examined in terms of Bloom's cognitive domain taxonomy. In this study, the first three steps (knowledge, comprehension and application) of Bloom's cognitive domain taxonomy are considered low order questions. The last three steps (analysis, synthesis and evaluation) are high order questions. An example is given below:

So, second place value after comma? Emre (most achieving male), raise your head. My dear Emre, second place value after comma? Ok, do you remember? Which place value is it?

This teacher-initiated interaction was coded as a low order question asked to a male student.

### **Student-initiated interactions**

Student-initiated interactions are investigated under two codes: public and private interactions. Public interactions involve some contacts with teachers initiated by students that everyone hears in the classroom such as calling out an answer or asking a question. An example of student initiated public interaction is given below:

The question of *"Is there anything smaller than mm?"* was asked by a female student in the classroom. This example was coded as a female student-initiated public interaction because the question is asked by a girl and loudly that everyone in the classroom can hear it. Private interactions involve individual contacts with the teacher-initiated by students, such as showing an answer they have written down in their notebooks.

### **Feedbacks**

Teacher feedback is explored with the codes evaluating the answer (correct, that's right or wrong, etc.), giving no response, rephrasing the question or giving a hint, asking for the correct answer, praising the correct answer, and criticising (you would know that if you had been paying attention, etc.). Below are some examples of teacher feedback:

Yes, it is pretty good (Fatma).

This feedback given by the teachers was coded as praising the right answer of a female student.

Observations take almost 10 hours for each classroom and are carried out until reaching the saturation point to ensure credibility. These took place between 5-19 December 2016 in Ms. Nevin's classroom, and on 21 March-13 April 2017 in Ms. Nilgun's classroom. During observations, the researcher takes an appropriate row that does not block students from seeing their teachers or the blackboard and does not interfere in their classes.

In the beginning of the study, it was planned that a video camera would record observations. However, some obstacles such as not being able to convince school administration, teachers and parents, convincing school administration, teachers, and parents are confronted. Thus, observational data are based on the taped recordings and the researcher's notes.

### **Mathematical achievement test and Students' gender stereotype questionnaire**

In this study, the Mathematical Achievement Test developed for 4th grade students based on the 2009 mathematics program by Fidan (2013) is used to determine students' mathematical achievement. The test was developed for numbers with the highest number of learning outcomes among four learning areas (numbers, geometry, measurement, data) in the primary school mathematics curriculum. The test consists of 24 items. The KR-20 reliability coefficient is 0.95; the mean difficulty is 0.59 and the discriminant value is 0.65.

Comparing the renewed 2015 and 2009 mathematics curriculum, we find that there is no significant difference in the learning area of numbers in which the test was developed. In addition, interviews with teachers showed that this program change was not reflected on their students. Teachers stated that their students are subject to the 2009 program at the application of the study (2016-2017 academic year). Thus this test was preferred because it is suitable for 4th grade students. Its validity and reliability studies have been carried out and it can be applied under the supervision of the researchers.

Students' Gender Stereotype Questionnaire developed by Steele (2003) examines the gender of students' drawings provided in response to two stories of which characters are children. One of them is really good at math, and the other is good at literature. The stories do not give any information or reference about the gender of the characters.

The stories, originally in English, are translated into Turkish by the researchers. Then, they are examined by an instructor who is an expert in literacy and Turkish education and fluent in English language. After required corrections were made, the opinions of 3 other experts in Primary Education, Turkish Education and Mathematics Education were taken and a final version of the questionnaire was reached.

Data of these two instruments are gathered together from students and data collection process takes one and a half periods. It asked teachers to determine an appropriate date to apply the test and the questionnaire. Data are obtained on 1-5 May 2017. Firstly, the test is given to the students. After ensuring that all students have completed the test, students will be shown the blank page and asked to open it. The short stories on the questionnaire are read aloud one at a time and students are asked to draw the characters from the stories on the page. Because the characters students draw are the focus of the research, students are asked to give their drawings a name. Therefore, the determination of characters' gender becomes easier.

## **Data Analysis**

### **Teachers' gender stereotype scale towards mathematics**

Data gathered from the scale is analyzed with SPSS and descriptive statistics. The five-point Likert scale is coded as strongly disagree=1, disagree=2, little bit agree=3, agree=4 and strongly agree=5, thus responses can be directly scored.

### **Observational data**

Observational data is analyzed by utilizing basic content analysis technique. By this technique "many words of the text are classified into much fewer categories" (Drisko & Maschi, 2016, p. 22). Observational data are transcribed in detail on a Microsoft Word document. These transcriptions are read several times to determine which events recorded during the observations needed to be placed under which code or category. To provide transferability, observational data are described in detail and observation notes are given. Direct quotations are chosen. Observational findings are demonstrated

through frequency tables. Also, to provide validation, the data are cross verified with data gained through, achievement test, and the students' gender stereotype questionnaire. In addition, to ensure confirmability, 30% of all the observational data are coded by two independent researchers. Using Hubermann's formula (1994), inter-coder reliability is calculated and it is found that they have shown 88% similarity. To provide dependability, an external researcher evaluates whether the data support the findings, interpretation and conclusion.

### **Mathematics achievement test and Students' gender stereotype questionnaire**

Mann Whitney-U test is carried out to explore whether there is a significant mathematical achievement difference between girls and boys. SPSS is used for the analysis of to analyse the quantitative data collected by means of using Mathematical Achievement Test and Students' Gender Stereotype Questionnaire. Data from the test and questionnaire are coded for the preparation to decrease the risk of errors. The achievement score is generated by coding the correct answer 1, and the wrong answer 0.

The questionnaire is based on a students' drawings. These drawings are coded by separating into three categories. Students who draw a girl in the literacy story and a boy in the mathematics story have traditional mathematical gender stereotypes. Students drawing a boy in the literacy story and a girl in the mathematics story are considered to have non-traditional gender stereotypes. Students who draw the same gender for both stories are considered as having gender neutral beliefs about mathematics. Data gathered from the questionnaire are entered into the SPSS and descriptive statistics procedures are utilized.

### **Ethical Considerations**

Participants' rights and values are considered throughout the research project. Firstly, it is applied to Ankara Directorate of National Education to evaluate the potential risks and benefits of the research, and any permission was obtained to carry out the study in primary schools in Ankara province. This permission is regarded as a prerequisite to ask teachers for their voluntary participation. All participants have informed the aim of the research and details how data gathered from them are used. For example, participants are told that their names or any identifying information are not mentioned in the study, but when it is needed, pseudonyms are used. Also, it is said that raw data are held in encrypted files in the researchers' private computers.

Students participating in the study are asked to fill mathematical achievement test and gender stereotype questionnaire without their name and in the mathematical achievement test and gender stereotype questionnaire without their name. Additionally, participants are provided with the researchers' phone numbers and they are told that they can get in contact with. They are told that they can contact the researchers if they find themselves feeling uncomfortable about anything they have divulged or any

behaviour displayed during the study. They are informed that test results are not shared with their teachers or parents. It is also emphasized that all participants have a right to withdraw from the study at any time.

## Findings

### Teachers' Gender Stereotype Scale Towards Mathematics Findings

To determine teachers' gender stereotype in mathematics, the *Teachers' Gender Stereotype Scale towards Mathematics* is administered. Results of the scale are illustrated in Table 1.

**Table 1.**

*Summary of Descriptive Statistics for Teachers' Gender Stereotypes towards Mathematics*

|            | N   | Minimum | Maximum | M     | Sd    |
|------------|-----|---------|---------|-------|-------|
| Boys Form  | 393 | 29      | 77      | 52,82 | 10,04 |
| Girls Form | 393 | 28      | 75      | 46,57 | 7,34  |

As shown in Table 1, participant teachers have mathematical gender stereotypes in both traditional and non-traditional ways.

The maximum score of the Scale's Boys Form that teachers got is 77, but the teacher with the highest score does not accept the participation. Ms. Nevin's score is 74 and she accepts the participation. Therefore, she is regarded as the teacher who demonstrates the strongest traditional gender stereotype in mathematics.

The minimum score of the total scale is evaluated because Boys Form shows the degree of perceived masculinity of mathematics but not gives any information of stereotypical belief about mathematics as a female domain. For instance, a participant having the lowest score from Boys Form could have a neutral belief or even non-traditional gender stereotypes. To make it clear, both Girls and Boys Forms are evaluated to reveal the teacher with most neutral belief toward mathematics. The minimum score in total of the Scale that teachers got is 57, however the teacher with the lowest score is not willing to participate in the study. Ms. Nilgun's score is 68 and she accepts the participation. Therefore, she is regarded as the teacher who has the most neutral gender related beliefs in mathematics.

### Observation Findings

Reflections of Ms. Nevin and Ms. Nilgun's beliefs about mathematical gender stereotypes on teacher-student interactions in mathematics classrooms are explored.



## Teacher initiated interactions

It is aimed to explore how the numbers and quality of teachers' questions are shaped regarding students' genders and academic achievement levels. Interactions by Ms. Nevin are presented in Table 2.

As it is seen in Table 2, Ms. Nevin asks more questions to male students than females at high and medium achievement levels. However, it is not the same for the lower achievers. At the low achievement level, the female student takes more questions than the male. When considering the characteristics of the questions, male students at high and medium achievement take more questions at both high and low order levels. Even though the female student with low achievement takes more questions at the remembering step, the same number of high order questions are asked to both the female and male student.

**Table 2.**

*Frequency Values of Interactions Initiated by Ms. Nevin*

| Questions                   | High achievers |      | Medium achievers |      | Low achievers |      |   |
|-----------------------------|----------------|------|------------------|------|---------------|------|---|
|                             | Female         | Male | Female           | Male | Female        | Male |   |
| <b>High Order Questions</b> | Evaluating     | 0    | 0                | 0    | 0             | 0    | 0 |
|                             | Synthesising   | 1    | 2                | 1    | 0             | 1    | 0 |
|                             | Analysing      | 4    | 5                | 0    | 2             | 3    | 4 |
| <b>Low Order Questions</b>  | Applying       | 2    | 12               | 3    | 7             | 5    | 3 |
|                             | Understanding  | 0    | 0                | 0    | 0             | 0    | 0 |
|                             | Remembering    | 6    | 2                | 1    | 3             | 6    | 2 |
|                             | Total          | 13   | 21               | 5    | 12            | 15   | 9 |

It is seen that male students have a priority in terms of interactions initiated by Ms. Nevin. For example, to the whole classroom, Ms. Nevin asked the analyzing question of "How old is a person born when the Turkish Grand National Assembly (TBMM) was founded?". Some students bring their notebooks to show the answer, but the most achieving male student has not finished the answer yet. Ms. Nevin says the following words:

Yusuf, my son, why do not you bring? No, I am waiting for Yusuf. Hang on a minute, do not bring, please. I am waiting for Yusuf. First, Yusuf brings, then we can continue. Come on Yusuf.

Additionally, it is observed that Ms. Nevin frequently warns male students to engage with the lesson.

Sait, have you solved it?

Sait, you are up in the clouds

Only one time, she warns same achievement level female student with these words:

Bilge, Bilge has never brought (notebook)

Moreover, involving a discipline problem also becomes a learning opportunity for males in Ms. Nevin’s mathematics classes. For example, the boy with low achievement engages in some minor disruptive behaviour and talks to the deskmate (Furkan).

Furkan, stand up. What are those in your hands? Throw them. We are dying here to teach something; you are engaging different things. Multiply 12 with 5 in a short way. Sait, you multiply (He does not answer). Because, you talked. Sait, find the half what I say? Multiply with 10. Sait?

Interactions initiated by Ms. Nilgun are presented in Table 3.

**Table 3.**

*Frequency Values of Interactions Initiated by Ms. Nilgun*

|                             | Questions     | High achievers |      | Medium Achievers |      | Low achievers |      |
|-----------------------------|---------------|----------------|------|------------------|------|---------------|------|
|                             |               | Female         | Male | Female           | Male | Female        | Male |
| <b>High Order Questions</b> | Evaluating    | 0              | 0    | 0                | 0    | 0             | 0    |
|                             | Synthesising  | 1              | 1    | 2                | 1    | 2             | 0    |
|                             | Analysing     | 0              | 0    | 0                | 0    | 0             | 0    |
| <b>Low Order Questions</b>  | Applying      | 2              | 1    | 3                | 3    | 0             | 2    |
|                             | Understanding | 4              | 3    | 3                | 5    | 5             | 5    |
|                             | Remembering   | 1              | 4    | 4                | 3    | 10            | 6    |
|                             | Total         | 8              | 9    | 12               | 12   | 17            | 13   |

It is seen in Table 3, that the number of questions asked in Ms. Nilgun’s mathematics classes does not significantly differentiate regarding the gender of students. However, students' number of questions rises from students with higher achievers to the lower ones. When examining the characteristics of the questions, even it is possible to say that there is a balanced distribution, it is seen that lower achievers take more remembering level questions. It is observed that Ms. Nilgun asks more questions to students with low achievement students with low achievement questions.

Ms. Nilgun treats students similarly regardless of their genders. For example, when she realizes her students are distracted, she encourages all of them to concentrate. Her behaviours toward the male student with high achievement and to the female student with low achievement are as follows:

Second place value after comma? Emre (most achieving male), raise your head. My dear Emre, second place value after comma? Do you remember? Which place value is it? Tenths, ok what was 7 here?

2 whole  $\frac{1}{3}$  plus 3 whole  $\frac{1}{3}$ . We need to add the wholes and write as a whole. 2 plus 3 makes 5. By adding numerators, we write on the top of the number, 1 plus 1, yes my dear Sule (low achieving female), look at here. What does make 1 plus 1? 2.

Additionally, regardless of students' gender or achievement level, Ms. Nilgun insists on students' learning when they feel unconfident or leave the question unanswered. The following dialogue shows how she insists that the boy with medium achievement learns.

- I am too bad.
- You are not bad, you will learn. There is nothing like I am too bad. Come to the blackboard, keep calm.

It is observed that she displays similar treatment to the girl with low achievement:

- Sule, how many centimetres was in a meter?
- ...
- Come to the blackboard (teacher holds a meter).

According to classroom observations, the number and characteristics of interactions initiated by teachers are differentiated regarding students' gender, based on teachers' mathematical gender stereotypes. It is seen that the teacher with strong gender related beliefs toward mathematics generally asks more question to male students. Additionally, in the teacher's mathematics classes, male students often ask high order questions. It is a possibility to think that the expectation of males' superiority in mathematics ability cause them to take more questions. Moreover, in interactions initiated by the teacher, where male students are the focus of the classes, they are encouraged to join the lessons. They are expected to have higher-order thinking abilities and their learning is prioritized as important. On the other hand, it is observed that the number and characteristics of the questions that the teacher having neutral mathematical gender stereotypes asked, are distributed evenly with regards to the gender of students. According to observation results, the teacher invites her students to join the lesson and insists on learning regardless of their genders.

## Feedbacks

It aims to examine how the frequency and characteristics of feedback given by teachers are shaped regarding gender. Feedbacks given by Ms. Nevin are presented in Table 4.

Even though there are no clear differences between male and female students' right answers praise, it is observed that male students get more praise and encouragement to learn the right answers. As shown in Table 4, when Ms. Nevin evaluates her students' answers, it is seen that her feedbacks to female students is twice that of male students. However, Ms. Nevin ignores the correct answers of female students by half more times than male students and does not provide feedback. Additionally, when female students give a wrong answer or leave the question unanswered, they are criticised criticized more than male students. On the other hand, wrong answers and unanswered questions of male studentmale students' wrong answers and unanswered questions are directed to find the right answer by providing a clue more than female students.

**Table 4.***Frequency Values of Feedbacks Given by Ms. Nevin*

|   | Female Students |        |     |       | Male Students |        |     |       |
|---|-----------------|--------|-----|-------|---------------|--------|-----|-------|
|   | High            | Medium | Low | Total | High          | Medium | Low | Total |
| Evaluating the answer                       | 15              | 2      | 4   | 21    | 3             | 6      | 1   | 10    |
| Not giving feedback to wrong answer         | 0               | 2      | 3   | 5     | 2             | 2      | 0   | 4     |
| Not giving feedback to unanswered question  | 0               | 0      | 2   | 2     | 2             | 0      | 2   | 4     |
| Not giving feedback to right answer         | 7               | 2      | 2   | 11    | 1             | 5      | 0   | 6     |
| Criticising to wrong answer                 | 0               | 0      | 1   | 1     | 0             | 1      | 0   | 1     |
| Criticising to unanswered question          | 1               | 1      | 1   | 3     | 0             | 0      | 0   | 0     |
| Providing a clue for a wrong answer         | 1               | 0      | 0   | 1     | 2             | 2      | 3   | 7     |
| Providing a clue for an unanswered question | 0               | 0      | 1   | 1     | 7             | 0      | 4   | 11    |
| Inquiring the right answer                  | 3               | 0      | 0   | 3     | 1             | 2      | 1   | 4     |
| Praising the right answer                   | 7               | 2      | 1   | 10    | 10            | 1      | 0   | 11    |

Ms. Nevin provided more effective feedbacks for her male students in mathematics classes. If her male students cannot answer, even the answer is related with another course, she gives prior knowledge to encourage her students in finding the right answer.

We are making a relation between two different subjects. We know War of Independence. Was not Turkish Grand National Assembly (TBMM) founded before War of Independence? Ataturk embarked Samsun. 19th May 1919. Then he came to Ankara. Of course, he would make these meetings to officialize, he would make the Independence War officially. No one fights if there is nothing official. I mean it must be depended on somewhere. This must be an institution. He founded the TBMM. When did he found it? On your national holiday. You are always in a trouble on these dates.

On the other hand, it was observed that Ms. Nevin directed her female students to find unanswered questions only once. However, the explanation she provided to a female student also comprised of little criticism. For example, she teaches how to multiply with 50 in a short way. When a female student with low achievement does not answer, her reaction follows:

Bilge, you have 4 apples. If I ask you to give me half of them, how many will you give? What is the half of 4?

After the explanation, the student finds the answer, however Ms. Nevin's following words shows that she actually criticizes the student:

Did you get it, Bilge? Bilge, you are not focused. You have never been concentrated. This is not a thing you cannot get. Force your brain, little bit force your brain.

Male students do not receive this kind of. In fact, Ms. Nevin does not criticize her male students. Only once did, she criticizes a male student with medium achievement when he does not answer. However, the criticism comprises of glorifies his intelligence:

Don't you know multiplication table? Yesterday, what did we do, Mert? We put the ice into water, then measured it. I become like an ice, too. You are a smart boy; you should understand what I mean.

On the other hand, female students are criticised for their wrong answers:

My dear, why do you subtract from it? Children, people do not become younger after ten years, become older. You will not subtract. Bilge, do you become older or younger after ten years. What are you going to be? You will become older. The world donot turn back.

Additionally, it is observed that Ms. Nevin's praises towards male students is more comprehensive and descriptive than towards female when they make close estimations, follow the lesson or keep the notebook orderly:

Well done Yusuf, bravo. Can you come please, bring your notebook? Look at here, how beautiful his writing. Yusuf, come to the blackboard, solve the problem.

However, her praises towards female students is quite superficial:

Yes, Ayse, well done

According to observations, feedbacks given by Ms. Nevin are shown in Table 5.

As demonstrated in Table 5, Ms. Nilgun's feedbacks do not significantly differentiate based on the gender of students. It is observed that her feedbacks are quite similar regardless of the gender of students. Similar feedbacks are given for students from both genders even with different achievement levels. For example, a clue for a wrong answer provided by Ms. Nevin for a female student with low achievement follows:

- My dear Sule, how can I measure the width of the row?
- With chalk.
- With what? With centimetre, millimetre, meter or kilometre?

**Table 5.**  
*Frequency Values of Feedbacks Given by Ms. Nilgun*

|   | Female Students |        |     |       | Male Students |        |     |       |
|---|-----------------|--------|-----|-------|---------------|--------|-----|-------|
|   | High            | Medium | Low | Total | High          | Medium | Low | Total |
| Evaluating the answer                       | 8               | 8      | 9   | 25    | 5             | 8      | 9   | 22    |
| Not giving feedback to wrong answer         | 0               | 0      | 0   | 0     | 0             | 0      | 0   | 0     |
| Not giving feedback to unanswered question  | 0               | 0      | 0   | 0     | 1             | 0      | 0   | 1     |
| Not giving feedback to right answer         | 0               | 4      | 0   | 4     | 1             | 2      | 0   | 3     |
| Criticising to wrong answer                 | 0               | 0      | 1   | 1     | 0             | 0      | 0   | 0     |
| Criticising to unanswered question          | 0               | 0      | 3   | 3     | 1             | 0      | 1   | 2     |
| Providing a clue for a wrong answer         | 0               | 2      | 4   | 6     | 1             | 0      | 3   | 4     |
| Providing a clue for an unanswered question | 0               | 0      | 3   | 3     | 3             | 1      | 1   | 5     |
| Inquiring the right answer                  | 1               | 1      | 3   | 5     | 0             | 4      | 4   | 8     |
| Praising the right answer                   | 0               | 0      | 4   | 4     | 0             | 0      | 0   | 0     |

Similar feedback is given for a male student with medium achievement to help him find the right answer:

- My dear Arda, 60 centimetres, convert it to the millimetre.
- I divide to 10.
- Divide? 1 centimetre becomes 10 millimetres. Does it increase or decrease? Our number is increased, right? If each space is 10, 10, 20, 30, 40, should I need to count like that? How can we calculate?

Ms. Nilgun criticizes her students in a similar way when they cannot answer the questions. For example, she calls her high achievement male student to the blackboard and asks the following question:

- Ok, 1, what is the place value of 1, Emre?
- ...
- On the whole part my dear, what is the place value of that 3? When you think about that 3, which place value? Emre, you are super, if this is difficult for you (!). I am saying 231, what is the place value of 1?

A similar situation happened with a female student with low achievement:

- Ok, I will measure length of the eraser. Which unit of measurement should I use, Sule?

- ...
- Ok, quit to play with that note book.

Even Ms. Nilgun gives very similar feedbacks to her students regardless of their genders, she often praises her low achievement female student by using that kind of expressions:

- Well done you, well done.

It seems like there is an agreement in the class to motivate and encourage the low achievement female student. It is observed that for the right answer given by the female student with low achievement, her classmates applaud without any encouragement. It is possible to consider that another factor rather than gender of the student can be effective to this situation.

Classroom observational results reveal that the teachers' quality and quantity of feedback are shaped based on their perceptions about mathematical gender stereotypes.

### Student initiated interactions

Student initiated interactions in Ms. Nevin's classroom are presented in Table 6.

**Table 6.**

*Frequency Values of Interactions Initiated by Ms. Nevin's Students*

|                              |                       | High Achievement |      | Medium Achievement |      | Low Achievement |      |
|------------------------------|-----------------------|------------------|------|--------------------|------|-----------------|------|
|                              |                       | Female           | Male | Female             | Male | Female          | Male |
| <b>Academic Interactions</b> | Public interactions   | 24               | 5    | 0                  | 5    | 0               | 0    |
|                              | Personal interactions | 9                | 3    | 3                  | 3    | 1               | 1    |
|                              | Total                 | 33               | 8    | 3                  | 8    | 1               | 1    |

As shown in Table 6, in Ms. Nevin's classroom, the female student with high achievement initiates more academic interviews. It is also observed that the male student of medium achievement is more active than the girl in the same achievement level, however students with low achievement have less academic interactions and this does not differentiate based on genders of these students.

In the Ms. Nevin's mathematics classrooms, students initiate interactions by commenting on the difficulty of a problem, predicting or excitedly saying the answer of a problem, or running to the blackboard to solve the problem without permission. Additionally, bringing their notebook to the teacher to show their answer is regarded as personal interaction. The female student with high achievement is observed as the student who initiates most for both interactions, personal or public.

Student initiated interactions in Ms. Nilgun's classroom is presented in Table 7.

**Table 7.**

*Frequency Values of Interactions Initiated by Ms. Nilgun's Students*

|                              |                       | High Achievement |      | Medium Achievement |      | Low Achievement |      |
|------------------------------|-----------------------|------------------|------|--------------------|------|-----------------|------|
|                              |                       | Female           | Male | Female             | Male | Female          | Male |
| <b>Academic Interactions</b> | Public interactions   | 0                | 0    | 0                  | 3    | 1               | 0    |
|                              | Personal interactions | 0                | 0    | 0                  | 0    | 0               | 1    |
|                              | Total                 | 0                | 0    | 0                  | 3    | 1               | 1    |

As can be seen from Table 7, students in Ms. Nilgun's classroom generally do not tend to initiate interactions. It is observed that the male student in the medium achievement level initiates interaction.

According to classroom observations, Ms. Nilgun's students initiate public, academic interactions for reasoning about problems, evaluating others answers, and asking questions that are not in the scope of the curriculum such as "*Is there anything smaller than mm?*". It is observed that students bring their notebooks to their teachers to show their answers as the personal interactions initiated by students.

### **Students' Gender Stereotype Questionnaire Findings**

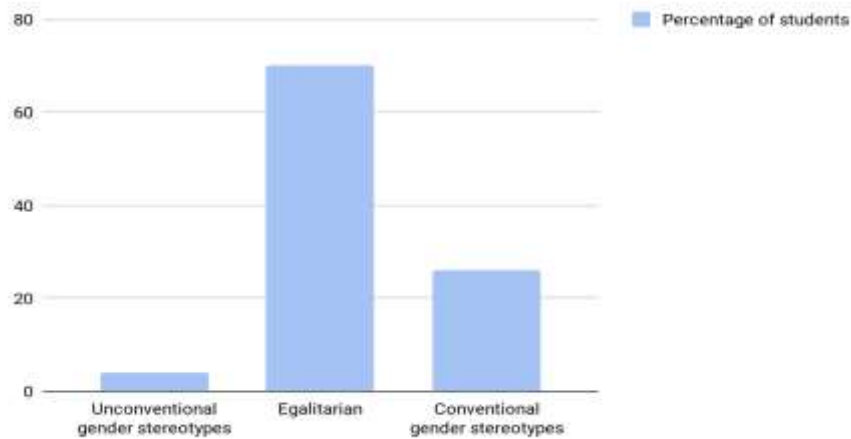
To reveal how teachers' mathematical gender stereotypes shape their students' gendered beliefs about mathematics, Gender Stereotype Questionnaire (Steele 2003) is applied to students.

The results of Gender Stereotype Questionnaire applied to Ms. Nevin's students are shown in Figure 2.



Figure 2.

Summary of the Descriptive Statistics of the Students' Gender Stereotype Questionnaire

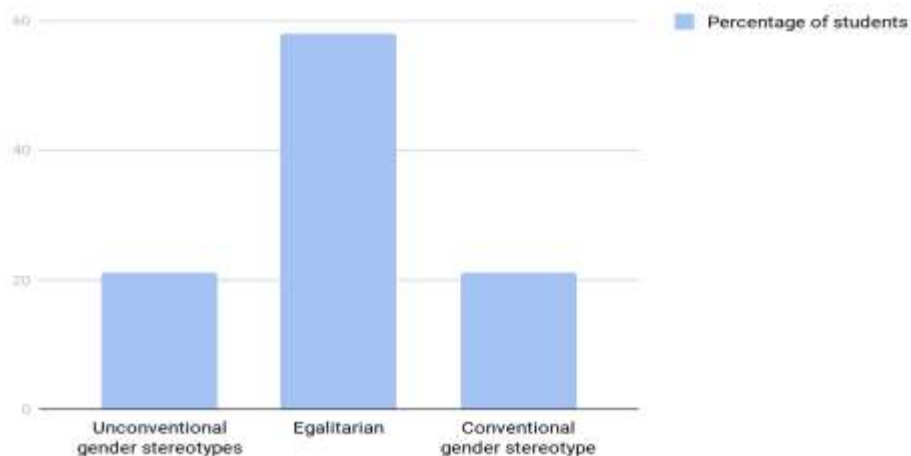


Results of the Gender Stereotype Questionnaire applied to Ms. Nilgun's students are presented in Figure 3.

This figure shows that 4% of Ms. Nevin's students have unconventional gender stereotypes. On the other hand, 26% of them have conventional gender stereotype. When investigating drawings of students who have neutral beliefs, it is seen that almost all of them draw their own gender for both mathematically and literally talented child. 70% of them do not have gendered beliefs toward mathematics.

Figure 3.

Summary of the Descriptive Statistics of the Gender Stereotype Questionnaire



As shown in Figure 3, 21% of Ms. Nilgun's students have unconventional gender stereotypes. Students who have conventional gender stereotypes are 21% of them. 58%

of the students have neutral gender-related beliefs toward mathematics. When considering these students' drawings, it is seen that almost all of them draw their gender for the character of both stories.

The results gained from Students' Gender Stereotype Questionnaire that applied to students to explore students gender-related beliefs toward mathematics reveal that most of the students have egalitarian beliefs toward mathematics in both classrooms that the study was conducted.

### Mathematics Achievement

In this study, the Mathematics Achievement test is used to determine students' achievements and gender differences in mathematics achievement.

In Ms. Nevin's classroom, it is seen that female students' achievement mean is 16.06; male students' mean is 11.66. To explore whether there is a significant difference between male and female students' mathematics achievement, Mann Whitney U Test is run.

#### Table 8.

*U-Test Results of Students' Mathematics Achievement Scores Regarding to Gender in Nevin Teacher's Classroom*

| Gender | N  | Mean Rank | Sum of Ranks | U     | P    |
|--------|----|-----------|--------------|-------|------|
| Female | 15 | 16,07     | 241,00       | 59,00 | ,130 |
| Male   | 12 | 11,42     | 137,00       |       |      |

According to Table 8, Ms. Nevin's female students are more successful than male classmates. However, it is seen that this difference between female and male students' achievements is not statistically significant,  $U=59.00$ ,  $p > .05$ .

In Ms. Nilgun's classroom, it is seen that the mean value of female students' achievement is 18.40, male students' achievement 18.50. Mann Whitney U Test is run to determine if there are gender differences in students' mathematics achievement.

As shown in Table 9, the mathematics achievement of Ms. Nilgun's male students is higher than female ones. However, this difference in students' mathematics achievement is not statistically significant,  $U=29.00$ ,  $p > .05$ .

**Table 9.**

*U-Test Results of Students' Mathematics Achievement Scores Regarding to Gender in Nilgun Teacher's Classroom*

| Gender | N  | Mean Rank | Sum of Ranks | U     | P    |
|--------|----|-----------|--------------|-------|------|
| Female | 15 | 10.07     | 1511.00      | 29.00 | .920 |
| Male   | 4  | 9.75      | 39.00        |       |      |

Mathematics Achievement Test results reveal minor gender differences in mathematics achievement in both classrooms. In Ms. Nevin's classroom, female students have higher achievement than boys while in Nilgun's classroom, male students are more successful. Nevertheless, it is found that these differences are not statistically significant.

## Discussion and Conclusion

This mixed-method design study aimed to investigate primary school teachers' mathematical gender stereotypes and discover their reflections on these gender stereotypes of their students. Education is a critical tool to provide gender equality. Democratic structures and processes should be created in schools and education should be constructed to actualize gender equality (Kalayci & Hayirsever, 2014). However, the present study finds that teachers have mathematical gender stereotypes. Results show that teachers' interactions with students and feedback are all differentiated by extending their mathematical gender stereotypes. However, this does not reflect the students' adoption of these stereotypes and mathematics achievement.

Teachers play a vital role in transferring gender stereotypes to new generations (Beilock, et al., 2010; Gunderson et al., 2012; Myhill & Jones, 2006, Tan, 2008) in various ways. One of these ways is the gendered attitudes teachers display during teacher-student interaction in classrooms (Duffy et al., 2001; Jones & Wheatley, 1990). This study shows that teachers' gendered or egalitarian beliefs toward mathematics shape the nature of teacher-student interactions in the classroom. In the class of the teacher who has mathematical gender stereotypes, male students are the focus of the lesson and often encouraged to engage in the lesson, their learning is a priority and discipline problems return to them as learning opportunities. In parallel, regarding this result, researchers suggest that the interactions of teachers having gender stereotypes about mathematics are focused on male students and that the questions asked, feedbacks (Chionidou-Moskofoglou & Chatzivasiliadou-Lekka, 2008) and disciplinary warnings provided are directed towards male students (Mittelberg et al., 2011).

In addition, it is observed that the teacher with mathematical gender stereotypes gives more effective and frequent feedback to their male students. Male students' answers were evaluated more accurately, and preliminary information about the questions male

students could not answer was provided in more detail. It is seen that even the teacher is criticizing their male students, she emphasizes male students' intelligence and praise them with more comprehensive and powerful messages. Similarly, Becker (1981) states that teachers usually prefer male students when it comes to interactions such as the right to answer, ask open and challenging questions, insist on learning, give praise and criticism, encourage, help individually, and joke in mathematics class. According to Sadker, Sadker, and Klein (1991), male students attract their teachers' attention more than females, receiving more praise and critical feedback. Dweck, Davidson, Nelson, and Emma (1978), state that male students' correct answers, on the other hand female students' harmonious behaviours are usually praised by their teachers. It is claimed that this situation reinforces the behavior of being 'good' in female students and increases the perception of 'I am smart' in males (Golombok & Fivush, 1994). In this regard, it would be appropriate to mention the self-fulfilling prophecy. For example, social persuasion, which is defined as verbally persuading the individual that he has the necessary skills, is known as one of the sources of self-efficacy (Bandura, 1997, p. 110). It is possible to think that the mathematical self-efficacy of male students who have created a perception of being intelligent by praising their academic achievements will increase. Moreover, it can be assumed that students whose success is praised will also have a positive attitude towards the course. Considering the positive effects of affective variables such as self-efficacy and attitude on mathematics achievement (Yildirim, 2011; Yucel & Koc, 2011), it can be said that teachers who have mathematical gender stereotypes construct a mechanism that confirms their beliefs through their feedback.

Besides, results of the study reveal that higher order questions are mostly asked to male students by the teacher who have mathematical gender stereotypes. Considering that teachers believe that male students are genetically superior

in mathematics (Mittelberg et al., 2011), that they think that mathematics is a more difficult domain for female students than for males at the same achievement level, that they estimate that male students have more developmental sources in mathematics (Tiedemann, 2002), that they have more interest and self-efficacy (Keller, 2001), it is obvious that they ask higher order questions for male students.

Researchers suggest that even though female students are willing to answer questions as many times as males, they can take fewer questions in the classroom of teachers who have mathematical gender stereotypes. Moreover, it is also mentioned that in these teachers' classrooms, male students are more active as an initiator of teacher-student interactions (Mittelberg et al., 2011). However, in this study, it is found that there is no difference in the number and quality of interactions initiated by students of the teacher who has gender stereotypes about mathematics and the teacher with neutral gender related beliefs toward mathematics. Considering that the exposed gender stereotypes have a negative effect on the participation of the classroom activities (Swinton et al., 2011), it is surprising that female students are actively an initiator of teacher-student interaction in the classroom of the teacher with strong mathematical gender stereotypes.

It is well known that teachers can transfer their gender stereotypes to students through teaching-learning activities (Keller, 2001). This study finds that academic interactions and feedbacks provided by the teacher with strong mathematical gender stereotypes have a feature in support of male students. Nevertheless, female students are the initiators of at least the same amount of interaction as their male friends, regardless of their teacher's mathematical gender stereotypes, points out that the students do not adopt these stereotypes. It is determined that most of the students do not have mathematical gender stereotypes in both classrooms. However, this opinion is in contrast with the results of some research finding that students even in kindergarten are aware of gender stereotypes (Blakemore, 2003; McKown & Weinstein, 2003; Ruble et al., 2006; Yagan Guder & Guler Yildiz, 2016). Therefore, it is hard to think that 4th grade students participating in the study, are not, as yet, aware of gender stereotypes. Additionally, it is revealed that students from 1st grade believe that boys are better at mathematics than girls (Lummis & Stevenson, 1990). There is the existence of gender stereotype among 4th and 3rd graders (Muzzatti & Agnoli, 2007).

On the other hand, researchers mention in-group favouritism bias as a frequently confronted phenomenon in the age group that the study applied (Martinot & Desert, 2007; Rowley et al., 2007). They argue that 10 years old students' awareness of mathematical gender stereotypes are quite clear, but the situation becomes uncertain when it comes to themselves (Martinot et al., 2012). Steele (2003) finds out that female students in the primary school draw a male when asked to draw an adult mathematician and a female when asked to draw a child mathematician. Thus, students are aware of these stereotypes but tend to evaluate their group systematically as better than the other group or groups. This behaviour, which is defined as in-group favouritism bias (Hewstone et al., 2002), may be the reason of the participant students' egalitarian view of mathematical gender stereotypes. Because, when the drawings of the students having egalitarian beliefs toward mathematics are examined, it is seen that they depict the characters in both stories in their own gender. Similarly, Martinot and Desert (2007), in their study conducted with 4th grade students, reveal that female students evaluate girls and male students considered boys as better in mathematics. In this case, it can be concluded that students may be aware of traditional mathematics gender stereotypes but do not internalize these stereotypes by making a positive discrimination towards the group they are in.

It is determined that in both classrooms, the study conducted, students' mathematical achievement does not significantly differentiate regarding with gender. Reviewing the studies that examine gender differences in mathematics achievement, it is seen that some of them found male students (Schwery et al., 2016; Van de Gaer et al., 2008) and some of them found female students more successful (Felson & Trudeau, 1991). In fact, as parallel to this study's results, some studies concluded that mathematics achievement does not differ according to gender (Akhan & Bindak, 2017; Devine et al., 2012; Hyde et al., 2008; Hyde et al., 2009). It is possible to suppose that the date of the research, the age of the participants, and the culture in which the research is carried out have an impact on the results. The results of meta-analysis studies indicate that gender

differences in mathematics achievement from past to present are less visible (Li et al., 2017; Linberg et al., 2010). In addition, it is seen that girls' mathematical achievement decreases from primary school towards the high school and college ages (Hyde et al., 2008; Leahey & Guo, 2001).

Moreover, the study conducted with Trends in International Mathematics and Science Study (TIMSS) data reveals that the relationship between mathematics achievement and gender significantly differs from one culture to the another (Penner, 2008). All these results indicate that the reason for the lower mathematics performance of female students compared to that of male students depends on the cultural gender stereotypes to which they are exposed and on the internalisation and adoption of these stereotypes day after day. Likewise, researchers indicate that the gender stereotypes play a determining role on their achievement by effecting their affective characteristics such as self-efficacy, attitude and interest (Casad et al., 2017). However, this study reveals that most of the students do not adopt mathematical gender stereotypes. Therefore, it is possible to assume that affective factors having an impact on mathematics achievements are not harmed with a sexist perspective. In this regard, it is seen that students' mathematical achievement does not differ regarding gender.

Although the literature suggests that teachers' mathematical gender stereotypes play a crucial role in mathematics achievement by differentiating their expectations of success for girls and boys (Gunderson et al., 2012), impacting their instructional processes (Keller, 2001; Mittelberg et al, 2011), and leading students to adopt these stereotypes (Doyle & Voyer, 2016; Gunderson et al., 2012; Zhao et al., 2016), the results of this study show that the female teacher with mathematical gender stereotypes does not transmit these stereotypes to her students and is not a determining factor in her students' mathematical achievement. Researchers suggest that the gender identity defined as the subjective sense of being a woman or a man (Dokmen, 2017) is affected by the mathematical gender stereotypes of the students. In other words, the students with low sense of gender identity have weak mathematical gender stereotypes and they are affected less than others from these stereotypes (Kiefer & Sekaquaptawa, 2007; Schmader, 2002). This study shows that the students being exposed to mathematical gender stereotypes and the students being in an egalitarian classroom environment have a similar result for both mathematical gender stereotypes and mathematical achievement scores regarding gender. This result could be related to the possible lower gender identity of students.

On the other hand, although teachers are known to play an important role in constructing mathematical gender stereotypes and conveying them to the next generations, it should be underlined that they are not alone. It would be appropriate to mention the parental factor. Researchers suggest that parental beliefs determine children's academic performance, motivation, and perceptions of competence in lessons (Tomasetto et al., 2011). The mathematical gender stereotypes that families have are important for the attitude, belief, and success children develop regarding mathematics (Denner et al., 2016; Tomasetto et al., 2015). Moreover, researchers indicate that performance of female students deteriorates under mathematical gender stereotypes,

however, a mothers' rejection of these stereotypes decreases girls' vulnerability to stereotype threat (Tomasetto et al., 2011). The mathematical gender stereotypes that parents have affect their children's mathematical success and professional expectations. Wilder (2013) suggests that there is a strong relationship between parents' expectation of success for their children and their interventions in children's academic development, and these interventions increase children's academic achievements. Besides, some additional courses and private tuitions that parents with high expectation of success for their children provided, it is not surprising that children who are aware of these expectations. However, they are exposed to a gendered attitude in the classroom, may behave very differently from these stereotypes. Indeed, in the research, parents may be a reason for female students in the teachers' classroom with strong mathematical gender stereotypes, to intensely engage in teacher-student interaction and be as successful as male students.

In addition, it should be noted that this study is limited to 4<sup>th</sup> grade primary school teachers and their students. It is found that there is not a reflection of teachers' gender stereotypes on 4<sup>th</sup> grade students. It should be determined that by feeding from what kind of sources, students might have adopted gender equality in mathematics and these sources should be supported. It should be revealed that through these which kind of affective and sociological factors, students do not internalize mathematical gender stereotypes, at least in this age group, even though they are exposed to these stereotypes. By carrying out longitudinal studies, it should be followed at which educational level students begin to acquire such gendered perspectives, which academic fields and professions they choose. Thus, the effects of teacher characteristics on students should be revealed more comprehensively. In addition, it is possible to consider that the data collection tools may cause this result. Therefore, more extended period ethnographic studies should be organized to examine whether students have mathematical gender stereotypes or not. Also, participants are limited with two teachers and their students. The study can be conducted with a larger group.

**Ethics Committee Approval:** This study is derived from the doctoral dissertation completed by the first author under the supervision of the second author at Gazi University, Institute of Educational Sciences in 2018. Ethical committees were established at universities in 2020. Therefore, ethics committee approval was not received for the study.

**Informed Consent:** An informed consent was obtained from all participants prior to their inclusion in the study.

**Peer-review:** Externally peer-reviewed.

**Authors' Contributions:** Concept – O.N.U., N.A.; Design – O.N.U., N.A.; Supervision – N.A.; Data Collection and Processing – O.N.U.; Analysis and Interpretation – O.N.U., N.A.; Literature Review – O.N.U.; Writing – O.N.U.; Critical Review – All authors.

**Conflict of Interests:** The authors have no conflict of interest to disclose.

**Financial Disclosure:** The authors declared that this study has received no financial support.

## References

- Akhan, S. (2015). *Ortaokul ogrencilerinin matematik basarisinin matematik tutumu, okul kulturu ve bazi demografik degiskenlerle iliskisinin incelenmesi [A research on the relation of the math attitude, school culture and some demographic variables with the math achievement of secondary school students]*. (Master's Thesis), Gaziantep Universitesi, Gaziantep.
- Akhan, S., & Bindak, R. (2017). Bazi kisisel degiskenlerin ortaokul ogrencilerinin matematik basarisi uzerindeki etkisi: Bir regresyon modeli [The effect of some individual variables on secondary school students' math achievement: A regression model]. *Ihlara Egitim Arstirmalari Dergisi*, 2(2), 5-17.
- Ayvaz, M. (2013). *Ortaokul ogrencilerinin zihinsel donusturma stratejilerinin matematik basarisi, sinif duzeyi ve cinsiyet degiskenleri baglaminda incelenmesi [Examination of strategies used by primary school students in solving mental rotation tasks in relation to their mathematical achievement, gender and grade level]*. (Master's Thesis). Marmara Universitesi, Istanbul.
- Bandura, A. (1997). *Self-efficacy. The exercise of control*. Newyork: W. H. Freeman and Company.
- Baron-Cohen S., Knickmeyer R. C., & Belmonte M. K. (2005). Sex differences in the brain: implications for explaining autism. *Science* 310(5749), 819-823.
- Becker, J. R., (1981). Differential treatment of females and males in mathematics classes. *Journal for Research in Mathematics Education*, 12(1), 40-53.
- Beilock, S. L., Gunderson, E. A., Ramirez, G., & Levine, S. C. (2010). Female teachers' math anxiety affects girls' math achievement. *Proceedings of the National Academy of Sciences*, 107(5), 1860-1863.
- Blakemore, J. E. O. (2003). Children's beliefs about violating gender norms: Boys shouldn't look like girls, and girls shouldn't act like boys. *Sex Roles*, 48(9-10), 411-419.
- Brophy, J. E., & Good, T. L. (1970). Teacher-child dyadic interactions: A new method of classroom observation. *Journal of School Psychology*, 8(2), 131-138.
- Caplan, J. B., & Caplan, P. J. (2005). The Perseverative Search for Sex Differences in Mathematics Ability. In A. M. Gallagher & J. C. Kaufman (Eds.), *Gender differences in mathematics: An integrative psychological approach* (pp. 25-47). Cambridge University.
- Casad, B. J., Hale, P., & Wachs, F. L. (2017). Stereotype threat among girls' differences by gender identity and math education context. *Psychology of Women Quarterly*, 41(4), 513-529.
- Ceci, S. J., Williams, W. M., & Barnett, S. M. (2009). Women's underrepresentation in science: sociocultural and biological considerations. *Psychological Bulletin*, 135(2), 218-261.
- Chapman, E., Baron-Cohen, S., Auyeung, B., Knickmeyer, R., Taylor, K., & Hackett, G. (2006). Fetal testosterone and empathy: evidence from the empathy quotient (EQ) and the "reading the mind in the eyes" test. *Social Neuroscience*, 1(2), 135-148.



- Chionidou-Moskofoglou, M., & Chatzivasiliadou-Lekka, K. (2008). *Teachers' perceptions about gender differences in Greek Primary School Mathematics classrooms*. In promoting equity in maths achievement. The current discussion. Selected contributions from the proceedings of the Barcelona (25 January, 07) and the Paris (25 April, 07) workshops (pp. 111-117).
- Creswell, J. W. (2017). *Karma yontem arařtırmalarına giris [A Concise introduction to mixed methods research]*. (M. Sozibilir, Cev.). Ankara: Pegem.
- Denner, J., Laursen, B., Dickson, D., & Hartl, A. C. (2016). Latino children's math confidence: The role of mothers' gender stereotypes and involvement across the transition to middle school. *Journal of Early Adolescence*, 38(4), 1-17.
- Devine, A., Fawcett, K., Szűcs, D., & Dowker, A. (2012). Gender differences in mathematics anxiety and the relation to mathematics performance while controlling for test anxiety. *Behavioral and Brain Functions*, 8(33), 3-9.
- Dokmen, Y. Z. (2017). *Toplumsal cinsiyet: Sosyal psikolojik aciklamalar [Gender: Social psychological explanations]*. Istanbul: Remzi.
- Doyle, R. A., & Voyer, D. (2016). Stereotype manipulation effects on math and spatial test performance: A meta-analysis. *Learning and Individual Differences*, 47(2016), 103- 116.
- Drisko, J. W., & Maschi, T. (2016). *Content analysis. Pocket guides to social work research methods*. Oxford University.
- Duffy, J., Warren, K., & Walsh, M. (2001). Classroom interactions: Gender of teacher, gender of student, and classroom subject. *Sex Roles*, 45(9-10), 579-593.
- Dweck, C. S., Davidson, W., Nelson, S., & Enna, B. (1978). Sex differences in learned helplessness: II. The contingencies of evaluative feedback in the classroom and III. *An experimental analysis*. *Developmental Psychology*, 14(3), 268-276.
- Ergun, S. (2003). *Okul oncesi egitim alan ve almayan ilkogretim birinci sinif ogrencilerinin matematik yetenek ve basarilarinin karsilastirilmali olarak incelenmesi [Comparison of mathematical successes and ability of the first year students who studied in kindergartens in primary school to those who didn't]*. (Master's Thesis). Marmara Universitesi, Istanbul.
- Esen, Y. (2015). *Toplumsal cinsiyet esitligi ve egitim*. Bolu: Kemal.
- Felson, R. B., & Trudeau, L. (1991). Gender differences in mathematics performance. *Social Psychology Quarterly*, 54(2), 113-126.
- Fidan, E. (2013). *Ilkokul ogrencileri icin matematik dersi sayilar ogrenme alaninda basari testi gelistirilmesi [Development of achievement tests in the number domain of mathematics course for elementary school students]*. (Master's Thesis). Ankara Universitesi Egitim Bilimleri Enstitusu, Ankara.
- Golombok, S., & Fivush, R. (1994). *Gender development*. Cambridge: Cambridge University.
- Gunderson, E. A., Ramirez, G., Levine, S. C., & Beilock, S. L. (2012). The role of parents and teachers in the development of gender-related math attitudes. *Sex Roles*, 66(3- 4), 153-166.

- Hewstone, M., Rubin, M., & Willis, H. (2002). Intergroup bias. *Annual Review of Psychology*, 53(2002), 575-604.  
<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/employmentbyoccupationemp04>.
- Hyde, J. S., Lindberg, S. M., Linn, M. C., Ellis, A. B., & Williams, C. C. (2008). Gender similarities characterize math performance. *Science*, 321(5888), 494-495.
- Hyde, J. S., Mertz, J. E., & Schekman, R. (2009). Gender, culture, and mathematics performance. *Proceedings of the National Academy of Sciences of the United States of America*, 106(22), 8801-8807.
- Jones, M. G., & Wheatley, J. (1990). Gender differences in teacher student interactions in science classrooms. *Journal of Research in Science Teaching*, 27(9), 861-874.
- Kalayci, N., & Hayirsever, F. (2014). Toplumsal cinsiyet esitligi baglaminda vatandaslik ve demokrasi egitimi ders kitabina yonelik bir inceleme ve bu konuya iliskin ogrenci algilarinin belirlenmesi [An analysis of Citizenship and Democracy Education text book in the context of gender equality and determining students' perceptions on gender equality]. *Kuram ve Uygulamada Egitim Bilimleri*, 14(3), 1049-1074.
- Keller, C. (2001). Effect of teachers' stereotyping on students' stereotyping of mathematics as a male domain. *The Journal of Social Psychology*, 141(2), 165-173.
- Keller, J. (2007). Stereotype threat in classroom settings: The interactive effect of domain identification, task difficulty and stereotype threat on female students' maths performance. *British Journal of Educational Psychology*, 77(2), 323-338.
- Keller, J., & Dauenheimer, D. (2003). Stereotype threat in the classroom: Dejection mediates the disrupting threat effect on women's math performance. *Personality and Social Psychology Bulletin*, 29(3), 371-381.
- Kiefer, A. K., & Sekaquaptewa, D. (2007). Implicit stereotypes, gender identification, and math-related outcomes a prospective study of female college students. *Psychological Science*, 18(1), 13-18.
- Koblitz, A. H. (2002). Mathematics and gender: Some cross-cultural observations. In G.Hanna (Ed.), *Towards gender equity in mathematics education*. (pp. 93-109). Kluwer.
- Kulunk-Akyurt, G. (2019). *Ilkokul 4. inif ogrencilerinin matematik motivasyonu, kaygisi ve basarisi arasindaki iliskinin incelenmesi [An analysis of between mathematics motivation, anxiety and achievement of 4th graders]*. (Master's Thesis). Ordu University, Ordu.
- Kurtz-Costes, B., Rowley, S. J., Harris-Britt, A., & Woods, T. A. (2008). Gender stereotypes about mathematics and science and self-perceptions of ability in late childhood and early adolescence. *Merrill-Palmer Quarterly*, 54(3), 386-409.
- Leahey, E., & Guo, G. (2001). Gender Differences in Mathematical Trajectories. *Social Forces*, 80(2), 713-732.
- Li, M., Zhang, Y., Liu, H. & Hao, Y. (2017). Gender differences in mathematics achievement in Beijing: A meta-analysis. *British Journal of Educational Psychology*, 1-18.
- Lindberg, S. M., Hyde, J. S., Peterson, J. L., & Linn, M. C. (2010). New trends in gender and mathematics performance: A meta-analysis. *Psychological Bulletin*, 136(6), 1123-1135.

- Lummis, M., & Stevenson, H. W. (1990). Gender differences in beliefs and achievement: A cross-cultural study. *Developmental Psychology, 26*(2), 254-263.
- Martinot, D., & Désert, M. (2007). Awareness of a gender stereotype, personal beliefs and self-perceptions regarding math ability: when boys do not surpass girls. *Social Psychology of Education, 10*(4), 455-471.
- Martinot, D., Bagès, C., & Désert, M. (2012). French children's awareness of gender stereotypes about mathematics and reading: When girls improve their reputation in math. *Sex Roles, 66*(3-4), 210-219.
- McKown, C., & Weinstein, R. S. (2003). The development and consequences of stereotype consciousness in middle childhood. *Child Development, 74*(2), 498-515.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Sage.
- Mittelberg, D., Rozner, O., & Forgasz, H. (2011). Mathematics and gender stereotypes in one Jewish and one Druze grade 5 classroom in Israel. *Education Research International, 2011*(2011), 1-10.
- Muzzatti, B., & Agnoli, F. (2007). Gender and mathematics: Attitudes and stereotype threat susceptibility in Italian children. *Developmental Psychology, 43*(3), 747-759.
- Myhill, D., & Jones, S. (2006). 'She doesn't shout at no girls': Pupils' perceptions of gender equity in the classroom. *Cambridge Journal of Education, 36*(1), 99-113.
- Nurlu, O. (2017). Developing a Teachers Gender Stereotype Scale toward Mathematics. *International Electronic Journal of Elementary Education, 10*(2), 287-299.
- OSYM. (2018). 2018 YKS degerlendirme raporu [2018 YKS evaluation report]. <https://dokuman.osym.gov.tr/pdfdokuman/2018/GENEL/YKSDegrapor06082018.pdf>
- OSYM. (2018). *Egitim ve ogretim alanları sınıflamasına gore lisans duzeyindeki ogrenci sayıları, 2017-2018 [Number of undergraduate students according to the classification of education and training fields, 2017-2018]*. <file:///C:/Users/Erun/Downloads/istatistikler.pdf>
- Penner, A. M. (2008). Gender differences in extreme mathematical achievement: An international perspective on biological and social factors. *American Journal of Sociology, 114*(S1), 138 -170.
- Philipp, R. A. (2007). Mathematics teachers' beliefs and affect. In F. K. Lester (Ed.), *Second handbook of research on mathematics teaching and learning* (pp. 257-315). Information Age.
- Roman, H. T. (2004). Why math is so important. *Tech Directions, 63*(10), 16-18.
- Rowley, S. J., Kurtz-Costes, B., Mistry, R., & Feagans, L. (2007). Social status as a predictor of race and gender stereotypes in late childhood and early adolescence. *Social Development, 16*(1), 150-168.
- Ruble, D.N., Martin, C. L., & Berenbaum, S.A. (2006). Gender Development. In N. Eisenberg (Ed.), *Handbook of child psychology: Vol. 3, Personality and social development* (pp. 858-932). Wiley.
- Sadker, M., Sadker, D., & Klein, S. (1991). The issue of gender in elementary and secondary education. *Review of Research in Education, 17*(1991), 269-334.

- Sari, M. H. & Ekici, G. (2018). İlkokul 4. sınıf öğrencilerinin matematik başarıları ile aritmetik performanslarını etkileyen duygusal değişkenlerin belirlenmesi [Determination of affective variables affecting mathematical achievement and arithmetic performance of primary school 4th grade students]. *Uluslararası Toplum Araştırmaları Dergisi*, 8(15), 1562-1594.
- Sayılan, F. (2012). Toplumsal cinsiyet ve eğitim [Gender and education]. Ankara: Dipnot.
- Schmader, T. (2002). Gender identification moderates stereotype threat effects on women's math performance. *Journal of Experimental Social Psychology*, 38(2), 194-201.
- Schwery, D., Hulac, D., & Schweinle, A. (2016). Understanding the gender gap in mathematics achievement: The role of self-efficacy and stereotype threat. *School Psychology Forum*, 10(4), 386-396.
- Steele, J. (2003). Children's gender stereotypes about math: The role of stereotype stratification. *Journal of Applied Social Psychology*, 33(12), 2587-2606.
- Swinton, A. D., Kurtz-Costes, B., Rowley, S J., & Okeke-Adeyanju, N. (2011). A longitudinal examination of African American adolescents' attributions about achievement outcomes, *Child Development*, 82(5), 1486-1500.
- Tan, M. (2008). Eğitim [Education]. In M. Tan, Y. Ecevit, S. S. Usur ve S. Acuner (Ed.), *Türkiye'de toplumsal cinsiyet eşitliği: Sorunlar, öncelikler ve çözüm önerileri [Gender equality in Turkey: Issues, priorities and recommendations]* (pp.23-105). İstanbul: TUSİAD-KAGİDER.
- Tiedemann, J. (2000). Gender-related beliefs of teachers in elementary school mathematics. *Educational Studies in Mathematics*, 41(2), 191-207.
- Tiedemann, J. (2002). Teachers' gender stereotypes as determinants of teacher perceptions in elementary school mathematics. *Educational Studies in Mathematics*, 50(1), 49- 62.
- Tomasetto, C., Alparone, F. R., & Cadinu, M. (2011). Girls' math performance under stereotype threat: The moderating role of mothers' gender stereotypes. *Developmental Psychology*, 47(4), 943-949.
- Tomasetto, C., Mirisola, A., Galdi, S., & Cadinu, M. (2015). Parents' math-gender stereotypes, children's self-perception of ability, and children's appraisal of parents' evaluations in 6-year-olds. *Contemporary Educational Psychology*, 42(2015), 186- 198.
- Van de Gaer, E., Pustjens, H., Van Damme, J., & De Munter, A. (2008). Mathematics participation and mathematics achievement across secondary school: The role of gender. *Sex Roles*, 59(7-8), 568-585.
- Wilder, S. (2013). Effects of parental involvement on academic achievement: a metasynthesis. *Educational Review*, 66(3), 377-397.
- Yagan Guder, S, & Guler Yildiz, T. (2016). Okulöncesi dönemdeki çocukların toplumsal cinsiyet algılarında ailenin rolü [Role of the family in preschool children's perception of gender]. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 31(2), 424-446.
- Yildirim, S. (2011). öz-yeterlik, içe yönelik motivasyon, kaygı ve matematik başarıları: Türkiye, Japonya ve Finlandiya'dan bulgular. *Necatibey Eğitim Fakültesi Elektronik Fen ve Matematik Eğitimi Dergisi*, 5(1), 277-291.

- Yilmaz, H. R. (2015). *İlköğretim ikinci kademe öğrencilerinde matematik başarıları ile matematik kaygısı, sınav kaygısı ve bazı demografik değişkenlerle ilişkisinin incelenmesi [Maths success with math anxiety, test anxiety and some demographic variables investigation of relations in secondary school students]*. (Master's Thesis), Gaziantep University, Gaziantep.
- Yücel, Z., & Koc, M. (2011). The relationship between the prediction level of elementary school students' math achievement by their math attitudes and gender. *Elementary Education Online*, 10(1), 133-143.
- Zhao, F., Zhang, Y., Alterman, V., Zhang, B., & Yu, G. (2016). Can math-gender stereotypes be reduced? A theory-based intervention program with adolescent girls. *Current Psychology*, 1-13. Retrieved from <https://link.springer.com/article/10.1007/s12144-016-9543>.

**Authors**

**Contact**

Ozge NURLU USTUN  
Elementary Education.

Dr. Ozge NURLU USTUN,  
Erzincan Binali Yıldırım University, Faculty of  
Education, Erzincan / Turkey.  
E-mail: [ozgenurlu@hotmail.com.tr](mailto:ozgenurlu@hotmail.com.tr)

Naciye AKSOY  
Elementary Education.

Prof. Dr. Naciye AKSOY,  
Gazi University, Faculty of Education,  
Ankara, Turkey.  
E-mail: [naciye@gazi.edu.tr](mailto:naciye@gazi.edu.tr)

# Syrian Refugee Children's Education in Turkish Public Schools: Primary School Teachers' Experiences\*

Nurhan ATALAY\*\* Zeynep KILIC\*\*\* Burcu ANILAN\*\*\*\* Huseyin ANILAN\*\*\*\*\*  
Sengul S. ANAGUN\*\*\*\*\*

## To cite this article:

Atalay, N., Kilic, Z., Anilan, B., Anilan, H., & Anagun, S.S. (2022). Syrian refugee children's education in Turkish public schools: Primary school teachers' experiences. *Journal of Qualitative Research in Education*, 29, 265-281, doi: 10.14689/enad.10

**Abstract:** This study aims to explain the problems encountered in the education of Syrian children with the experiences of Turkish teachers. A descriptive qualitative research method was used for the study. The participants of the study were 70 elementary school teachers. The participants were selected based on the sampling criterion. The study data were collected through structured interviews. The participants were asked structured questions, and they responded as written to the questions. At the end of the study, the most significant responsibility in Syrian 'children's adjustment to the education system in Turkey falls on the shoulders of primary school teachers. Turkish primary school teachers clearly stated that the main reason for all problems they experienced was the language difference. The study results revealed that not being able to solve the communication problem deepens the problem and creates an emotional pressure on primary school teachers refugee children.

**Keywords:** Primary school teachers, Inclusive education, refugee children, education problems

## Article Info

Received:  
01 Dec. 2020  
Revised:  
30 Dec. 2021  
Accepted:  
22 Jan. 2021

## Article Type


Research


© 2022 ANI Publishing. All rights reserved.

\* This article was presented as paper at 2 nd International Symposium of Limitless Education and Research (ISLER 2018)

\*\*  Correspondence: Nigde Omer Halisdemir University, Turkey, [nurratalay@gmail.com](mailto:nurratalay@gmail.com)

\*\*\*  Eskisehir Osmangazi University, Turkey, [zeyno-dev@hotmail.com](mailto:zeyno-dev@hotmail.com)

\*\*\*\*  Eskisehir Osmangazi University, Turkey, [Anilan.burcu@gmail.com](mailto:Anilan.burcu@gmail.com)

\*\*\*\*\*  Eskisehir Osmangazi University, Turkey, [Anilan.huseyin@gmail.com](mailto:Anilan.huseyin@gmail.com)

\*\*\*\*\*  Eskisehir Osmangazi University, Turkey, [ssanagun@gmail.com](mailto:ssanagun@gmail.com)

## Introduction

Since the outbreak of civil war in Syria, Europe and Turkey have been experiencing the largest post-World War II forced migration and refugee crisis II. Since 2011, the incidents in the Middle East have deeply affected Syrian citizens. Economic, religious, political and social reasons forced Syrians to leave their country and go to neighboring countries. Due to the Syrian conflict and political and economic instability in the country, Turkey became a center of illegal transit country for refugees, migrants and illegal workers (Balkan & Tumen, 2016) and the largest host country for Syrian refugees. As a consequence of the open-door policy, Turkey has been hosting many Syrian citizens who were forced to leave their country because of the civil war. The most serious problem for refugee children is education. Education may be considered the most basic human right under any circumstances.

Countries' national education policies for refugees play an important role in integrating these children into the education system (Alba & Foner, 2015; Song, 2011). Long-term educational policies were developed for refugees in Turkey, and these policies require an inclusive education for Syrian refugee children. The Turkish state-granted refugee children the right to receive education in public schools. 684,253 Syrian children were receiving education in Turkish public schools. The highest participation rate among all educational levels is in primary school, with 89.27%. However, as far as a refugee 'children's education is concerned, basic education is often the first thing that comes to mind. Basic education will help refugee children attain literacy, basic mathematics, and language skills and greatly improve their quality of life. Schools and educators play a key role in the integration and socialization of refugee children (Aydin, Gundogdu & Akgul, 2019). However, studies revealed that these inclusion policies did not meet their objectives (Hilt, 2015). As classrooms become culturally diverse and include children with different learning experiences, a challenge awaiting teachers is how to achieve an inclusive education that can meet the educational needs of all children in their classrooms (Karsli-Calamak & Kilinc, 2021). Studies on refugees have focused on the challenges of refugees in the host societies in which they live, and research has been conducted on refugee status and schooling (Celik & Icduygu, 2018; McBrien, 2005), cultural integration and trauma (Castles & Miller, 2003), and issues on both sides (Kanat & Ustun, 2015). In comparison with other countries hosting the refugees, Turkey shows more effort for refugee 'children's access to educational services (Cinkir, 2015; Erdem 2017; HRW Report 2015; UNHCR 2018). When education is successfully provided, it can effectively integrate immigrant or refugee children into society. In addition, a personally meaningful and interesting classroom may help to heal traumatized refugee 'children's past or current anxieties.

There are studies in the literature on the problems experienced by Turkish teachers in the education of Syrian children living in Turkey. These studies revealed that teachers have no experience in choosing and applying appropriate teaching methods for Syrian children and meeting the social and cultural expectations of refugee children, and they have difficulties. They have difficulties supplying language materials (Taskin and

Erdemli, 2018; Tunga, Engin, and Cagiltay, 2020). However, there is still a need for different studies to detail the problems experienced, especially by primary school teachers. Accordingly, this study explored the problems experienced and practices in the adjustment of Syrian refugee children to schools and society from the perspective of primary school teachers. In this context, the answer to the following question was sought: What kind of problems do primary school teachers experience during the education of refugee children in primary schools based on inclusive education?

## Literature Review

Syrian refugees living in Turkey are granted "conditional refugee statuses" by the new migration law. Also, this law gave Syrian refugees a right to have temporary protection (T.P.) identification card if they register to the General Directorate of Migration Management (GDMM). Furthermore, this regulation allows Syrians to access social services such as health, education, and psychological support (Icduygu 2015, Yildirimalp, Islamoglu & Iyem 2017). The Turkish government has been working in collaboration with international institutions such as the U.N. agencies, the E.U. and various non-governmental organizations to meet the needs of the Syrian people. Although the Turkish government, national and international non-governmental organizations have been working to meet Syrian 'refugees' different needs, there are still problems due to the high number of Syrians in Turkey. Refugee children are the most negatively affected and the most vulnerable group among those who have to live in a foreign culture. (Bahadır & Ucku, 2016; Hamdan-Mansour et al., 2017; Uzun & Butun, 2016).

Turkey offers a unique example of education for refugees. Refugee education in Turkey offers various school options for the Syrian community, including Syrian schools, public schools and temporary education centers (Aydin and Kaya 2017; Emin 2016). Turkey established a project named as 'Promoting Integration of Syrian Children to the Turkish Education 'System' (PICTES) (Arık Akyuz, Aksoy, Madra and Polat 2018) and opened schools for Syrian children inside/outside camps (Akkaya, 2013; Arabacı et al. 2014; Duruel 2016). In addition, Syrian children receive education in their native language in temporary education centers (Alpaydın 2017; Sunata and Abdulla 2019). Some of them also receive translation services in public schools (Erden, 2020). Figure 1 provides a visual overview of Turkey's key policy, corporation, and financing milestones implemented for refugee education (2011-2019).

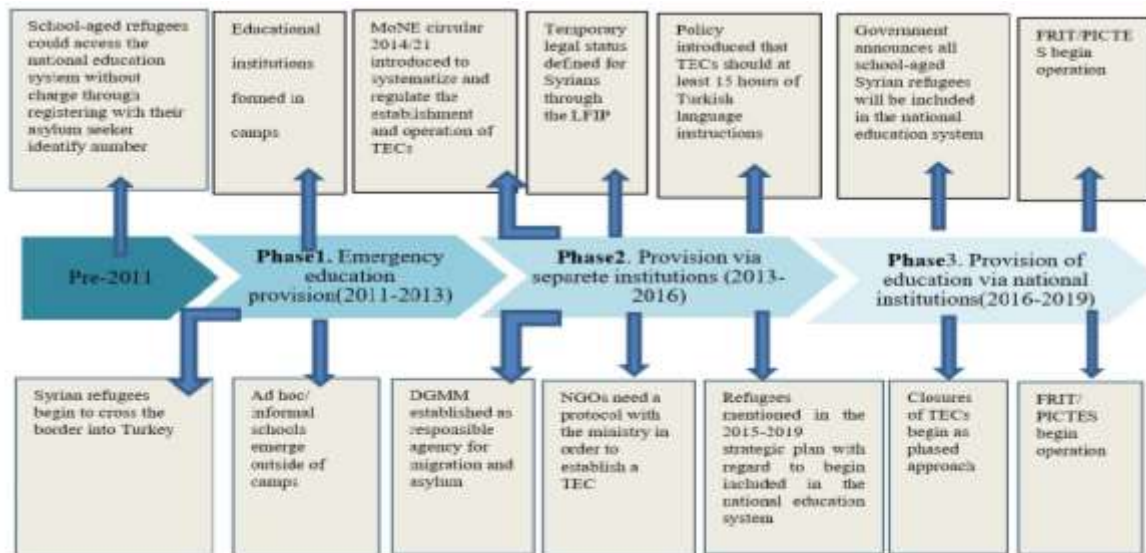
Syrian children living in Turkey are the victims of global problems that have been growing independently of them. Since 2016, Turkey has put into practice a policy requiring Syrian children living in Turkey to enrol in schools where Turkish children attend. There are also various initiatives to improve the implementation of inclusive education in Turkey. However, a systematic effort is required to be implemented effectively in schools (Kilinc, 2019). Like other host countries (Dejong et al., 2017; Duruel, 2016), refugee children have been deprived of education in Turkey (Cinkir,



2015). Long-term educational policies were developed for refugees in Turkey, and these policies require an inclusive education for Syrian refugee children.

Figure 1.

Timeline of Key Milestones in Turkey for Refugee Education



Note. MoNE: Ministry of National Education; LFIP: Law on Foreigners and International Protection; TEC: Temporary Education Center; FRIT: Facility for Refugees in Turkey; PICTES: Promoting Integration of Syrian Children into Turkish Education System; DGMM: Directorate General of Migration Management; CCTE: Conditional Cash Transfer Education. Adopted from Brugha, M., Hollow, D., Pacitto, J., Gladwell, C. Dhillon, P., & Ashlee, A. (2021). Historical mapping of education provision for refugees: A cross-cutting and comparative analysis of three country contexts. Jigsaw Consult, United Kingdom.

## Inclusive Education in Turkey

Inclusive education is a response process of increasing the diverse needs of learners and their participation in education, culture and, society and reducing discrimination within the education system (UNESCO, 2005). Context of inclusion in education includes all disadvantaged groups such as immigrants, refugees and asylum seekers, girls, low-income families, disabled people, and religious and ethnic minorities. Inclusive education aims to create equal educational opportunities for students from different faiths, ethnicities, and social groups, respect others, and respect others, and be sensitive to different thinking and lifestyles. Exploring how inclusive a system is for a particularly disadvantaged group would include addressing issues like discrimination, stigma, and the language of instruction (Brugha, Hollow, Pacitto, Gladwell, & Ashlee, 2021). In Turkey, from 2011 to 2013, a largely emergency education response was provided to refugees by the humanitarian community. Between 2013 and 2016, humanitarian-supported provision of education through separate institutions. But later with more regulation was introduced by the Ministry of National Education for Temporary Education Centers (TECs). TECs served as a transition to a more integrated approach.

Since 2016, the Turkish government has aimed to fully include all school-aged Syrians in the Turkish formal education system. The Ministry of National Education (MoNE) provides support in the form of Turkish language classes, homework assistance programs, preparatory classes, tutoring, and catch-up programs to increase Syrian children's active participation in public schools and ensure that they achieve the same level of education as their peers (GIZ, 2021).

## **Barriers of Refugee 'Children's Education**

The necessity of individuals from different cultures to live together brings up problems such as adjustment, education, and communication. Many studies in Turkey explored the education, employment, and social integration of Syrian refugees in the host country (Karasu 2016; Kagnici 2017; Tas & Ozcan 2018). The studies revealed that Syrian children have some psychological problems due to the war in their country and the migration that came afterward (Hassan et al., 2016; Farhat et al., 2018; Soykoek et al., 2017). Although guidance and counselling services are available for refugee children in Turkey, they are insufficient to remedy the severe traumas Syrian children experienced. Studies also reported that the language barrier and the workload of psychological counselling services negatively affect the quality of the services provided to Syrian children (COCA, 2015). Furthermore, the most important obstacles for refugee 'children's school adjustment in Turkey are the requirement to get an identity card of the host country, child labor, language barriers, and transportation problems (Akgul et al., 2015; Aydin & Kaya, 2017).

The studies conducted in Turkey on school attendance of Syrian children revealed that the most important barriers in the education of these children are the inability of Turkish teachers to educate children from different cultures and lack of financial support (Aras & Yasun, 2016; Bircan & Sunata, 2015; Cinkir, 2015; Human Rights Watch Report, 2015; Levent & Cayak, 2017; Nayir, 2017; Taskin & Erdemli, 2018; Uzun & Butun, 2016). Furthermore, the success of inclusive education depends on teacher quality since the quality of teachers is often recognized as the most important dynamic in the excellence of education (OECD, 2005; Sammons & Bakkum, 2012; Stéger, 2014; Hattie, 2015). Recently, policy suggestions on teacher competencies emphasized appreciation of diversity and knowledge about inclusion will increase learning (Williamson MacDiarmid & Clevenger-Bright, 2008). In this context, ""inclusive education"" and ""inclusive language teaching"" courses have been added to primary school teacher training programs since 2018 in Turkey. With this, it aims both to help teachers in the education of refugee and international students and to develop a new understanding of the teacher training system.

Language is a problem for Syrian children and teachers responsible for their education. In this context, the language problem creates obstacles between students and teachers and deepens students' isolation in their schools (Aydin, Gundogdu, & Akgul, 2019). Students' learning experiences from different socio-cultural environments may differ from Turkish students' experiences. Teachers who adopted inclusive education aim to

organize materials, lesson plans, teaching strategies, learning environment, educational goals according to the inclusive approach and meet the 'students' academic and social needs. School-family cooperation is of vital importance for achieving the goals of inclusive education. Families of international students can guide teachers about their lifestyle, culture, and beliefs.

Considering their time spent with children, teachers are the ones who best observe children's peer relationships, academic achievements, games, and communication skills. Teachers can distinguish 'students' behavioral changes by their professional equipment and experience. Karsli-Calamak and Kilinc (2021) examined the experiences of primary school teachers of Syrian refugee students about inclusive education in Turkey. The study results showed that teaching practices move away from exclusion-oriented actions to inclusivity-oriented actions in Turkey. Also, Aydin and Kaya (2019) explored the educational status of Syrian school-age children at Turkish public schools and the perspectives of teachers and school principals working with these children. The findings of the later study pointed out that Syrian children believe that they have equal rights as Turkish children regarding access to free education in Turkish public schools. The study results also indicated that teachers have problems teaching Syrian children, expecting urgent solutions. Language barriers must be eliminated to integrate Syrian refugees into the Turkish culture (Imamoglu & Caliskan, 2017). Education has been affected by the COVID-19 pandemic process at the highest level. That's why it is clear that more studies are needed to improve the quality of Syrian children's education. The need for support is more important than ever due to the devastating impact of the COVID-19 pandemic, notably regarding the loss or reduction of livelihoods and income for persons under temporary and international protection and host communities (Regional Refugee & Resilience Plan [3RP], 2021).

## Method

Aiming to reveal primary school 'teachers' views on Syrian 'children's adjustment to school and society and the problems they experience, the present study employed a qualitative descriptive design. The basic aim of qualitative descriptive research is to provide a direct description of any phenomenon (Sandelowski, 2010; Lambert & Lambert, 2012). According to Willis, Sullivan Bolyai, Knafel & Cohen (2016), the main purpose of the qualitative descriptive research design is to define and describe 'individuals' thoughts about an event or phenomenon. Although qualitative descriptive studies are similar to phenomenological studies, they differ from phenomenological studies with shallow interpretative features. The purpose of this study was to paint a descriptive picture of elementary school teachers' perspectives and understandings of refugee children in their classrooms in terms of their adjustment to school and society.

## Participants

The study participants were 70 primary school teachers. Forty-four of them were female, and 26 were male. Participants were determined by using the criterion sampling method. The selection criteria were a K-4 teacher and having at least one Syrian refugee child in the classroom. In addition, the researchers were interested in 'teachers' experiences with Syrian refugee children.

**Table 1.**

*Demographic Information of Participants*

| <b>Demographic information</b>               |                  | <b>f</b> |
|--|------------------|----------|
| Gender                                       | Female           | 44       |
|  | Male             | 26       |
| Teaching experience                          | 0-5 years        | 9        |
|  | 5-10 years       | 20       |
|  | 10-15 years      | 26       |
|  | 15-20 years      | 10       |
|  | 20-25 years      | 5        |
| Level of teaching grade                      | 1. Grade         | 18       |
|  | 2. Grade         | 16       |
|  | 3. Grade         | 14       |
|  | 4. Grade         | 12       |
|  | Multigrade Class | 10       |
| Getting an education about refugee education | Yes              | 12       |
|  | No               | 58       |

## Data Collection Tool

Structured interviews collected the study data. The participants were asked structured questions, and they responded as written to the questions. The questions were mostly aimed at finding out 'teachers' views on inclusive education and their practices with refugee children. Before developing the interview questions, national and international literature on the research topic was reviewed. The researchers then developed the interview questions based on the literature review and expert opinions. This final form of the questions was sent to two academicians for the pilot application. Finally, the written interviews were conducted with participants. For internal validity and reliability studies, the researchers edited participants' written responses, and the participants were asked to confirm their responses (Lincoln and Guba, 1985). For the reliability work called peer debriefing by Miles and Huberman (1994), all researchers analyzed the data independently and assigned the determined codes to the themes.

## Data Analysis

The researchers read the transcripts and coded them line-by-line according to constant comparative analysis (Strauss & Corbin, 1998) to get information. Key expressions and sentences reflecting an important attribute of an 'interviewee's response were highlighted and sorted into categories. Then, the inductive approach was used to identify additional

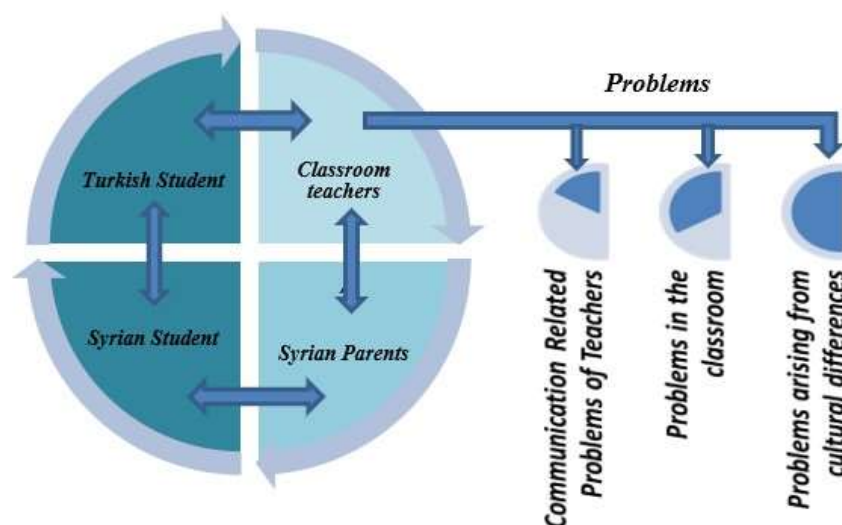
codes for 'participant's responses that did not fit into initial categories. Finally, selective coding was conducted, and explicit themes were identified (Creswell, 2007). Two of the researchers interpreted the themes evident in the categories and subcategories. The researchers analyzed the problems the classroom teachers had with the Turkish and Syrian students among themselves, with the families of the Syrian students, and the problems they had with all students and Syrian families; they treated the communication problems in sub-dimensions as problems experienced in the classroom and problems caused by cultural differences.

## Findings

In this study, which attempts to explain the problems encountered in school integration and education of Syrian children with the experiences of Turkish teachers, when examining the written responses that the primary school teachers gave to the structured interview questions, the basic finding of the study is that there are communication problems due to lack of language skills. In addition, the teachers stated that Turkish and Syrian students have problems with each other in the classroom and on the playgrounds, and that they have problems preparing Syrian students for class and providing them with materials. Another problem is that Turkish parents and students accept Syrian families because of the different cultural structures. In addition to these problems, the participating teachers also expressed their solutions to the educational problems of the Syrian children. In this context, Figure 2 represents the themes of the study.

Figure 2.

*Themes of the Study*



## Communication-Related Problems of Teachers

The participation of Syrian students in education life without knowing Turkish makes it difficult for them to communicate with both their primary school teachers and Turkish students. The fact that almost none of the Turkish students can speak Arabic and that the Syrian students are not able to express themselves in Turkish except for basic needs deepens this problem. Besides, teachers also have communication problems with Syrian parents. As a matter of fact, it is possible to see these in the statements of the participating primary school teachers.

T 65: "First of all, they don't know our language. For many Syrians, the school environment in Turkey is very different. Language, environment, surroundings, etc., everything is new. Since they don't understand what I'm saying, they often don't know what to do. We are experiencing a huge problem with our Syrian students in this regard".

T 34: "For example, the science course itself is a course that requires competencies such as establishing cause-effect relationships and analyzing events. For the student to be able to understand them, there should be no language problems. We have a big problem with our Syrian students in this regard".

T 18: "At first, there is a communication problem. There is a problem of integration to Turkish children and culture. They do not understand the lessons. Because they do not know how to read and write in Turkish, this causes them to be interested in other things inside and outside the classroom."

T30: "I have a communication problem with my Syrian parents."

## Problems in the classroom

It would be unfair for both Turkish and Syrian students to ignore and remain insensitive to the fact that the lack of communication caused by the language problem also causes other problems. The language of instruction in all primary schools in Turkey is Turkish. This is a serious problem for Syrian students because they are far away from everything that happens inside and outside the classroom. As a result, they become distracted, unwilling, lonely, and even resentful and violent after a while. This is also reflected in the teachers' responses. T48: "They 'don't bring the equipment needed for the classes. They are having integration problems with their friends. They fight during breaks. They show violent tendencies. This can be uncontrollable from time to time."

T6: "Syrian students do not participate in the teaching process. Because their Turkish literacy level is very low. They read words letter by letter. In my spare time, I do reading work. I want them to both attend the classes and not disturb the harmony of the lesson."

T7: "My Syrian students need one-on-one training because they have difficulty in learning. While trying to balance the teaching, the pace and balance of the routine of the lesson are disrupted. While I try to explain the subjects slowly to foreign students, this time Turkish student complain about this."

On the other hand, primary school teachers also experience different kinds of problems with both Turkish and Syrian students. In general, it is understood that the problems are

bias-oriented, and the influence of families is dominant in this. Teachers stated this situation in the following statements:

T9: "There is a prejudice against Syrian students among Turkish students. That is why they don't want them in their class, and they ostracize them. Some Turkish students do not want to attend the same class as Syrian students."

T54: "There is a difference between Turkish students and Syrian students that I cannot avoid. When there are problems between them, they separate them by saying that they are "Syrians and that they were Syrians". Sometimes they even fight among themselves. But I calm things down before they escalate." T13: "Adults create prejudice and express it loudly in front of their children, causing children to create prejudice as well."

T1: "At first, I had problems, such students, not wanting to sit in the same row with Syrian students and not playing games. We were able to overcome this partially. However, they still 'don't include them when they play games. They don't talk to Syrian students very often."

## Problems Arising From Cultural Differences

Although teachers are a bridge between Syrian students and Turkish students, they stated that they do not receive sufficient support from Turkish and Syrian students and their parents. By virtue of his position, the teacher is the teacher of all students and of the class, and he should not be expected to treat anyone with privilege. However, it goes without saying that this is not the expectation of parents in this regard. From the teachers' statements, one can get a detailed picture of this situation. The teacher is the teacher of all students and the classroom due to his/her position, and no one should be expected to be treated privately. However, the parents' expectations on this issue are not like that. Based on the teachers' statements, it is possible to see a detailed picture of this situation.

T59 "My 'students' parents' interest in their children is generally insufficient and the interested parents are also in a defensive position. I have never seen the parents of many of my Syrian students. None of them accept any criticism and try to justify themselves due to the effects of the events they experienced (war).

T31: "I have never seen the parents of many of my Syrian students. Since they do not know Turkish, we already have difficulties in getting along. Most of the time, they do not answer the phone numbers left. They only come to school when other students (Turkish) want to complain."

T30: "Due to insufficient economic situation of the parents, kids have a shortage of course material. However, I don't even get a chance to explain this situation to the parents. So I think they believe that the kid comes to school and the school has to cover everything."

T23: "Syrian parents are very shy. We rarely meet with them. For the most part, we don't even smile and talk. It's like they're afraid of being asked for something."

While this is what teachers experience with Syrian parents, their experience with Turkish parents is quite similar. In addition, the study revealed that their attitude towards Syrian students is not very positive.

T27 "Turkish parents think very negatively. For example, my Turkish parents reacted strongly when they first heard that Syrian students were coming to the classroom.

T41: "Turkish parents 'didn't want Syrian students in the classroom because they thought their children would be negatively affected."

T23: "Turkish parents lay all the faults and mistakes on Syrian students. As time passes, they just get used to the situation but they 'don't change their beliefs."

T70: "Turkish parents are biased. They cannot be accepted. They say Syrians have to return to their country. They look at it as if they are the source of every negative situation in Turkey."

## **Teacher's personal solutions about all problems**

The study findings determined that primary school teachers, who have to deal with many problems alone in the Turkish education system, are trying to cope with the Syrian refugee crisis on their own, too. Acting as a bridge or sometimes as a protective buffer between Turkish and Syrian students and their parents' teachers also produced some solutions to the problems experienced. Perhaps one of the most important solutions is language teaching, which is the basis of communication. Primary school teachers were aware of the shortcomings of both their students and both Turkish and Syrian parents in this regard. As a matter of fact, this is reflected in their statements.

T31 "The teachers who would be teaching Syrian students at least communicating with them and speaking the same language with them is the way to go. I am having a hard time in this regard. Free courses will increase interest in Turkish language education. Permanent Turkish courses should be offered for Syrian parents. This will positively reflect on both their daily life and their children's school life."

Teachers also indicated their solutions for language problems of their Syrian students as below:

T20: "My Syrian students and I go to the open bazaar for shopping experiences. We also go to social environments like café, movie theatres etc. I spare individual time for my international students. While others are working with textbooks, doing free activities, I deal with them individually."

T32: "The special courses and seminars should be arranged for teachers that will enable them to be more helpful to their Syrian students. It would be good if they were especially facilitating communication."

S66 "I cooperate with the school counsellor, we make plans for Syrian children traumas and I implement them. But language problem is a big challenge for the school counsellor and me. Counsellors also have a huge workload on their shoulders."

T10 "I try to make my Syrian students feel accepted by making home visits to them."

As can be seen, participating teachers were sensitive to Syrian students. They could understand what they and their families were going through, and they tried to empathize. For this, they expect different support ways to be used.

## **Conclusion and Discussion**

The greatest responsibility in Syrian 'children's adjustment to the education system in Turkey falls on the shoulders of primary school teachers. The teachers clearly stated that



the main reason for all of the problems they faced was the language difference and not being able to solve the communication problem experienced deepens the problem of primary school teachers. The language of instruction in all primary schools in Turkey is Turkish. This is a serious problem for Syrian students. This problem is not only encountered in Turkey; similar situations are also encountered in different countries.

Many studies reached similar results, which agree that language problems are a major challenge for Syrian 'students' students' integration of the school system (Crul, Lelie, Biner et al., 2019; Ozmen, 2020; Sarmini, Topcu & Scharbrodt, 2020). Only with the dissemination of inclusive education and tolerance culture, positive progress can be made to solve the problem. However, the cultural structures of the countries also affect 'individuals' perspectives of refugees. The study results of Karsli-Calamak and Kilinc (2021) prove the opposite of the studies conducted in Europe. Their study concluded that the teaching experiences of elementary school teachers changed from exclusion to inclusion. However, some studies do not support this result. Aydin, Gundogdu, and Akgul (2019) found in their study with teacher candidates that the integration of refugee children in the national education system is very important, but the education system lacks the philosophy regarding refugees and integration.

The language barrier between the teachers and the Turkish and Syrian students or their families caused further problems. According to the participating teacher, there were some problems between Turkish and Syrian students inside and outside the classroom. For example, the participating teachers claimed that Turkish students blame Syrian students when a crime happens. Similarly, Eren and Cavusoglu (2021) conducted a study at Turkish schools, and study results revealed how negative portrayals of the Syrian students as guests, outsiders, deprived, incompetent, cheaters and liars are being constructed and how those adversely affect communication and 'teacher's teaching practices within the classrooms.

Furthermore, the study results revealed that primary school teachers did not receive sufficient support from Turkish and Syrian students and their parents. Parental prejudice in both groups against each other has been a barrier to improvements in inclusive education and child adjustment. Teachers indicated that the elimination of worries stemming from the traumas caused by the radical change brought about by war and immigration and by cultural differences and from future anxieties should be done with the support of all officials. There are also studies indicating that refugee children who are already struggling with unfamiliar language and complex cultural changes should also make efforts to overcome the impact of negative attitudes (Olsen, 2000; Rumbaut & Portes 2001; Suárez-Orozco & Suárez-Orozco, 2001; Yigit & Tatch, 2017).

As in all education systems, there are several challenges in the Turkish education system that hinder genuine integration efforts. These include cultural misunderstandings, limited teacher training in refugee education, a lack of trauma-sensitive instruction that addresses students' psychological needs, and discrimination against Syrian students (Aydin & Kaya, 2017; Qaddour, 2017). Turkey provides psychological counseling

services in public schools. Participant Turkish primary school teachers agreed to cooperating with school counselors. However, this support is not enough since the language problem counselors have, their low motivation, and their overworked workload prevent them from providing qualified consultancy services (COCA, 2015). This is actually one of the most important results showing the load and severity of the Syrian problem for Turkey.

Teachers involved in the education of refugees in Turkey stated that they expect the use of different support policies. It was determined that primary school teachers, who have to deal with many problems alone in the Turkish education system, are also trying to solve the problems alone in the Syrian refugee crisis. Teachers who do not receive support from the authorities continue their efforts to solve the language problem of their students and their parents. As part of their counselling responsibilities, teachers are aware that their Syrian students and their families need psychological support.

Programs should be structured to enable both teachers and students to become individuals equipped with attitudes and beliefs that will enable them to cope with the challenges they face globally. Thus, teachers are expected to effectively educate students who are different in terms of culture and language and educate all their students about how to cope with the problems they face in terms of citizenship in Turkey, where cultural diversity has been increasing. Particularly when the negative economic conditions created by the COVID-19 pandemic and the Syrian crisis are combined, this can become an element of both material and moral pressure. Under these conditions, it can be said that the probability of experiencing serious problems that have not been seen until now is/will be increasing. To eliminate these negative aspects, all governments should support teacher education and training to improve the quality of teachers in the inclusive education mentioned above.

**Ethics Committee Approval:** Since the data of the article in question was collected before 2018, an ethics committee was not obtained.

**Informed Consent:** An informed consent was obtained from all participants prior to their inclusion in the study.

**Peer-review:** Externally peer-reviewed.

**Authors' Contributions:** Concept: Ş.S.A., H.A., B.A.; Design: Ş.S.A., H.A., B.A., N.A.; Supervision: B.A., N.A., Z.K.; Data Collection and Processing: Ş.S.A., H.A.; Analysis and Interpretation: Ş.S.A., H.A., B.A., N.A., Z.K.; Literature Review: Ş.S.A., H.A., B.A., N.A., Z.K.; Writing: Ş.S.A., H.A., B.A., N.A., Z.K.; Critical Review – All authors.

**Conflict of Interests:** The authors have no conflict of interest to disclose.

**Financial Disclosure:** The authors declared that this study has received no financial support.

## References

- Akgul, A., Kapti, A. & Demir, O.O. (2015). Migration and public policies: An analysis of Syrian Crisis. *The Global: A Journal of Policy and Strategy*, 1(2), 1-22.
- Akkaya, A. (2013). Syrian 'refugees' perceptions of the Turkish language. *Ekev Academic Journal* 17 (56), 179-190.
- Alba, R., & Foner, N. (2015). *Strangers no more: Immigration and the challenges of integration in North America and Western Europe*. Princeton, NJ: Princeton University Press.
- Alpaydin, Y. (2017). An analysis of educational policies for school-aged Syrian refugees in Turkey. *Journal of Education and Training Studies* 5 (9), 36-44.
- Arabacı, İ. B., Basar, M., Akan, D., & Goksoy, S. (2014). An analysis about educational problems in camps in which Syrian refugees stay: Condition analysis. *International Journal of Social Sciences & Education*, 4(3), 80-94.
- Aras, B., & Yasun, S. (2016). The educational opportunities and challenges of Syrian refugee students in Turkey: temporary education centers and beyond. Monograph. Istanbul Policy Center. Retrieved from <https://research.sabanciuniv.edu/29697/1/syrianrefugees.pdf>
- Arik Akyuz, B. M., Aksoy, D., Madra, A., & Polat, E. (2018). Evolution of national policy in Turkey on the integration of Syrian children into the national education system. (Background paper for Global Education Monitoring Report 2019). Retrieved from <http://unesdoc.unesco.org/images/0026/002660/266069e.pdf>
- Aydin, H., Gundogdu, M., & Akgul, A. (2019). Integration of Syrian refugees in Turkey: understanding the 'educators' perception. *Journal of International Migration and Integration*, 19(1), 1-12.
- Aydin, H., & Kaya, Y. (2017). The educational needs of and barriers faced by Syrian refugee students in Turkey: A qualitative case study. *International Education*, 28(5), 456-473.
- Aydin, H., & Kaya, Y. (2019). Education for Syrian refugees: The new global issue facing teachers and principals in Turkey. *Educational Studies*, 55(1), 46-71.
- Bahadır, H., & Ucku, R. (2020). Working situations and the factors affecting the working situation of Syrian children between the age of 6-17 living in a neighbourhood of Izmir. *Dokuz Eylul Universitesi Tip Fakultesi Dergisi*, 30(3), 117-124.
- Balkan, B., & Tumen, S. (2016). Immigration and prices: Quasi-experimental evidence from Syrian refugees in Turkey. *Journal of Population Economics*, 29 (3), 657-686.
- Bircan, T. & Sunata, U. (2015). Education assessment of Syrian refugees in Turkey. *Migration Letters*, 12(3), 226-237.
- Brugha, M., Hollow, D., Pacitto, J., Gladwell, C., Dhillon, P., & Ashlee, A. (2021). Historical mapping of education provision for refugees: A cross-cutting and comparative analysis of three country contexts. Jigsaw Consult, United Kingdom.
- Celik, C., & Icdygu, A. (2018). Schools and refugee children: The case of Syrians in Turkey, *International Migration* 57(2), 253-567.
- Cinkir, S. (2015). *Turkey*. In Curriculum, accreditation, and certification for Syrian Children in Syria, Turkey, Lebanon, Jordan, Iraq, and Egypt (pp. 40-55). UNICEF.
- İstanbul Bilgi Üniversitesi Çocuk Çalışmaları Birimi [COCA] (2015). Suriyeli multeci çocukların Türkiye devlet okullarındaki durumu politika ve uygulama önerileri (the conditions of Syrian refugee children in Turkish public schools and policy advice for implementation) Retrieved from <http://cocuk.bilgi.edu.tr/wp-content/uploads/2020/02/Suriyeli-Cocuklar-Egitim-Sistemi-Politika-Notu.pdf> .
- Creswell, J.W. (2007). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage
- Crul, M., Lelie, F., Keskiner, E., Schneider, J., & Biner, O. (2019). *Lost in transit. Education for refugee children in Sweden, Germany, and Turkey*. In M. Suárez-Orozco (Eds.), *Humanitarianism and mass migration: Confronting the world crisis*, (pp.268-290). Oakland: University of California Press.
- Dejong, J., Ghattas, H., Bashour, H., Mourtada, R., Akik, C. & Masterson-Reese, A. (2017). Reproductive, maternal, neonatal and child health in conflict: A case study on Syria using Countdown indicators. *BMJ Global Health*, 2, 1-13.
- Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). (2021). Civil society and state engagement in the refugee Response in Turkey: Law and regulations, Ankara, Turkey. Retrieved from [https://reliefweb.int/sites/reliefweb.int/files/resources/CLIP\\_Sustainability\\_Report.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/CLIP_Sustainability_Report.pdf)
- Duruel, M. (2016). Education issue of Syrian refugees. *Ataturk University Journal of Economics and Administrative Sciences*, 30(5), 1399-1414.
- Emin, M.N. (2016). Education of Syrian children in Turkey: Basic education policy. Ankara: SETA.
- Erdem, C. (2017). Sınıfında multeci öğrenci bulunan sınıf öğretmenlerinin yaşadıkları öğretimsel sorunlar ve çözüme dair önerileri. *Medeniyet Eğitim Araştırmaları Dergisi*, 1 (1), 26-42.
- Erden, O. (2020). The effect of local discourses adapted by teachers on Syrian child 'refugees' schooling experiences in Turkey. *International Journal of Inclusive Education*, 1-15.
- Eren, A. & Cavusoglu, C. (2021). Stigmatization and othering: the case of Syrian students in Turkish schools. *International Journal of Inclusive Education*, 1-20.

- Farhat, B.J., Blanchet, K., Bjertrup, J.P., Veizis, A., Perrin, C., Coulborn, M.R., Mayaud, P. & Cohuet, S. (2018). Syrian refugees in Greece: experience with violence, mental health status, and access to information during the journey and while in Greece. *BMC Medicine* 16(40), 1-12.
- Hamdan-Mansour, M. A., Razeq, A.M., Abdulhaq, B., Arabiat, D., & Khalil, A.A. (2017). Displaced Syrian 'children's reported physical and mental wellbeing. *Child and Adolescent Mental Health*, 22(4), 186-193.
- Hassan, G., Ventevogel, P., Jefee-Bahloul, H., Oteo-Barkil, A. & Kirmayer, L.J. (2016). Mental health and psychosocial wellbeing of Syrians affected by armed conflict. *Epidemiology and Psychiatric Sciences*, 25(2), 129-141.
- Hattie, J. (2015). *What works best in education: The politics of collaborative expertise*. London: Pearson
- Hilt, L.T. (2015). Included as excluded and excluded as included Minority language pupils in Norwegian inclusion policy. *International Journal of Inclusive Education* 19(2), 165–182.
- Human Rights Watch [HRW]. (2015). Turkey: 400,000 Syrian children not in school. Retrieved from <https://www.hrw.org/news/2015/11/08/turkey-400000-syrian-children-not-school>
- Icduygu, A. (2015). Syrian refugees in Turkey the long road ahead. Transatlantic Council on Migration A Project of the Migration Policy Institute. Retrieved from <https://www.migrationpolicy.org/sites/default/files/publications/TCM-Protection-Syria.pdf>.
- Imamoglu, V.H., & Caliskan, E. (2017). Opinions of teachers on the primary education of foreign students in public schools: The case of Sinop province. *Karabuk Universitesi Sosyal Bilimler Enstitusu Dergisi*, 7(2), 529-546.
- Kagnici, Y.D. (2017). School 'counselors' roles and responsibilities in the cultural adaptation process of Syrian refugee children. *Elementary Education Online*, 16(4), 1768-1776.
- Kanat, K., & Ustun, K. (2015). U.S-Turkey realignment on Syria. *Middle East Policy*, 22 (4), 88-97.
- Karasu, M.A. (2016). Sanliurfa'da yasayan Suriyeli sığınmacıların kentle uyum sorunu. *Suleyman Demirel Universitesi İ.İ.B.F. Dergisi*, 21(3), 997-1016.
- Karsli-Calamak, E., & Kilinc, S. (2021) Becoming the teacher of a refugee child: 'Teachers' evolving experiences in Turkey. *International Journal of Inclusive Education*, 25(2), 259-282,
- Kilinc, S. (2019). Who will fit in with whom? Inclusive Education Struggles for Students with disabilities. *International Journal of Inclusive Education*, 23 (12), 1296–1314.
- Lambert, V.A., & Lambert, C.E. (2012). Qualitative descriptive research: An acceptable design. *Pacific Rim International Journal of Nursing Research*, 16, 255–256.
- Levent, F. & Cayak, S. (2017). School administrators vies on Syrian students' education in Turkey. *Hasan Ali Yucel Egitim Fakultesi Dergisi*, 14(1), 17-35.
- Lincoln, Y.S., & Guba, E.G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage
- McBrien, J.L. (2005). Education needs and barriers for refugee students in the United States a review of the literature. *Review of Educational Research*, 75(3), 329-364.
- Miles, B.M., & Huberman, A.M. (1994). *An expanded sourcebook qualitative data analysis*. Thousand Oaks, CA: Sage.
- Nayir, F. (2017). Problems and suggested solutions during the refugee education process. In Innovation and Global Issues in Social Sciences Congress publications (pp. 120- 122). 27-29 April 2017.
- OECD (2005). The labor market integration of immigrants in Germany. OECD, Paris. Retrieved from <https://www.oecdilibrary.org/docserver/238411133860.pdf?expires=1637252355&id=id&accname=guest&checksum=8F51A9600EE0ADE7060416088ED7BF51>
- Olsen, L. (2000). Learning English and learning America: Immigrants in the eye of a storm. *Theory into Practice*, 39(4), 196-202.
- Ozmen, K. Z. (2020). The problems that Syrian refugee children, class teachers, and Turkish children face in the school environment from the standpoint of trainee teachers. *Educational Research and Reviews*, 15(9), 554-563.
- Qaddour, K. (2017). *Educating Syrian refugees in Turkey*. Washington: DC Carnegie Endowment for International Peace.
- Regional Refugee & Resilience Plan (3RP) (2021). Regional Refugee & Resilience Plan in response to the Syria crisis. Turkey. [<http://www.3rpsyriacrisis.org/wp-content/uploads/2020/02/TURKEY-3RP-Regional-Refugee-and-Resilience-Plan-2020-2021.pdf>] (accessed 23 February 2021). Retrieved from <https://data2.unhcr.org/en/documents>
- Rumbaut, R.G., & Portes, A. (2001). The forging of a new America: Lessons for theory and policy. In R.G. Rumbaut & A. Portes (Eds.), *Ethnicities: children of immigrants in America* (pp. 301-317). Berkeley: University of California Press.
- Sammons, P. & Bakkum, L. (2012). Effective schools, equity and teacher effectiveness: a review of the literature. *Profesorado Revista de Curriculum y Formación Del Profesorado*, 15(3), 9-26.
- Sandelowski, M. (2010). 'What's in a name? Qualitative description revisited. *Research in Nursing & Health*, 33, 77–84.
- Sarmini, I., Topcu, E., & Scharbrodt, O. (2020). Integrating Syrian refugee children in Turkey: The role of Turkish language skills (A case study in Gaziantep). *International Journal of Educational Research Open*, 1, 100007.
- Song, S. (2011). Second-generation Turkish youth in Europe: explaining the academic disadvantage in Austria, Germany, and Switzerland. *Economics of Education Review*, 30(5): 938–949.
- Soykoek, S., Mall, V., Nehring, I., Henningsen, P. & Aberl, S. (2017). Post-traumatic stress disorder in Syrian children of a German refugee camp. *The Lancet Healthy Longevity*, 389, 903-904.

- Stéger, C. (2014) Review and analysis of the E.U. teacher-related policies and activities. *European Journal of Education*, 49, 332– 347.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks, CA: Sage
- Suarez-Orozco, C., & Suarez-Orozco, M.M. (2001). *Children of immigration*. Cambridge, MA: Harvard University Press.
- Sunata, U., & Abdulla, A. (2019). Lessons from experiences of Syrian civil society in refugee education of Turkey. *Journal of Immigrant & Refugee Studies* 18 (4), 434–447.
- Tas, Y.H. & Ozcan, S. (2018). Analysis of Syrian immigrant problems in the field of social policies. *HAK-İS Uluslararası Emek ve Toplum*, 7(17), 36-54.
- Taskin, P., & Erdemli, O. (2018). Education for Syrian refugees: Problems faced by teachers in Turkey. *Eurasian Journal of Educational Research*, 75, 155-178.
- Tunga Y., Engin G., & Cagiltay, K. (2020). A Literature Review on the Issues Encountered in Educating Syrian Children in Turkey. *Inonu University Journal of the Faculty of Education*, 21(1), 317-333.
- Uzun, E.M., & Butun, E. (2016). Okul öncesi eğitim kurumlarındaki Suriyeli sığınmacı çocukların karşılaştıkları sorunları hakkında öğretmen görüşleri. *Uluslararası Erken Çocukluk Eğitimi Çalışmaları Dergisi*, 1(1), 72-83.
- UNHCR (2018). <https://reliefweb.int/report/world/unhcr-global-report-2018>
- UNESCO. (2005). *Guidelines for Inclusion: Ensuring Access to Education for All*. Paris: UNESCO.  
Retrieved from [http://www.ibe.unesco.org/sites/default/files/Guidelines\\_for\\_Inclusion\\_UNESCO\\_2006.pdf](http://www.ibe.unesco.org/sites/default/files/Guidelines_for_Inclusion_UNESCO_2006.pdf)
- Williamson McDiarmid, G., & Clevenger-Bright, M. (2008). Rethinking teacher capacity. In M, Cochran-Smith, S. Feiman-Nemser and D. Mc Intyre (Eds.), *Handbook of research on teacher education: enduring questions in changing contexts* (third edition) New York: Routledge/Taylor Francis and the Association of Teacher Educators.
- Willis, D.G., Sullivan-Bolyai, S., Knafl, K. & Cohen, Z.M. (2016). Distinguishing features and similarities between descriptive phenomenological and qualitative description research. *Western Journal of Nursing Research*, 38(9), 1185-1204.
- Yigit, H.İ., & Tatch, A. (2017). Syrian refugees and Americans: Perceptions, attitudes, and insights. *American Journal of Qualitative Research*, 1(1), 13-31.
- Yildirimalp, S., Islamoglu, E. & Iyem, C. (2017). Suriyeli sığınmacıların toplumsal kabul ve uyum sürecine ilişkin bir araştırma. *Bilgi Sosyal Bilimler Dergisi*, 2, 107-126.

#### Authors

#### Contact

Nurhan Atalay is an assistant professor of Primary Education in the Department of Basic Education at the Nigde Omer Halisdemir University. She research interests are 21<sup>st</sup> century skills in primary school, science education, teacher training, and teaching learning processes in science education.

Asst. Prof Dr Nurhan ATALAY  
Nigde Omer Halisdemir University, Faculty of Education,  
Nigde, Turkey

E-posta : [nurratalay@gmail.com](mailto:nurratalay@gmail.com)

Zeynep Kilic is an assistant professor of Primary Education in the Department of Basic Education at the Eskisehir Osmangazi University. She research interests are teaching life science (social studies), life skills and values, 21<sup>st</sup> century skills in primary school, active learning and parent involvement.

Asst. Prof Dr. Zeynep KİLİC  
Eskisehir Osmangazi University Faculty of Education,  
Eskisehir, Turkey

E-posta : [zeyno-dev@hotmail.com](mailto:zeyno-dev@hotmail.com)

Burcu Anilan is an associate professor in Science Education. She is currently working at Eskisehir Osmangazi University, Faculty of Education, Department of Mathematics and Science Education. She has over 15 years of science and chemistry education experience. Her researchs interest lies in science education, chemistry, chemistry education, teacher training, teaching–learning processes in science education.

Assoc. Prof. Dr. Burcu ANILAN  
Eskisehir Osmangazi University Faculty of Education,  
Eskisehir, Turkey

E-posta : [anilan.burcu@gmail.com](mailto:anilan.burcu@gmail.com)

Huseyin Anilan is a fulltime professor of Primary Education in the Department of Basic Education at the Eskisehir Osmangazi University. His research interests are literacy teaching in primary school, Turkish instruction, teacher training and education of disadvantaged groups.

Prof. Dr.Huseyin ANILAN  
Eskisehir Osmangazi University Faculty of Education,  
Eskisehir, Turkey

E-posta : [anilan.huseyin@gmail.com](mailto:anilan.huseyin@gmail.com)

Sengul S. Anagun is a fulltime professor of Primary Education in the Department of Basic Education at the Eskisehir Osmangazi University and she working as a visiting scholar at Ege University in Turkey. Her research interest focuses on elementary science education, teacher training and education of disadvantaged groups

Prof. Dr. Sengul S. ANAGUN  
Eskisehir Osmangazi University Faculty of Education,  
Eskisehir, Turkey

E-posta : [ssanagun@gmail.com](mailto:ssanagun@gmail.com)

e-ISSN: 1248-2624

# Eđitimde Nitel Arařtırmalar Dergisi

ENAD  
ONLINE



Yayıncılık

[www.enadonline.com](http://www.enadonline.com)

PUBLISHING MANAGER / Sahibi ve Sorumlu Yazı İşleri Müdürü  
Anı Publishing Education and Consultancy Advertisement Stationary Industry Trade  
Co. Ltd. in the name of Anı Yayıncılık Eğitim ve Danışmanlık Reklam Kırtasiye Sanayi  
Ticaret Ltd. Şti. adına  
Özer DAŞCAN

EDITORIAL PRODUCTION ADMINISTRATOR / Yayın Yönetim  
Özer DAŞCAN

HEADQUARTER / Yönetim Merkezi  
Anı Yayıncılık, Kızılırmak Sokak 10/A  
06640 Bakanlıklar Ankara, TURKEY  
enad.editor@gmail.com  
Tel: +90 312 425 81 50 pbx Fax: +90 312 425 81 11

Printing Date / Basım Tarihi: 31 Jan. 2022 / 31 Ocak 2022  
Broadcast Type / Yayın Türü: Local Broadcast / Yerel Süreli Yayın  
Cover Design / Kapak Tasarımı: Kezban KILIÇOĞLU  
Composition / Dizgi: Kezban KILIÇOĞLU

The ideas published in the journal belong to the authors.  
Dergide yayınlanan yazıların tüm sorumluluğu yazarlarına aittir.

Eğitimde Nitel Araştırmalar Dergisi / ENAD (e-ISSN: 1248-2624) ANI Yayıncılık  
tarafından yılda dört kez yayımlanan hakemli bir dergidir.  
Journal of Qualitative Research in Education / JOQRE (e-ISSN: 1248-2624) is four  
times a year, peer-reviewed journal published by ANI Publishing.

ENAD – Dizinlenme / JOQRE is indexed and abstracted in,

- ✓ ESCI - Emerging Sources Citation Index
- ✓ ULAKBİM National Index
- ✓ ASOS Index - Akademia Sosyal Bilimler İndeksi
- ✓ DOAJ – Directory of Open Access Journal
- ✓ Google Akademik
- ✓ Index Copernicus
- ✓ SOBİAD – Sosyal Bilimler Atıf Dizini
- ✓ TEİ – Türk Eğitim İndeksi

© ANI Publishing. All rights reserved.  
© ANI Yayıncılık. Tüm hakları saklıdır.



**Baş Editör** **Editor-in-Chief**

*Ali Ersoy, Anadolu Üniversitesi, Türkiye* *Ali Ersoy, Anadolu University, Turkey*

**Editörler**

*Abbas Türnüklü, Dokuz Eylül Üniversitesi, Türkiye*  
*Adile Aşkı Kurt, Anadolu Üniversitesi, Turkey*  
*Ahmet Saban, Necmettin Erbakan Üniversitesi, Türkiye*  
*Arife Figen Ersoy, Anadolu Üniversitesi, Türkiye*  
*Bahadır Namdar, Ege Üniversitesi, Türkiye*  
*Bülent Alan, Anadolu Üniversitesi, Türkiye*  
*Çiğdem Kılıç, İstanbul Medeniyet Üniversitesi, Türkiye*  
*Engin Karahan, Eskişehir Osmangazi Üniversitesi, Türkiye*  
*Hasan Gürgür, Anadolu Üniversitesi, Türkiye*  
*Muhammet Özden, Kütahya Dumlupınar Üniversitesi, Türkiye*  
*Murat Doğan Şahin, Anadolu Üniversitesi, Türkiye*  
*Nuray Mamur, Pamukkale Üniversitesi, Türkiye*  
*Şakir Çinkır, Ankara Üniversitesi, Türkiye*  
*Vesile Alkan, Pamukkale Üniversitesi, Türkiye*  
*Yıldız Uzuner, Anadolu Üniversitesi, Türkiye*

**Editors**

*Abbas Türnüklü, Dokuz Eylül University, Turkey*  
*Adile Aşkı Kurt, Anadolu University, Turkey*  
*Ahmet Saban, Necmettin Erbakan University, Turkey*  
*Arife Figen Ersoy, Anadolu University, Turkey*  
*Bahadır Namdar, Ege University, Turkey*  
*Bülent Alan, Anadolu University, Turkey*  
*Çiğdem Kılıç, İstanbul Medeniyet University, Turkey*  
*Engin Karahan, Eskişehir Osmangazi University, Turkey*  
*Hasan Gürgür, Anadolu University, Turkey*  
*Muhammet Özden, Kütahya Dumlupınar University, Turkey*  
*Murat Doğan Şahin, Anadolu University, Turkey*  
*Nuray Mamur, Pamukkale University, Turkey*  
*Şakir Çinkır, Ankara University, Turkey*  
*Vesile Alkan, Pamukkale University, Turkey*  
*Yıldız Uzuner, Anadolu University, Turkey*

**Uluslararası Editörler Kurulu**

*Ali Yıldırım, Goteborg Üniversitesi, İsveç*  
*Corrine Glesne, Vermont Üniversitesi, Amerika*  
*Hasan Simsek, Doğu Akdeniz Üniversitesi, Türkiye*  
*Ingrid Engdahl, Stockholm Üniversitesi, İsveç*  
*Magos Kostas, Thessaly Üniversitesi, Yunanistan*  
*Melih Turgut, Norveç Fen ve Teknoloji Üniversitesi, Norveç*  
*S. Aslı Özgün-Koca, Wayne State Üniversitesi, Amerika*  
*Şenel Poyrazlı, Pen State Üniversitesi, Amerika*  
*Tony Mahon, Canterbury Christ Church Üniversitesi, İngiltere*  
*Wendy Cobb, Canterbury Christ Church Üniversitesi, İngiltere*

**International Editorial Board**

*Ali Yıldırım, Goteborg University, Sweden*  
*Corrine Glesne, University of Vermont, USA*  
*Hasan Simsek, Eastern Mediterranean University, Turkey*  
*Ingrid Engdahl, Stockholm University, Sweden*  
*Magos Kostas, University of Thessaly, Greece*  
*Melih Turgut, Norwegian University of Science and Technology, Norway*  
*S. Aslı Özgün-Koca, Wayne State University, USA*  
*Şenel Poyrazlı, Pen State University, USA*  
*Tony Mahon, Canterbury Christ Church University, UK*  
*Wendy Cobb, Canterbury Christ Church University, UK*

**Teknik Editörler**

*Osman Çolaklıoğlu, Anadolu Üniversitesi, Türkiye*  
*Fatih Selim Sellüm, Sakarya Üniversitesi, Türkiye*

**Technical Editors**

*Osman Çolaklıoğlu, Anadolu University, Turkey*  
*Fatih Selim Sellüm, Sakarya University, Turkey*



## İçindekiler

Türkiye'deki Özel Eğitim Anabilim Dallarında Karma Arařtırma Yöntemiyle Yürütölmüş Lisansüstü Tezlerin Çözömlenmesi

Murat DOĐAN, Seęil ÇELİK, Gözde TOMRİS .....1-32

Okul Psikolojik Danıřmanlarının Okulda Adalet Algıları ve Hak Savunuculuęu Görevlerine İliřkin Farkındalıkları

Sinem TARHAN .....33-55

Otizm Spektrum Bozukluęu Olan Çocuklara Oyun Becerilerinin Öęretimine İliřkin Özel Eğitim Öęretmenlerinin Görüşlerinin İncelenmesi

Ayşe Çiğdem GÜLVEREN, Şerife YÜCESOY ÖZKAN, Nuray ÖNCÜL ..... 56-77

İř Birlikli Öęretim Tekniklerinin Kullanımına Yönelik Bir Eylem Arařtırması

Sinan ARI, Sabahattin ÇİFTÇİ ..... 78-110

Yedinci Sınıf Öęrencilerinin Orantısal Akıl Yürütme Problemlerinin Çözümüne Yönelik Geliřtirdikleri Hatalı Stratejiler

Meltem Gülsüm KARLI, Esra YILDIZ.....111-148

Milli Eğitim Bakanlıęınca Sunulan Elektronik Hizmetlerin Karar Destek Sistemi Olarak Kullanılması: Temellendirilmiş Kuram Çalışması

Tayfun YÖRÜK, İlhan GÜNBAIYI.....149-178

Öęretmen Güçlendirme Stratejileri: Yapılamama Nedenleri ve Çözüm Önerileri

Naciye ÇALIřICI ÇELİK, Bilgen KIRAL.....179-202

Örgütsel Zeka Perspektifinden Öęretmenlerin Yenilikçi Çalışma Davranıřlarını Etkileyen Faktörler

Belgin TURA, Sait AKBAŞLI.....203-234



## **İçindekiler**

Determination of Primary School Teachers' Mathematical Gender Stereotypes and Examination of Their Reflection on Students

Özge NURLU ÜSTÜN, Naciye AKSOY.....235-264

Suriyeli Mülteci Çocukların TÜrk Okullarındaki Eğitimleri: İlkokul Öğretmenlerinin Deneyimleri

Nurhan ATALAY, Zeynep KILIÇ, Burcu ANILAN, Hüseyin ANILAN, Şengül S. ANAGÜN..... 265-282

# Türkiye'deki Özel Eğitim Anabilim Dallarında Karma Araştırma Yöntemiyle Yürütülmüş Lisansüstü Tezlerin Çözümlemesi\*

Murat DOĞAN\* Seçil ÇELİK\*\* Gözde TOMRİS\*\*\*

## Atıf için:

Doğan, M., Çelik, S. ve Tomris, G. (2021). Türkiye'deki özel eğitim anabilim dallarında karma araştırma yöntemiyle yürütülmüş lisansüstü tezlerin çözümlemesi. *Journal of Qualitative Research in Education*, 29, 1-32, doi: 10.14689/enad.29.1

**Öz:** Bu çalışmanın amacı, 2010-2020 yılları arasında Türkiye'deki özel eğitim anabilim dallarında karma araştırma yöntemiyle gerçekleştirilmiş lisansüstü tezlerin çözümlemesidir. Taramalar sonucunda 26 teze ulaşılmıştır. Çalışma, nitel araştırma yöntemlerinden analitik araştırma deseniyle gerçekleştirilmiştir. Veriler lisansüstü tezlerden oluşan dokümanlar aracılığıyla toplanmıştır. Verilerin çözümlemesinde içerik analizi yöntemi esas alınmıştır. Bu analiz karma yöntemle bir araştırma yürütürken alanyazında öngörülen temel aşamalar doğrultusunda gerçekleştirilmiştir. Bu aşamalar çalışmanın temalarını oluşturmuştur. Temalar; araştırma amacının ve sorularının belirlenmesi, karma yöntem yaklaşımına dayalı desenin seçilmesi, karma yöntem yaklaşımının ve deseninin seçilme gerekçesinin ortaya koyulması, örneklemin belirlenmesi, verilerin toplanması, verilerin analizi, verilerin bütünleştirilmesi, yorumlanması ve raporlanması, araştırmacı yeterliliği ve rolleri ve etikler. Tezlerin yöntem ve raporlama bölümlerindeki sınırlılıklar karma araştırma yönteminin kalite standartlarının çalışmalara yeterince yansıtılmadığına işaret etmektedir. Bu sınırlılıklar; terminolojideki çeşitlilik, yöntem ve desenin seçilme gerekçesinin ortaya konulmaması, geçerlik-güvenirlik bilgilerindeki sınırlılık, nicel ve nitel verilerin birbirleriyle harmanlanarak bütünleştirilmemiş olmasıdır. Sonuç olarak, özel eğitimde karma yöntem araştırmalarındaki sayısal artış alana katkı sağlamakla birlikte, yöntemle ilişkin felsefi bakış açısı ve donanım yeterliliğinin araştırmalara yansımaları tartışmalı görünmektedir.

**Anahtar Kelimeler:** Karma yöntem araştırması, karma yöntem, lisansüstü tezler, özel eğitim, özel eğitimde karma yöntem araştırması

## Makale Hakkında

Gönderim Tarihi:  
25.10.2021  
Düzeltilme Tarihi:  
24.11.2021  
Kabul Tarihi:  
07.01.2022

## Makale Türü

Araştırma

© 2022 ANI Yayıncılık. Tüm hakları saklıdır.

\* Sorumlu Yazar: Anadolu Üniversitesi, Türkiye, [mudogan@anadolu.edu.tr](mailto:mudogan@anadolu.edu.tr)  
\*\* Anadolu Üniversitesi, Türkiye, [secilcelik@anadolu.edu.tr](mailto:secilcelik@anadolu.edu.tr)  
\*\*\* Eskişehir Osmangazi Üniversitesi, Türkiye, [gtomris@ogu.edu.tr](mailto:gtomris@ogu.edu.tr)

## Giriş

Araştırma yöntemlerinin sosyal bilimlerde nicel araştırma ile başlayan serüveni zaman içinde nitel araştırmanın dâhil olmasıyla devam etmiştir. Günümüz sosyal bilim araştırmalarında nicel ve nitel araştırma yöntemleri ayrı ayrı kullanılabilir (Greene, 2006; Günbayı, 2020). 20. yüzyılın son çeyreğinde nicel ve nitel araştırma yöntemleri paradigma savaşlarını sürdürürken, karma araştırma yöntemi “üçüncü yöntem bilimsel hareket” (Tashakkori & Teddlie, 2003) veya “üçüncü araştırma paradigması” olarak ortaya çıkmıştır (Johnson & Odwuegbuzie, 2004). 1990’lı yılların başlarında Amerika Birleşik Devletleri (ABD) ve İngiltere’de sosyoloji ve yönetim, yine ABD’de eğitim ve değerlendirme, Kanada’da hemşirelik alanlarında karma yöntem araştırmalarının tanımları yapılmaya başlanmıştır. Alanyazında pek çok farklı tanımla bulunan karma araştırma yöntemi “araştırma problemini anlamak için tek bir çalışma ya da bir çalışma dizisi içerisinde hem nicel hem de nitel veri toplama, analiz etme ve harmanlama yöntemi” olarak tanımlanmaktadır (Creswell & Plano-Clark, 2018; Johnson vd., 2007). Yöntemin arkasındaki temel düşünce, nicel ve nitel yöntemleri birlikte kullanmanın bu yöntemleri tek başına kullanmaya kıyasla araştırma probleminin ve sorularının daha iyi anlaşılmasını sağlayabileceğidir (Creswell, 2012; Creswell & Plano-Clark, 2018; Tashakkori & Teddlie, 2003). Faydacı (pragmatik) ve dönüştürücü (transformatif) paradigmaları benimseyen bu araştırma yöntemi, ortaya çıktığı yıllardan itibaren eğitim alanındaki çalışmaların giderek artışıyla sosyal bilimlerde yaygınlık kazanmıştır (Fırat vd., 2014). Böylece pozitivist ve postpozitivist nicel araştırmacılar ile yorumlamacı (interpretive) nitel araştırmacıların aralarındaki iletişim ve işbirliği artmıştır. Bu süreçte karma yöntemin farklı bir yöntem bilimsel yaklaşım olarak yerleşmesine öncülük eden birçok seçkin çalışma gerçekleştirilmiş, özel eğitim gibi özellikle uygulamalı alanlardaki karma yöntem araştırmalarının sayısı artmıştır (Aşkun & Çizel, 2020; Creswell vd., 2006; Teddlie & Tashakkori, 2015).

Diğer paradigmalara göre daha yeni ve yükselen bir yaklaşım olan karma araştırma yönteminin adı, koşulları, desenleri gibi süreçlerle ilgili tartışmalar ve doğal olarak da gelişmeler devam etmektedir (Corrigan & Onwuegbuzie, 2020; Creswell & Plano-Clark, 2018). Bu gelişim ve değişim süreciyle birlikte, sosyal bilimlerde bu yöntemin özellikle son yıllarda giderek daha fazla kullanıldığı dikkat çekmektedir (Anguera vd., 2017; Bryman, 2006; Dures vd., 2011; Greene, 2006; Morgan, 2014; Yardley & Bishop, 2015). Bu durum, karma araştırma yönteminin kuramsal alt yapısının, desenlerinin, uygulama basamaklarının ve sürecinin ele alınarak tartışıldığı çalışmalara hız kazandırmıştır. Ayrıca süreçte yaşanan sorunların, araştırmacı deneyimlerinin ve sürecin geliştirilmesi gereken yönlerinin analiz edildiği ve tartışıldığı çalışmalar artış göstermiştir (Collins vd., 2006; Corr vd., 2019; Corrigan & Onwuegbuzie, 2020; Onwuegbuzie & Collins, 2017; Wachsmann vd., 2019). Sıkça dile getirilen sorunlar şunlardır: yöntemle ilişkin ortak bakış açısının olmaması (Salehi & Golafshani, 2010), kuramsal ve kavramsal karmaşa, yöntemin seçilme gerekçesinin ortaya konulmaması, verilerin sentezlenememesi, araştırmacılar arasında işbirliği kurulamaması (Baim-Lance vd., 2020), etkili akademik danışmanlık sağlanamaması ve iyi örneklerin azlığı (Corr vd., 2019).

Son yıllarda karma araştırma yöntemiyle yürütülen proje süreçlerinin çeşitli değerlendirme ilkeleriyle incelendiği çalışmaların ortaya çıktığı da gözlenmektedir (Baim-Lance vd., 2020; Onwuegbuzie & Poth, 2016). Yöntemin kullanılmasındaki başarı, birtakım temel aşamalara ve ilkere dayalı olan kalite standartlarına (quality standards) bağlıdır (Corrigan ve Onwuegbuzie 2020; Neupane, 2019). Corrigan ve Onwuegbuzie (2020)'nin yapmış olduğu çalışmada; karma araştırma yöntemine ilişkin özel rehberlerin yokluğu vurgulanmakla birlikte, kalite standartlarının belirlenmesine yönelik çalışmalara halen gereksinim duyulduğuna dikkat çekilmektedir. Ayrıca bu çalışma, araştırmacılara karma yöntem araştırmasının temel aşamalarını ve bu aşamalarda dikkate alınması gereken ilkeleri içeren bir meta-çerçeve sunmaktadır. Bu çerçeve, bu çalışmadaki lisansüstü tezlerin çözümlenmesinde kullanılan temaların kuramsal alt yapısını oluşturmaktadır.

Corrigan ve Onwuegbuzie'ye (2020) göre, karma araştırma yönteminin temel aşamaları şöyle sıralanmaktadır: araştırma amacının ve sorularının belirlenmesi, karma yöntem yaklaşımına dayalı desenin seçilmesi, karma yöntem yaklaşımının ve deseninin seçilme gerekçesinin ortaya koyulması, örneklemin belirlenmesi, geçerlik ve güvenilirlik çalışmaları, verilerin toplanması, verilerin analizi, verilerin bütünleştirilmesi, yorumlanması ve raporlanmasıdır. Bu aşamaların nitelikli işleyişi, araştırmacının nicel ve nitel araştırma yöntemlerini birleştirmenin gücüne olan inancını araştırmasına yansıtmasıyla yakından ilişkilidir (Corrigan & Onwuegbuzie, 2020; Johnson & Onwuegbuzie, 2004; Salehi & Golafshani, 2010).

İlk aşama olan araştırma amacının ve sorularının belirlenmesi; kuramsal ve kavramsal altyapının ortaya konulması, örneklem seçimi gibi süreçlerin planlanmasında önem taşımaktadır. Johnson ve Christensen (2010) karma yöntem araştırmalarının altı temel amacını *keşfetme* (exploration), *betimleme* (description), *anlama* (understanding), *açıklama* (explanation), *tahmin etme* (prediction) ve *etki* (influence) olarak sıralamıştır. Örneğin, öğrenme güçlüğünün ilkökul öğrencilerinin okuma-yazma sürecini nasıl etkilediğini amaçlayan bir araştırma düşünelim. Böyle bir çalışmada hakkında çok az şey bilinen bir fenomeni keşfetme ve anlama amacı söz konusu olup, nitel yaklaşım baskın bir rol oynayabilir. Bir araştırmacı bu durumu keşfettikten sonra hangi müdahalenin okuma-yazma başarısını artıracaklarını inceleyen bir araştırma yürütebilir ve müdahalenin etkisini tahmin etme ve ortaya koyma amaçlarını güdebilir. Bu süreçte araştırma soruları yol göstericidir ve bu sorular karma araştırma paradigmasının doğasına uygun olarak yazılmalıdır (Johnson & Onwuegbuzie, 2020).

Bir diğer önemli aşama, karma yöntem yaklaşımına dayalı desenin seçilmesidir. Alanyazında bu desenlerin farklı şekillerde gruplandırıldığı ve isimlendirildiği görülmektedir (Cresswell & Plano-Clark, 2018): yakınsayan paralel desen (convergent parallel design), açıklayıcı sıralı desen (explanatory sequential design), keşfedici sıralı desen (exploratory sequential design), gömülü desen (embedded design), dönüştürücü desen (transformative design), çok aşamalı desen (multiphase design), birleştirme/çeşitleme deseni (convergent design). Karma yöntem yaklaşımının ve deseninin seçilme gerekçesinin ortaya konulması tıpkı bir bina inşa etmek gibi araştırmacının temellerinin ortaya konulduğu aşamadır (Corrigan & Onwuegbuzie, 2020).

Greene vd. (1989) karma araştırma yönteminin seçilmesindeki beş temel gerekçeyi şöyle sıralamaktadır: veri çeşitlemesi (data triangulation), tamamlayıcılık (complementarity), geliştirme (development), yeniden başlatma (initiation) ve genişletme (expansion). Hem yaklaşımın hem de desenin seçilmesi; örneklem tasarımı, kullanılacak veri türleri, verilerin karıştırılma biçimleri, önceliği ve veri toplama sürecinin zaman boyutunun belirlenmesine yardımcı olmaktadır (Corrigan & Onwuegbuzie, 2020; Cresswell & Plano-Clark, 2018).

Araştırmacıların dikkate alması gereken diğer aşamalar; örneklemin belirlenmesi, verilerin doygunluğa ulaşıncaya kadar toplanması, örneklem büyüklüğüne uygun analizlerin seçilmesi, verilerin doğrulanması, ilişkilendirilerek yorumlanması ve bütünleştirilerek raporlanmasıdır (Corrigan & Onwuegbuzie, 2020; Teddlie & Tashakkori, 2009). Ayrıca araştırmacının yeterliliklerinin farkında olması, hangi noktalarda ekip işbirliğini kuracağını belirlemesi, rollerini iyi bir şekilde tanımlaması, etik konuları ve sorunları net bir şekilde ortaya koyması sürecin yürütülmesini kolaylaştırmaktadır (Doyle vd., 2009; Wachsmann vd., 2019).

### **Karma Yöntem Araştırmalarının Tarihsel Süreci ve Türkiye'ye Yansımaları**

Özellikle 1990'ların başından itibaren uluslararası alanyazında çeşitli çalışma alanlarında (eğitim, psikoloji, hemşirelik, program değerlendirme vb.) birçok sayıda karma yöntem araştırması gerçekleştirilmeye başlanmıştır. Bu çalışmalar, karma araştırma yönteminin ayrı bir araştırma yaklaşımına dönüşmeye başlamasında önemli yer tutmaktadır (Cresswell & Plano Clark, 2018; Teddlie & Tashakkori, 2009). Zaman içerisinde nitel araştırma yaklaşımının daha iyi anlaşılması, nicel ve nitel veri toplamanın avantajları, veri çeşitlemesinin önemi, eğitim alanındaki çalışmaların artışı gibi nedenlerle karma yöntem araştırmaları sosyal bilimler alanında giderek popülerlik kazanmıştır (Cresswell, 2012). 2000'li yıllara gelindiğinde, karma araştırma yöntemi özellikle sosyal bilimlerdeki pek çok araştırmacı tarafından benimsenen ve kullanılan bir yöntem haline almış ve üzerine birçok kitap yazılıp araştırma gerçekleştirilmiştir (Punch, 2009; Teddlie & Tashakkori, 2009). Ancak, halen uluslararası alanyazında nicel ve nitel yöntemlerin birlikte karma yöntem araştırmalarında nasıl işe koşulacağı hem kuramsal olarak tartışılmakta hem de uygulama örnekleri sunulmaktadır (Corrigan & Onwuegbuzie, 2020).

Türkiye'de ise, yöntem bilimsel konularda uluslararası gelişmelerin takip edildiği ve karma araştırma yönteminin sosyal bilimler alanındaki kullanımının uluslararası alanyazına göre çok daha yeni bir aşamada olduğu söylenebilir. 2000'li yıllarda başlayan uluslararası gelişmeler Türkiye'ye de yansımıştır. Bu yıllardan itibaren Türkiye'de sosyal bilimler içerisinde yer alan özellikle uygulamalı alanlarda giderek artan sayıda karma yöntem çalışmasının (kitap, lisansüstü tez, araştırma makalesi vb.) gerçekleştirildiği dikkat çekmektedir. Eğitim bilimleri, psikoloji, sosyoloji bu alanlara örnektir. Sosyal bilimler içerisinde karma yöntemin kullanımının yaygınlaştığı uygulamalı alanlardan bir diğeri ise, özel eğitimidir (Collins vd., 2006; Corr vd., 2019).

## Özel Eğitim Alanının Karma Araştırma Yöntemiyle İlişkisi ve Türkiye Örneği

Özel eğitim, gerek uluslararası gerekse ulusal düzeyde güncelliğini koruyan, pek çok farklı konuda araştırmalar gerçekleştirilen, farklı alanlarla işbirliği gerektiren dinamik bir disiplin alanıdır (Corr vd., 2019). Sosyal bilimlerde karma araştırma yönteminin kullanımı doğal olarak özel eğitim alanına da yansımış, tüm dünyada karma yöntemle yürütülen özel eğitim çalışmalarının sayısı giderek artış göstermiştir (Collins vd., 2006; Klingner & Boardman, 2011; Trainor, 2011). Artışın nedeni, karma araştırma yönteminin güncel bir eğilim olduğundan ziyade, yöntemin özel eğitim alanına sunduğu veya sunabileceği katkılar olarak değerlendirilmektedir (Collins vd., 2006; Klingner & Boardman, 2011).

Tartışmalarda üzerinde önemle durulan noktalardan biri, özel eğitim alanında kuram ile uygulama arasında bir boşluk olduğudur. Özellikle müdahale içeren desenlerin işe koşulduğu karma yöntem araştırmalarının bu boşluğu doldurma potansiyeli taşıdığı savunulmaktadır (Klingner & Boardman, 2011; Schneider & McDonald, 2007; Vaughn vd., 2000).

Tartışılan bir diğer nokta, özel eğitim alanının karma araştırma yönteminin doğasına uygun bir çalışma alanı olup olmadığıdır. Özel eğitim engellilik, insan hakları ve hak savunuculuğu, bireysel ve kültürel farklılıklar, eğitime eşit erişim gibi toplumsal, sosyal, politik ve kapsayıcı eğitimle ilgili konuların araştırıldığı bir çalışma alanıdır (Collins vd., 2006; Klingner & Boardman, 2011; Trainor, 2011). Karma araştırma yönteminin özel eğitim alanının kültürel, ontolojik ve epistemolojik boyutlarının çoklu bakış açısıyla tartışılmasına katkı sağlayabileceği belirtilmektedir (Collins vd., 2006; Klingner & Boardman, 2011; Trainor, 2011). Bu yöntemle araştırmacının araştırma problemiyle ilgili daha güçlü bir senteze ulaşabileceği ve toplanan zengin verilerle farklı yetersizlik gruplarıyla ilgili araştırma problemlerine daha bütüncül ve ayrıntılı yanıt verilebileceği öne sürülmektedir (Collins vd., 2006; Trainor, 2011). Ayrıca her yetersizlik grubunun kültürel ve gelişimsel açıdan kendine özgü özelliklerinin olması, farklı yetersizlik gruplarıyla ilgili çeşitli araştırma problemlerinin birden fazla kaynaktan veri toplanarak daha güçlü bir şekilde yorumlanmasını gerektirmektedir. Bu yönleriyle karma araştırma yönteminin özel eğitimin doğasına uygun bir çalışma alanı olduğu ifade edilmektedir (Collins vd., 2006; Klingner & Boardman, 2011; Trainor, 2011).

Alanyazında bir yandan yöntemin özel eğitim alanına sunduğu katkılar tartışılırken, diğer yandan yöntemin farklı yönlerinin ele alındığı çalışmalar yürütülmektedir. Bu çalışmalarda; özel eğitim alanında karma yöntem araştırması yürütme ve raporlama süreçlerinin analiz edildiği ve tartışıldığı, yöntemin daha işlevsel kullanımına yönelik model önerilerinin geliştirildiği görülmektedir (Collins vd., 2006; Corr vd., 2019; Li vd., 2000; Odom vd., 2005). Yaşanan bu uluslararası gelişmeler Türkiye’de karma yöntemle yürütülen özel eğitim çalışmalarının sayısındaki artışla sonuçlanmıştır. Bu çalışmaların ise büyük oranda lisansüstü tez çalışmalarından oluştuğu gözlenmektedir (Şan, 2020).



Türkiye’de an itibariyle 11 üniversitede özel eğitim lisansüstü eğitim programı vardır. Bu üniversitelerin yedisinde özel eğitim alanında hem yüksek lisans hem de doktora programları bulunmaktadır (Turkish Higher Education Institution, 2020). Bu üniversitelerde bir dönemde ne kadar tez üretildiğine dair bir istatistiki veri bulunmamaktadır. Türkiye’de özel eğitim lisansüstü eğitim programlarında ortak bir program kullanılmakta ve bu program kapsamında bazı derslerin zorunlu dersler arasında yer aldığı görülmektedir. Bilimsel araştırma yöntemleri dersi bunlardan biridir. Bu dersin içeriğinde nicel, nitel ve karma araştırma yöntemlerine yer verilse de; öğretim üyesinin deneyimi, yöntem bilimsel bakış açısı ve yaklaşımı ile bu derslerin içeriği değişkenlik gösterebilmektedir. Bununla birlikte, tez danışmanının bir paradigmaya olan yakınlığı ve deneyimi bir tezin yönteminin oluşturulması sürecine yansiyabilmektedir (Corrigan & Onwuegbuzie, 2020). Sadece iki üniversitenin özel eğitim doktora programlarında (Anadolu Üniversitesi, Hasan Kalyoncu Üniversitesi) “özel eğitimde karma araştırma yöntemleri” adlı spesifik bir dersin olduğu dikkat çekicidir.

Türkiye’deki özel eğitim lisansüstü eğitim programlarındaki tezler incelendiğinde; karma yöntem tez çalışmalarının 2010 yılında başladığı (Karaaslan, 2010), ancak 2015 yılından sonra artış gösterdiği dikkat çekicidir (bkz. Şekil 3). Daha önce değinildiği gibi, alanyazında karma araştırma yönteminin uygulamalı bir alan olan özel eğitimin doğasına uygun olduğu vurgulanmaktadır (Collins vd., 2006; Klingner & Boardman, 2011; Trainor, 2011). Gelişmeler devam ettikçe, özel eğitim alanındaki tez çalışmalarında karma araştırma yönteminin daha büyük önem kazanacağı ve bu yöntemle desenlenen çalışmaların artış göstereceği düşünülmektedir. Ancak; Türkiye’de özel eğitim alanındaki karma yöntem çalışmalarının betimlendiği, karma araştırma yöntemine özgü özelliklerin, aşamaların ve uygulanma biçimlerinin çözümlendiği, özel eğitim araştırmaları bağlamında bu yöntemin tartışıldığı çalışmalar henüz olgunlaşmamıştır (Şan, 2020). Dolayısıyla karma yöntemle yürütülen özel eğitim araştırmalarının Türkiye’de yeni bir eğilim olduğu ve bu yöntemle ilişkin yapılan kapsamlı tartışmaların henüz yaygınlaşmadığı söylenebilir.

Sözü edilen nedenlerle, Türkiye’de özel eğitim alanında karma araştırma yöntemiyle gerçekleştirilen lisansüstü tezlerin içeriklerinin derinlemesine çözümlenerek analiz edilmesi ve böylece niteliğe ilişkin birtakım yorumlara ulaşılması önem kazanmaktadır. Yapılacak böyle bir çalışmanın, özel eğitimde karma araştırma yöntemiyle gerçekleştirilmiş tezlerdeki mevcut durumun ve yaşanan sorunların ortaya konulması, uzman ve araştırmacılara dayanaklı bir bakış açısı sunması ve yöntem bilimsel tartışmaları veriye dayalı olarak güçlendirmesi yönleriyle alana katkı sağlayacağı düşünülmektedir. Ayrıca yöntem bilimsel gelişmeler sonucunda karma araştırma yönteminin özel eğitim alanındaki öneminin geniş kitleler tarafından anlaşılacağı ve yöntemin özel eğitimde kullanımının artacağı öngörülmektedir. Dolayısıyla çalışmamız güncel özel eğitim araştırmalarına yön verme olasılığı taşıdığı için de anlamlıdır.

## Araştırmanın Amacı

Bu çalışmanın amacı, 2010-2020 yılları arasında Türkiye'deki özel eğitim anabilim dallarında karma araştırma yöntemiyle gerçekleştirilmiş lisansüstü tezlerin alanyazına dayalı olarak belirlenen temalar altında çözümlenmesidir. Bu çerçevede iki temel araştırma sorusuna yanıt aranmıştır:

1. Özel eğitim anabilim dallarında karma araştırma yöntemiyle gerçekleştirilen lisansüstü tezlerin genel betimleyici özellikleri nelerdir?
2. Özel eğitim anabilim dallarında karma araştırma yöntemiyle gerçekleştirilen lisansüstü tezlerin bu yönetime ilişkin özellikleri nelerdir?

## Yöntem

Bu çalışma, kuramsal analitik araştırma olarak desenlenmiştir. Kuramsal analitik araştırma, mevcut durumun belirlenmesi ve analiz edilmesine yönelik bir araştırma desendir (Neel, 1981). Dolayısıyla bu araştırma nitel bir çalışmadır. Çalışmada çözümleyici analize ulaşmak için nitel araştırmaya uygun olarak içerik analizi yapılmış, nitel veri toplama yöntemlerinden doküman incelemesi kullanılmıştır. Doküman incelemesi, araştırılması hedeflenen olgular hakkında bilgi içeren yazılı ve görsel materyallerin analizidir (Bowen, 2009; Yıldırım & Şimşek, 2013). Araştırılmak istenen konu hakkında bilgi sağlayan materyallere doküman adı verilir. Bu dokümanların başında kitaplar, makaleler, istatistikler, tezler, resimler gelir (Baloğlu, 2009; Balcı, 2013). Bu çalışmada dokümanlar lisansüstü tezlerdir. Kısaca, veri toplama tekniği olarak doküman incelemesinin, veri analiz yöntemi olarak içerik analizinin ve araştırma deseni olarak kuramsal analitik araştırmanın bu çalışmanın doğasına uygun olduğu söylenebilir.

## Şekil 1.

### Araştırma Sürecinin Aşamaları



## Araştırma Süreci

Bu araştırma üç temel aşamada gerçekleştirilmiştir. Bu aşamalar Şekil 1’de verilmiş ve izleyen bölümde sırasıyla açıklanmıştır.

## Veri Kaynakları ve Verilerin Toplanması

Veri kaynaklarını Türkiye’de 2010-2020 yılları arasında özel eğitim anabilim dallarında karma araştırma yöntemiyle desenlenen lisansüstü tezler oluşturmaktadır. Özel eğitim alanında karma yöntemle desenlenen ilk tezin (Karaaslan, 2010) bu yıla ait olması nedeniyle taramalar 2010’dan başlatılmıştır. Tarama sonucunda toplam 26 lisansüstü teze ulaşılmıştır. Verilerin toplanması aşamasında üç adımdan oluşan tarama süreci gerçekleştirilmiştir.

İlk adımda Yükseköğretim Kurulu (YÖK) Ulusal Tez Merkezinde yer alan tezler taranmıştır. İkinci adımda Türkiye’de özel eğitim bölümü bulunan üniversitelerin kütüphanelerindeki e-arşivlerde taramalar yapılmıştır. Son olarak dizin taraması gerçekleştirilmiş ve ulaşılan tüm tezlerin kaynakça izi sürülerek elle taramalar yapılmıştır. Tarama sürecinde, konuyla ilgili anahtar sözcükler ve bu sözcüklerin kombinasyonları kullanılmıştır. Bu kapsamda; “mixed method research, mixed methods research, mixed method, mixed methods, special education, karma araştırma yöntemi, karma yöntem araştırması, karma yöntem, özel eğitim, özel gereksinimli, gelişimsel yetersizlik, engelli, zihinsel engel, zihinsel engelli, zihin yetersizliği, otizm, otizm spektrum bozukluğu, yaygın gelişimsel bozukluk, işitme engeli, işitme engelli, işitme yetersizliği, görme engeli, görme engelli, görme yetersizliği, fiziksel engel, fiziksel engelli, fiziksel yetersizlik, çok engelli, çoklu yetersizlik, üstün yetenek, özel yetenek, üstün yetenekli, özel yetenekli” anahtar sözcükleri ve kombinasyonları kullanılmıştır.

## Verilerin Çözümlemesi ve Yorumlanması

Bu çalışmadaki verilerin çözümlemesinde içerik analizi yaklaşımı esas alınmıştır. Bu yaklaşımın amacı, toplanan verileri açıklayabilecek kavramlara ve ilişkilere ulaşmaktır. İçerik analizi ile veriler tanımlanmaya, verilerin içinde saklı olabilecek gerçekler ortaya çıkarılmaya çalışılmaktadır. İçerik analizinde yapılan temel işlem, birbirine benzeyen verileri belirli kavramlar ve temalar çerçevesinde bir araya getirmek ve bunları düzenleyerek yorumlamaktır (Glesne, 2010; Yıldırım & Şimşek, 2013).

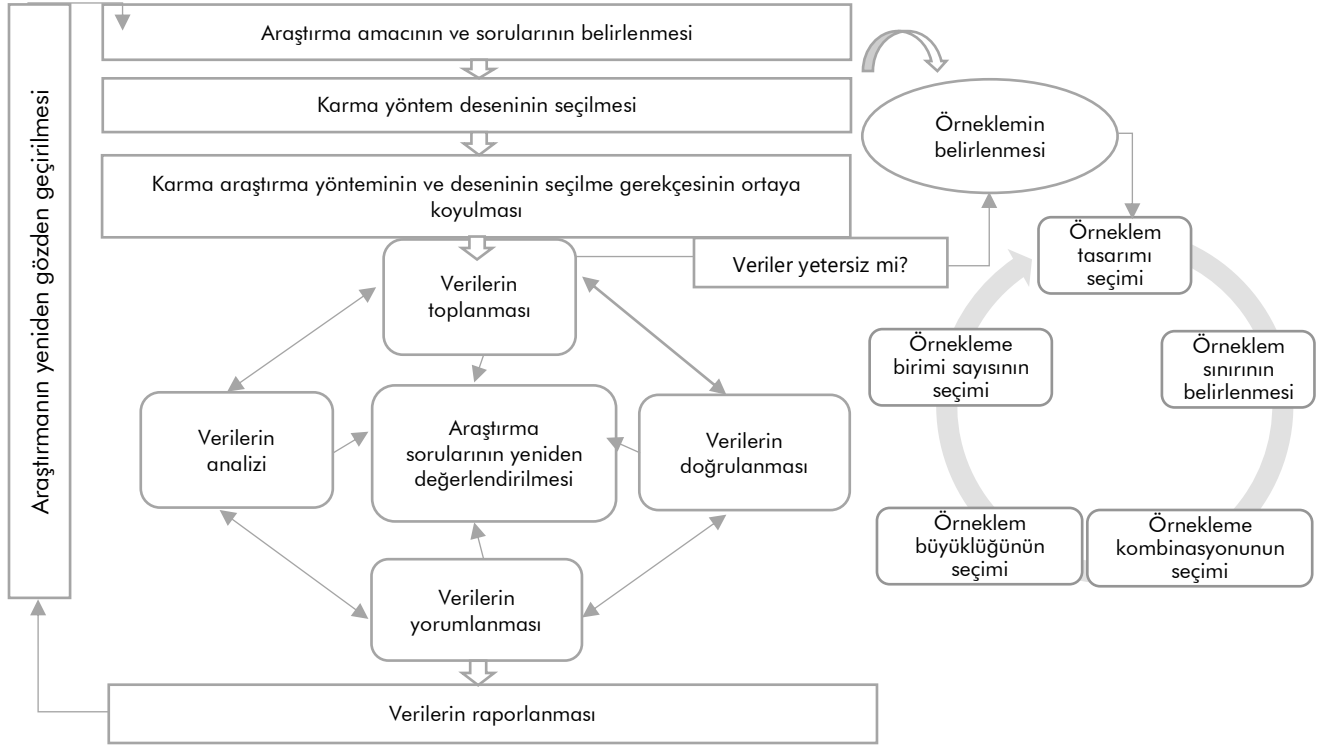
İçerik analizinde kullanılan temaların belirlenmesinde, karma yöntem araştırması planlanırken ve yürütülürken alanyazında dikkate alınması önerilen temel basamaklar dikkate alınmıştır (Corrigan & Onwuegbuzie, 2020). Bunun nedeni, önerilen bu basamakların ve bu basamaklar içerisinde yer alan temel ilkelerin karma yöntem araştırmalarının kalite göstergeleri olarak nitelendirilmesidir. Bu basamaklar yapılan araştırmalardaki var olan durumu ortaya koyabilecek, bu çalışmaların niteliğinin yorumlanmasını sağlayacak ve gelecek çalışmalara yön gösterebilecek bir meta-çerçeve çizmektedir (Corrigan & Onwuegbuzie, 2020). Karma yöntem araştırma sürecinin basamakları Şekil 2'de yer almaktadır.

Şekil 2'de görüldüğü gibi, karma yöntem araştırması sürecinde birtakım basamaklar döngüsel ve birbirleriyle iç içe yürütülmektedir. Ayrıca araştırmacı rollerinin belirlenmesi ve etik meselelerin dikkate alınması, araştırma sürecinde dikkate alınması gereken ana bileşenlerdendir (Cresswell, 2012; Corrigan & Onwuegbuzie, 2020). Çalışmadaki tezlerin çözümlemesinde kullanılan temalar bu doğrultuda şekillendirilmiştir. Bu kapsamda, Şekil 2'de yer alan bazı basamaklar birbirleriyle birleştirilmiş, araştırmacı yeterliği ve rolleri ve etik konular temalara eklenmiştir. Bu süreçte öncelikle araştırmacılar karma yöntem araştırma sürecinin temel basamaklarını dikkate alarak tezleri bağımsız olarak okumuşlar, sonrasında bir araya gelerek görüş birliği sağlayana kadar temaları tartışmışlardır. Belirlenen temalar karma araştırma yöntemi konusunda deneyimi olan bir alan uzmanına da gönderilerek son şeklini almıştır. Belirlenen dokuz tema şöyledir:

1. Araştırma amacının ve sorularının belirlenmesi
2. Karma yöntem yaklaşımına dayalı desenin seçilmesi
3. Karma yöntem yaklaşımının ve deseninin seçilme gerekçesinin ortaya koyulması
4. Örneklemin belirlenmesi
5. Verilerin toplanması
6. Verilerin analizi
7. Verilerin bütünleştirilmesi, doğrulanması, yorumlanması ve raporlanması
8. Araştırmacının yeterliliği ve rolleri
9. Etik

## Şekil 2.

## Karma Yöntem Araştırma Sürecinin Temel Basamakları (Meta-Çerçevesi)



Kaynak: Corrigan & Onwuegbuzie, 2020'den alınmıştır.

Temaların belirlenmesinden sonraki aşama, tezlerin bu temalar altında çözümlenmesidir. Bu analiz için bir veri kayıt formu oluşturulmuştur. Forma belirlenen temalar doğrultusundaki bilgiler ve örnekler kaydedilmiştir. Araştırma kapsamında ulaşılan tezlerin tamamı araştırmacılar tarafından önce bağımsız olarak okunmuş ve temalara göre kodlanmıştır. Bu süreçte iki araştırmacı (ikinci ve üçüncü yazar) tezlerin tamamını, diğer iki araştırmacı (birinci yazar ve bir başka alan uzmanı) birbirlerinden ayrı 13 (ulaşılan tezlerin %50'si) tezi veri kayıt formunu kullanarak temalara göre kodlamıştır. Güvenirlik için veri kayıt formunda tezlere ilişkin yapılan kodlamalar online toplantılar yapılarak karşılaştırılmıştır. Bu toplantılarda görüş birliği sağlanamamış olan kodlamalar için araştırmacılar değerlendirmelerini ifade etmiş, gerektiğinde tartışarak birbirlerini ikna etme yoluyla yapılan kodlamalar konusunda uzlaşma sağlamışlardır.

### Araştırmacı Yeterliliği

Birinci yazar, karma araştırma yöntemiyle çalışmalar yürütme ve lisansüstü tezlere danışmanlık yapma konusunda yedi yıllık deneyime sahiptir. İkinci ve üçüncü yazar ise, doktora tezlerini karma yöntem araştırması olarak yürütmüş ve bu yöntemle desenlenen çok çeşitli projelerde rol almıştır.

## Bulgular ve Yorum

Bu bölümde Türkiye’de özel eğitim anabilim dallarında karma araştırma yöntemiyle gerçekleştirilen lisansüstü tezlerin çözümlenmesi sonucunda elde edilen veriler aktarılmış ve yorumlanmıştır. Araştırma sorularıyla uyumlu olarak önce tezlerin genel betimleyici özellikleri, ardından tezlerin karma yöntemle ilişkin özellikleri irdelenmiştir. Bulgular kısmında çalışmaların sayısı (number) belirtilmiş, kısaltma olarak *n* kullanılmıştır.

### Tezlerin Genel Betimleyici Özellikleri

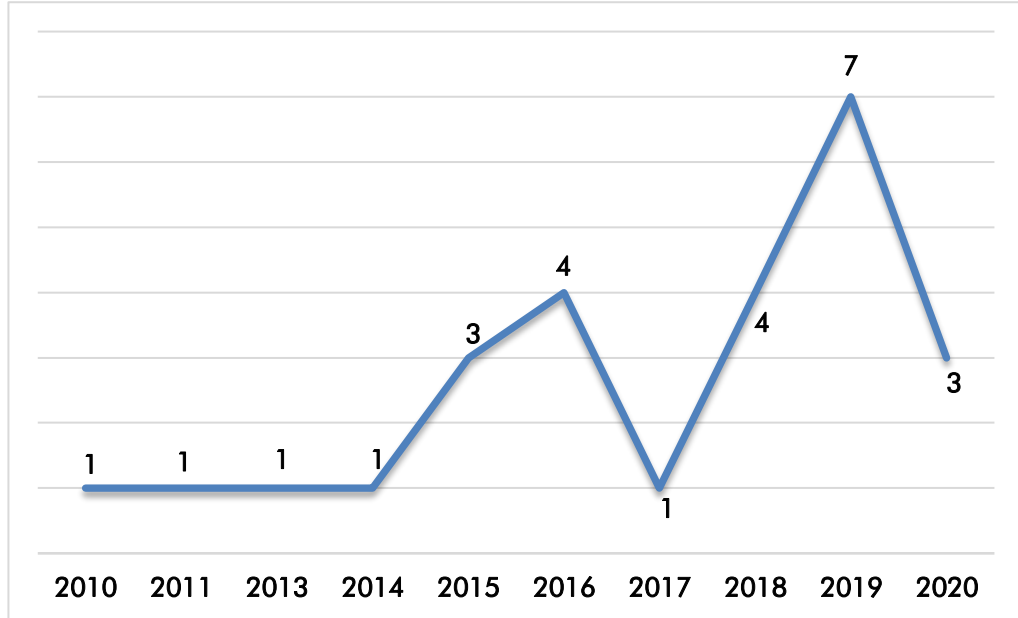
Lisansüstü tezlerin gerçekleştirildiği üniversitelere ve programlara göre dağılımı Tablo 1’de yer almaktadır.

**Tablo 1.**

*Tezlerin Gerçekleştirildiği Üniversitelere, Anabilim Dallarına ve Programlara Dağılımı (n = 26)*

| Özellik                 | n  | %  |
|-------------------------|----|----|
| <b>Üniversite</b>       |    |    |
| Anadolu                 | 13 | 50 |
| Necmettin Erbakan       | 6  | 23 |
| Ankara                  | 2  | 8  |
| Gazi                    | 2  | 8  |
| Hasan Kalyoncu          | 1  | 4  |
| Bolu Abant İzzet Baysal | 1  | 4  |
| Dokuz Eylül             | 1  | 4  |
| <b>Program</b>          | 1  | 4  |
| Doktora                 | 15 | 58 |
| Yüksek Lisans           | 11 | 42 |

Özel Eğitim Anabilim Dallarında gerçekleştirilen çalışmaların Türkiye’nin pek çok farklı üniversitesinde gerçekleştirildiği görülmektedir. Çalışmaların büyük çoğunluğunun Anadolu Üniversitesi ile Necmettin Erbakan Üniversitesinde gerçekleştirildiği dikkat çekmektedir. Tezlerin yıllara göre dağılımı Şekil 3’te verilmiştir.

**Şekil 3.***Lisansüstü Tezlerin Yıllara Göre Dağılımı*

Şekil 3'e göre, Türkiye'de özel eğitim anabilim dallarında karma yöntemle gerçekleştirilen tezlerin 2010'da başladığı, bir süre yıl bazında birer tez ile devam edildiği, hatta bazı yıllar (2012) hiç çalışma olmadığı, ancak günümüze yaklaştıkça tez sayısının belirgin bir artış gösterdiği görülmektedir. Son yıllarda karma yöntem araştırmasına vurgu yapan çalışmalarla uyumlu biçimde, özel eğitimde de bu yöneme yoğun bir ilginin olduğunu söylemek mümkündür. Gerçekleştirilen tezlerin büyük bir kısmının ise doktora tezi olduğu görülmektedir (n: 15).

**Tezlerin Karma Yönteme İlişkin Özellikleri**

Bu çalışmada yer alan lisansüstü tezlerin karma yöneme ilişkin özellikleri, alanyazında karma yöntemle araştırmalar yürütülürken takip edilmesi önerilen temel aşamalar dikkate alınarak çözümlenmiştir. İlerleyen kısımda bu aşamalara dayalı olan her bir tema kapsamında ulaşılan veriler detaylandırılarak sunulmuştur.

**Tema 1. Araştırma amacının ve sorularının belirlenmesi**

Bu çalışmadaki tezlerin büyük bir bölümünün (n: 17) geliştirilen veya mevcut bir programın/uygulamanın etkililiğini belirlemeyi amaçladığı dikkat çekmektedir. Bir başka deyişle, müdahale içeren çalışmalar ağırlıktadır. Müdahale içeren çalışmalarda araştırmacılar tarafından geliştirilen ya da uyarlanan programların özel gereksinimleri olan birey, ailesi, öğretmenler ya da çeşitli paydaşlar üzerindeki etkisi sınanmaya çalışılmıştır. Çalışmalarda *ebeveyn-çocuk etkileşimi* (Karaaslan, 2010; Toper-Korkmaz, 2015; Tomris, 2019), *sosyal beceriler* (Kaya, 2011; Sani-Bozkurt, 2016; İçyüz, 2019),

uygun olmayan davranışlar (Kahveci, 2015; Melekoğlu, 2017) olmak üzere farklı süreçlere müdahale edildiği görülmüş; bazı çalışmalarda ebeveyn gereksinimlerine (Bayraklı, 2016; Cankuvvet, 2015; Şahin, 2019) ve öğretmen mesleki yeterliliklerine odaklanıldığı gözlenmiştir (Bilgiç, 2018; Karaca, 2018; Deniz, 2019; Çelik, 2019; Eker, 2020; Bural, 2020). Bunun yanı sıra, dokuz çalışmanın doğrudan kapsayıcı eğitime yönelik olarak gerçekleştirildiği dikkat çekmektedir (Bayraklı, 2016; Bilgiç, 2018; Çelik, 2019; İcöz, 2016; Karaca, 2018; Karahan, 2019; Melekoğlu, 2017; Yıldırım-Hacıbrahimoğlu, 2013; Yılmaz, 2014).

Bu çalışmaların yarısında ( $n: 8$ ) önce gereksinim analizleri yapılarak var olan durum keşfedilmeye ve betimlenmeye çalışılmış, ardından ihtiyaca göre bir program geliştirilerek yapılan müdahalenin etkisi sınanmıştır (Bayraklı, 2016; Bural, 2020; Cankuvvet, 2015; Çelik, 2019; Deniz, 2019; Eker, 2020; Karaca, 2018; Şahin, 2019). Örneğin; Cankuvvet (2015) çalışmasında bu süreci şu şekilde tanımlamıştır:

Araştırmanın ilk aşamasında, nitel veri toplama teknikleriyle ebeveynlerin bilgi gereksinimleri belirlenmiştir. Nitel veri toplama teknikleriyle ortaya çıkarılan bilgi gereksinimleri, nitel veriye dayandırılarak geliştiren nicel veri toplama aracıyla daha büyük bir örneklem grubunda incelenmiştir. İkinci aşamasında ise belirlenen gereksinimler temelinde geliştirilmiş programın etkililiği nicel veri toplama araçlarıyla değerlendirilmiştir.

Özel eğitim alanında farklı yetersizlik gruplarına ve bireysel gereksinimlere yönelik çeşitli programlara ihtiyaç duyulmaktadır (Heward, 2009). Bu nedenle, bu çalışmada bir programın ya da uygulamanın etkisini sınamaya yönelik müdahale içeren tezlerin fazla olması beklenen bir bulgu olmakla birlikte; gereksinimlere dayalı olarak program geliştirme çalışmalarının oldukça sınırlı olduğu dikkat çekicidir. Bununla birlikte, incelenen tezlerin dokuzunda keşfetme ve betimleme amacına yer verilerek sadece var olan durumun ortaya koyulduğu görülmektedir. Bu çalışmalarda keşfedilmeye ve betimlenmeye çalışılan duruma göre baskın paradigmanın değişkenlik gösterdiği gözlenmektedir. Üç çalışmada (Karahan, 2019; Özdemir, 2016; Yıldırım-Hacıbrahimoğlu, 2013) nicel boyut daha baskın iken; bir çalışmada nitel boyutun daha baskın olduğu (İcöz, 2016) ve beş çalışmada ise nicel ve nitel paradigmaların eşit rollerde olduğu görülmüştür (Anıl, 2019; Erkaya, 2018; Kılıç, 2020; Tunalı, 2018; Yılmaz, 2014). Bu bulgu, araştırmacıların araştırmanın amacını ve sorularını belirlerken hangi paradigmaya daha yakın bir duruş sergilediği, nicel ve nitel araştırma yöntemlerini birleştirmenin gücüne olan inancını araştırmasına nasıl yansıttığıyla ilişkilendirilebilir (Cresswell, 2012; Corrigan & Onwuegbuzie, 2020).

Araştırma amacının ve sorularının açık bir şekilde yazılması; kuramsal ve kavramsal altyapının ortaya konulması, örneklem seçimi gibi süreçlerin planlanmasında oldukça önemlidir. Tezlerin tümünde araştırmanın amacının ve sorularının açık bir şekilde ifade edildiği görülmüştür. Bazı tezlerde (ör. Şahin, 2019) nicel ve nitel araştırma sorularına ayrı ayrı yer verildiği; bazı tezlerde ise (ör. Erkaya, 2018) karma araştırma yönteminin doğasına uygun bir şekilde hem nicel hem de nitel araştırma yöntemlerini birleştirmeyi gerektiren daha kapsayıcı sorulara yer verildiği dikkat çekmektedir. Aşağıdaki örnekte



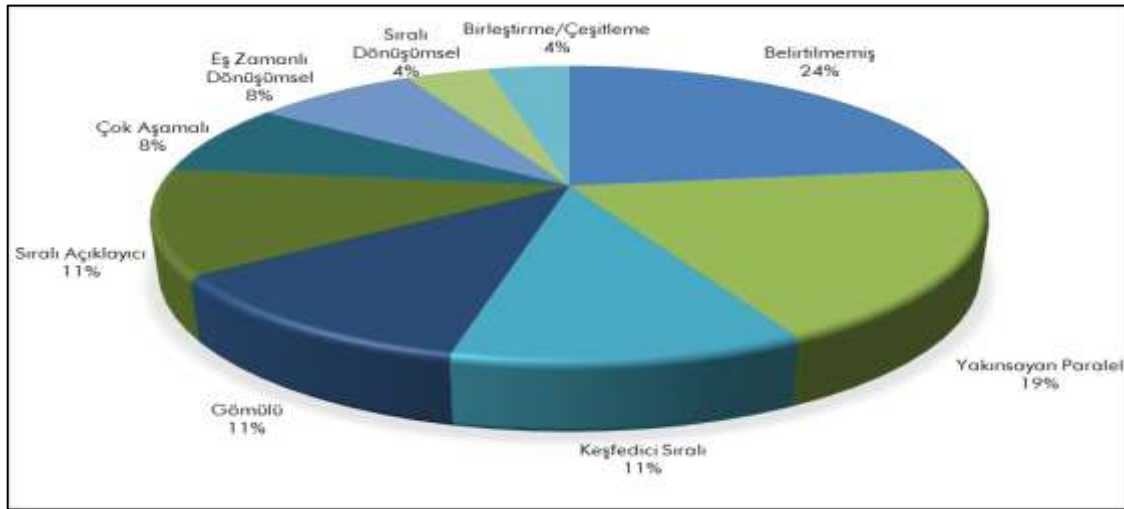
hem nicel hem de nitel verilerin toplanmasını gerektiren bir araştırma sorusuna yer verilmiştir:

Bu araştırmanın amacı, okul öncesi ve ilkokul dönemindeki işitme kayıplı çocukların sosyal çevre bağlamı içinde ve annelerinin bakış açısından ev ve okul dışı sosyal ortamlarda yaşadıkları iletişim sorunlarını ve annelerin bu sorunlar karşısında geliştirdikleri çözüm stratejilerini belirlemektir. Bu genel amacı gerçekleştirebilmek için; işitme kayıplı çocuklar, başkalarıyla iletişim kurarken hangi bağlamlarda sorun yaşamaktadırlar? sorusuna yanıt aranmıştır. (Erkaya, 2018).

## Tema 2. Karma yöntem yaklaşımına dayalı desenin seçilmesi

Desenleri incelendiğinde, tezlerin bir kısmında karma yönteme ilişkin herhangi bir desenin belirtilmemiş olduğu dikkat çekmektedir ( $n: 6$ ). Bu tezlerden üçünün 2015 yılı ve öncesinde gerçekleştirilmiş olduğu (Karaaslan, 2010; Kaya, 2011; Kahveci, 2015); üç tezin danışmanın ise aynı kişi olduğu görülmüştür (Karaca, 2018; Deniz, 2019; Bural, 2020). 2015 yılı öncesinde Türkiye’de karma araştırma yöntemine ilişkin kaynakların sınırlı olması, bu yöntemin yeni bir paradigma olarak gelişiyor oluşu gibi durumlar bu tezlerde desenin belirtilmemiş olmasının nedenleri olabilir. Diğer üç tezde ise danışmanın deneyimi, bilgisi ve yönlendirmesine bağlı sınırlılıklar yaşanmış olabilir.

2015 yılından sonraki lisansüstü tezlerde ise, pek çok farklı kaynağa atıfta bulunularak çeşitli desenlere yer verildiği görülmüştür. Bu bulgu son yıllarda karma araştırma yöntemine yönelik kaynakların sayısında önemli bir artışın olmasıyla ve farklı kaynaklardaki terminoloji karmaşasıyla ilişkilendirilebilir. Alanyazındaki pek çok farklı kaynak incelendiğinde; desenlerin farklı biçimlerde çevrildiği, kimi kaynaklarda ise aynı desenin farklı isimlerle nitelendirildiği gözlenmektedir (Şan, 2020). Bu çalışmada, incelenen tezlerde belirtilen tüm desenlere doğrudan yer verilmiştir. Bu kapsamda, tezlerde daha çok Yakınsayan Paralel Desen tercih edildiği ( $n: 5$ ), bunu sırasıyla Keşfedici Sıralı Desen ( $n: 3$ ), Sıralı Açıklayıcı Desen ( $n: 3$ ), Gömülü Desen ( $n: 3$ ), Çok Aşamalı Desen ( $n: 2$ ), Eş Zamanlı Dönüşümsel Desen ( $n: 2$ ), Sıralı Dönüşümsel Desen ( $n: 1$ ) ve Birleştirme/Çeşitleme Temel desenin takip ettiği görülmektedir ( $n: 1$ ) (Bk. Grafik 1).

**Grafik 1.****Özel Eğitim Anabilim Dallarında Gerçekleştirilen Lisansüstü Tezlerde Kullanılan Karma Yöntem Desenleri**

Tezlerin nicel ve nitel boyutlarındaki araştırma desenleri incelendiğinde; nicel boyutta en fazla kullanılanın öntest-sontest kontrol gruplu ( $n: 7$ ) ve kontrol grupsuz deneysel desenler ( $n: 5$ ) olduğu, bunu sırasıyla tarama modeli ( $n: 6$ ), tek denekli deneysel desen ( $n: 2$ ), karışık faktöriyel desen ve tasarım tabanlı araştırma deseninin takip ettiği görülmektedir ( $n: 1$ ). Kimi çalışmalarda nicel boyuta ilişkin herhangi bir desen belirtilmezken; bazı çalışmalarda birden fazla desen kullanıldığı dikkat çekmektedir (ör. tarama modeli + öntest-sontest kontrol gruplu deneysel desen vb.) (İçyüz, 2019). Bunun yanı sıra, sadece iki çalışmada nitel boyutta kullanılan araştırma desenine ilişkin bilgi verildiği; bu çalışmalarda nitel boyutta kullanılan desenin ise fenomenolojik desen olduğu görülmektedir (Karahana, 2019; Şahin, 2019). Bu bulgular, özel eğitimin doğası gereği tezlerin nicel boyutta genellikle yarı deneysel desenlerle desenlendiğini, nitel boyutta ise katılımcıların bir fenomene ya da bir sürece ilişkin deneyimlerini, bakış açılarını ve dünya görüşlerini keşfetmeye ve anlamaya çalışan araştırma deseninin kullanıldığını göstermektedir.

Günümüzde karma yöntem araştırması ayrı bir paradigma olarak kabul edildiğine göre, çalışmalarda artık diğer paradigmalardan desenleri değil, karma yöntem desenleri açıkça ortaya koyulmalıdır (Cresswell, 2012). Oysa bazı çalışmalarda karma yöntem deseninin adı yokken, nicel ve nitel desenlerin adının olması, paradigmanın henüz içselleştirilmemiş olmasının bir göstergesi olarak kabul edilebilir.

**Tema 3. Karma yöntem yaklaşımının ve deseninin seçilme gerekçesinin ortaya koyulması**

Tezlerin büyük çoğunluğunda çalışmanın neden karma yöntem yaklaşımıyla yürütüldüğünün ve deseninin seçilme gerekçesinin alanyazına dayandırılarak kuramsal bir

çerçeve de açıklanmış olduğu görülmektedir (n: 21). Öte yandan, kimi çalışmalarda buna ilişkin bir bilginin sunulmadığı, hatta yöntemi açıklamada herhangi bir kaynak verilmediği dikkat çekmektedir (n: 5). Bu çalışmaların bazılarında nitel veri sadece sosyal geçerlik için raporlanmış ve çalışma karma yöntem olarak adlandırılmıştır (ör. Karaaslan, 2010). Karaaslan (2010) tarafından yapılan çalışmanın yöntem kısmında sadece; "Araştırmada, öntest-sontest kontrol gruplu desen kullanılmıştır. Araştırma aynı zamanda nitel ve nicel verilerin kullanıldığı karışık desen (mixed method) özelliklerini de yansıtmaktadır." şeklinde bir açıklama yer almıştır. Bu durum, tezin gerçekleştirildiği yıllarda karma yöntem araştırmalarına yönelik kaynaklara ulaşma konusunda sınırlılık yaşanması ile açıklanabilir. Ayrıca sadece sosyal geçerlik verisinin toplanmasıyla karma yöntem olarak adlandırılan araştırmalar, karma yöntem yaklaşımının felsefi ve kuramsal altyapısının anlaşılamadığına işaret etmektedir. Çünkü karma yöntem araştırmaları nitel ve nicel yöntemlerin basit bir birleşimi değil, bunların güçlü yanlarının birbirini destekler nitelikte bütünleştirildiği kapsamlı entegrasyon çalışmalarıdır (Cresswell, 2012; Teddlie & Tashakkori, 2009).

Tezlerde karma araştırma yönteminin hangi amaçlarla seçildiği incelendiğinde; veri çeşitlemesi, tamamlayıcılık, geliştirme ve genişletme amaçlarının belirtildiği görülmektedir. Örneğin, Tomris (2019) gerçekleştirdiği çalışmasında neden karma araştırma yöntemine yer verdiğinin gerekçesini şu şekilde ortaya koymaktadır:

Bu çalışmada karma yöntemin kullanılma nedeni, "Çeşitleme", "Tamamlama" ve "Genişletme" gerekçelerine dayanmaktadır. Araştırmada farklı yaklaşım ve yöntemlerden elde edilen sonuçların birbirine yakınlığını veya birbirini desteklemesini araştırmak amacıyla "çeşitleme" yapılmıştır... Araştırmada nicel ve nitel veriler ile hem çakışmaların olduğu durumları hem de olayı farklı açılardan ölçerek zengin ve ayrıntılı bir hale getirme gereksinimi "tamamlama" gerekçesini; birbirinden ayrı olguları incelemek için farklı araştırma yöntemleri kullanarak, araştırmanın sınırlarını genişletmek, araştırma bulgularının güvenilirliğini ve geçerliliğini güçlendirme gereksinimi ise "genişletme" gerekçesini oluşturmaktadır (Creswell & Plano Clark, 2018, s. 103).

Cankuvet (2015) çalışmasında veri çeşitleme sürecini ve çalışmasında karma araştırma yöntemine geliştirme amacıyla yer verdiğini şu ifadelerle belirtmektedir:

Bu çalışma veri çeşitlemesi açısından değerlendirildiğinde; odak grup ve yarı-yapılandırılmış olmak üzere iki farklı görüşme formatıyla veri elde edildiği görülmektedir.

Karma araştırma yönteminin tercih edilme gerekçesini tamamlayıcılık amacıyla kullandığını belirten İçyüz (2019), bu durumu çalışmasında şöyle açıklamaktadır:

...araştırma sorularının yanıtlanmasında sadece bir yöntem kullanılmasına göre daha iyi cevaplamaya imkân sağladığı için... bu çalışmada veriler ilk olarak nicel veri olarak elde edilmiş, ardından drama oturumlarıyla nitel veriler ile detaylandırılarak tamamlanmıştır.

#### Tema 4. Örneklemin belirlenmesi

Karma yöntem araştırmalarında örneklemin belirlenmesi, diğer araştırma yöntemlerine göre daha karmaşık bir süreçtir. Çünkü zaman boyutu (eş zamanlı veya sıralı veri toplama), öncelik ve önem boyutu (nitel ve/veya nicel boyutun baskın veya eşit rol

oynaması) ve desenler arasındaki ilişki (paralel, iç içe veya çok düzeyli) boyutu gibi pek çok bileşen dikkate alınmalıdır (Corrigan & Onwuegbuzie, 2020). Tezlerin sekizinde nicel boyutun baskın olduğu, bu kapsamda öncelikle belirlenen katılımcı grubundan nicel verilerin toplandığı, daha sonra aynı veya daha küçük bir örneklem grubu üzerinden nitel verilerin toplandığı görülmektedir (Bilgiç, 2018; Kahveci, 2015; Karaaslan, 2010; Karaca, 2018; Karahan, 2019; Kaya, 2011; Özdemir, 2016; Yıldırım-Hacıbrahimoglu, 2013). Yedi tezde, nitel boyutun baskın olduğu izlenmiştir. Bunlardan biri haricinde (Bayraklı, 2016), tezlerin büyük çoğunluğunda nitel ve nicel boyutta ayrı oluşturulan örneklem grupları ile çalışıldığı görülmektedir (Bural, 2020; Cankuvet, 2015; Deniz, 2019; Eker, 2020; İçyüz, 2019; Şahin, 2019).

On bir tezde ise belirlenen örneklem grupları üzerinden eş zamanlı olarak verilerin toplandığı görülmektedir (Anıl, 2018; Çelik, 2019; Erkaya, 2018; İçyüz, 2019; Kılıç, 2020; Melekoğlu, 2017; Sani-Bozkurt, 2016; Topper-Korkmaz, 2015; Tomris, 2019; Tunalı, 2018; Yılmaz, 2014). Bu tezlerde yakınsayan paralel desen (Anıl, 2018; Melekoğlu, 2017; Topper-Korkmaz, 2015; Yılmaz, 2014), eş zamanlı dönüşümsel desen (Erkaya, 2018; Kılıç, 2020), birleştirme deseni (Tomris, 2019) ve gömülü desen (Çelik, 2019) gibi eş zamanlı veri toplamayı gerektiren aşamalara yer verildiği dikkat çekmektedir. Bu bulgular; örneklem seçimi ve tasarımı, belirlenen örneklem grupları üzerinden veri toplama sürecinde zaman boyutu, öncelik boyutu ile desenler arasında tutarlı bir yönde ilişkinin olduğuna işaret etmektedir.

Tezlerde kullanılan ölçeklerde en fazla 210 en az 10; yarı yapılandırılmış görüşmelerde en fazla 43 en az 4; odak grup görüşmelerinde ise en fazla 43 en az ise 30 katılımcıdan veriler toplanmıştır. Nicel boyutunun deneysel desenle tasarlandığı çoğu tezin katılımcı sayısı deneysel araştırmalarda olması gereken sayıda olmayıp, nitel boyuttaki görüşmelerde ise önerilen katılımcı sayısının karşılandığı dikkat çekmiştir. Bu bulgular; karma yöntemle desenlenen tezlerdeki katılımcıların özel eğitim alanının doğası gereği ve alanyazınla paralel olarak amaçlı örnekleme seçildiğine, elde edilen bulguların evrene genellenebilir olmadığına ve araştırma sınırları içerisinde yorumlanması gerektiğine işaret etmektedir.

Tezlerde en fazla çalışılan grubun öğretmenler olduğu ( $n: 12$ ); bunu ise sırasıyla ailelerin ( $n: 11$ ), 6-18 yaş arası özel gereksinimli çocukların ( $n: 6$ ), 0-6 yaş arası özel gereksinimli küçük çocukların ( $n: 5$ ), özel gereksinimli yetişkinlerin ( $n: 2$ ), tipik gelişim gösteren çocukların ( $n: 2$ ) ve yöneticilerin takip ettiği görülmektedir ( $n: 2$ ). Çalışmalarda odaklanılan yetersizlik gruplarına bakıldığında ise; en fazla otizm spektrum bozukluğu (OSB) olan bireylere yönelik çalışmaların gerçekleştirildiği ( $n: 6$ ); bunu ise sırasıyla işitme yetersizliği ( $n: 5$ ), zihinsel yetersizlik ( $n: 4$ ), üstün yetenek ( $n: 2$ ), görme yetersizliği ( $n: 1$ ) ve öğrenme güçlüğü'nün izlediği görülmektedir ( $n: 1$ ).

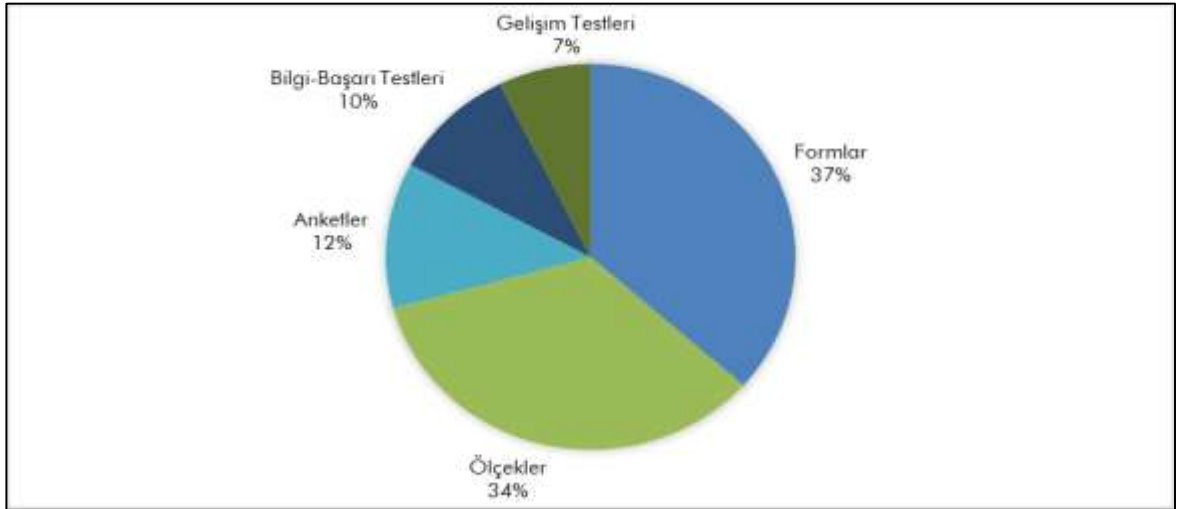
### Tema 5. Verilerin toplanması

Tezlerin büyük çoğunluğunda veri toplama süreçlerinin nicel ve nitel boyut olmak üzere iki ayrı başlık altında sunulduğu görülmektedir ( $n: 16$ ). Bu çalışmalarda hem nicel hem de nitel veri toplama araçlarına ilişkin detaylı bilgiler sunulmuştur. Nicel veri toplama araçları Grafik 2’de, nitel veri toplama teknikleri Grafik 3’te verilmiştir.

Grafik 2 ve 3 incelendiğinde, tezlerde farklı nicel ve nitel veri toplama tekniklerine yer verildiği; nicel veri toplama aracı olarak formlar ve ölçeklerin, nitel veri toplama tekniği olarak ise yarı yapılandırılmış görüşmenin öne çıktığı görülmektedir.

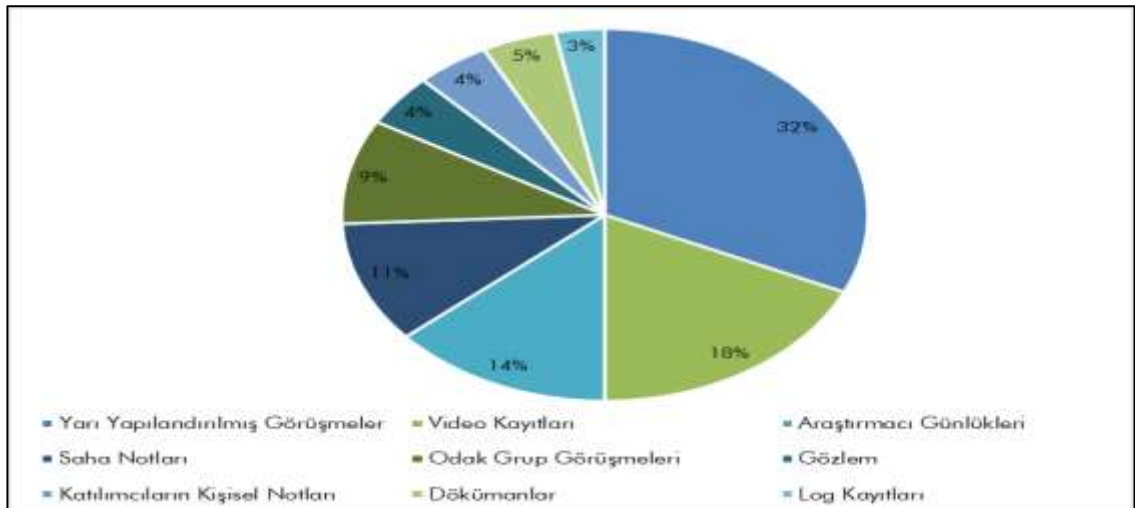
### Grafik 2.

Tezlerde Kullanılan Nicel Veri Toplama Araçları



### Grafik 3.

Tezlerde Kullanılan Nitel Veri Toplama Teknikleri



Veri toplama temasında tezlerdeki geçerlik ve güvenilirlik çalışmaları da ele alınmıştır. Karma yöntem araştırmalarında, geçerlik ve güvenilirlik çalışmaları hem nicel hem de nitel yönetime yönelik planlanmalı ve bu süreçte kapsamlı veriler toplanmalıdır (Onwuegbuzie & Leech, 2009). Özellikle son yıllara ait 16 tezde geçerlik ve güvenilirlik süreçlerine ilişkin bilgiler nicel ve nitel başlıklar altında ayrıntılarıyla sunulurken; 4 tezde sadece nitel verilerin ya da nicel verilerin geçerlik ve güvenilirlik bilgilerine yer verildiği (Eker, 2020; Kahveci, 2015; Karahan, 2019; Kaya, 2011); 6 tezde ise bu sürece ilişkin bilgilere yer verilmediği görülmüştür (Anıl, 2019; Bural, 2020; Deniz, 2019; Karaca, 2018; İcyüz, 2018; Tunalı, 2018). Nicel boyutta ağırlıklı olarak gözlemciler arası güvenilirlik ve uygulama güvenilirliğine; nitel boyutta ise veri çeşitlemesi, akran değerlendirilmesi, uzman değerlendirmesi, katılımcı teyidine yer verilmiştir. Tezlerin yarısından fazlasında ayrıntılı olarak geçerlik-güvenirlik bilgilerinin sunulmamış olması, yönetime ilişkin temel bölümlerin planlanmasında ve yürütülmesinde sorunlar yaşandığına işaret etmektedir.

## Tema 6. Verilerin analizi

Karma yöntem araştırmalarının analiz süreci nitel verilerin nitel yöntemler aracılığıyla, nicel verilerin ise nicel yöntemler aracılığıyla analiz edilmesini gerektirmektedir (Cresswell & Plano-Clark, 2018). Bu çalışmada incelenen tüm tezlerde bu kurala uyulduğu görülmektedir. Grup nicel analizlerde istatistiksel teknikler, tek denekli araştırma modeli ile desenlenen iki çalışmada ise grafiksel analiz kullanılmıştır. Çalışmaların nitel boyutunda ise betimsel, içerik ve tümevarımsal analiz tekniklerine yer verildiği dikkat çekmiştir. Bazı çalışmalarda ise (ör. Şahin, 2019) birden fazla yöntem bir arada kullanılmıştır (ör. betimsel analiz + içerik analizi).

## Tema 7. Verilerin bütünleştirilmesi, yorumlanması ve raporlanması

Karma yöntem araştırmalarında raporlama, sürecin önemli bir aşaması ya da bileşeni olarak görülmektedir (Gorard & Taylor, 2004). Bu çalışmadaki tezlerin raporlama özellikleri iki boyutta değerlendirilmiştir: Raporda kullanılan terminoloji ve raporun yapısı.

İlk olarak, tezlerde kullanılan terminolojideki çeşitlilik dikkat çekicidir. En sık kullanılan terim *karma yöntem* olmasına karşın *karişik desen*, *karma desen*, *karma araştırma modeli*, *karma yöntem*, *karma model*, *karma yaklaşım*, *karma yöntem modeli*, *karma araştırma deseni*, *karma yöntem araştırması*, *karma yöntemli araştırma* kullanımları da görülmektedir. Bu çeşitlilik ulusal alanyazında karma araştırma yöntemine yönelik bir kavram karmaşasına işaret etmektedir. Bu durum, karma araştırma yönteminin diğer araştırma paradigmalara göre daha yeni ve halen gelişen bir paradigma olmasıyla ilişkilendirilebilir.

Raporlamada ele alınan ikinci boyut tezin yapısıdır. Bağlı olunan enstitü yazım kılavuzlarında birtakım farklılıklar olmasına karşın, tezlerin tamamının APA Yazım Kılavuzu ile uyumlu olduğu görülmüş; giriş, yöntem, bulgular ve tartışma bölümlerinin

içeriği tezlere yansıtılmıştır (APA, 2015). Bir çalışmanın karma yöntem araştırması olarak kabul edilebilmesi için iki yöntemin veri toplama araçlarının birbirini destekler nitelikte kullanılması, sunum aşamasında ise elde edilen verilerin kapsamlı bir biçimde bütünleştirilmesi gerekir (Creswell & Plano-Clark, 2018; Leech & Onwuegbuzie, 2009). Bu bildiriye karşın, nitel ve nicel bulgular 10 tezde sentezlenmiş, 16 tezde sentezlenmemiş şekilde rapor edilmiştir. Bu bulgu, karma yöntem anlayışının tezlerin raporlama süreçlerine yeterince yansıtılmadığına işaret etmektedir. Örneğin, Erkaya (2018) elde ettiği bulguların sunum sürecinde hem nitel hem de nicel sonuçların birbirini destekleyecek biçimde bütünleştirilmesine vurgu yapmış ve şu ifadelerle yer vermiştir:

...bulgular verilirken nitel ve nicel analiz sonucunda elde edilen bulgular bir arada değerlendirilerek ailenin sunduğu etkileşim alanları çözümlenmeye çalışılmıştır... Katılımcılardan yirmi biri çocuğunun aile büyükleri veya akrabalarla iletişim halinde olduğunu belirtmiştir. A6 kodlu anne buna ilişkin ... şeklinde görüşlerini ifade etmiştir... Uygulanan ÇİSBA sonuçlarına bakıldığında ise ev ve okul dışında iletişim kurulan kişiler olarak %78.9 (n = 71) oranında aile büyükleri/akrabalar çıkmıştır...

## Tema 8. Araştırmacı yeterliliği ve rolü

Karma yöntem araştırmalarının planlanılması sürecinde hem nicel hem de nitel yöntem bilgisine sahip uzmanlarla işbirliği kurulması oldukça önemlidir (Corrigan & Obwegbuzie, 2020; Obwegbuzie & Poth, 2016; Wachsmann vd., 2019). Araştırmacının kendisi de çalışmanın temel parçasıdır; araştırma paradigmalarına bakış açısı, nicel ve nitel yöntem bilgisi, deneyimi ve rolleri, süreçte yaşanan sorunlar ve bulunan çözümler gibi konulara çalışmada yer vermesi gerekmektedir (Corrigan & Obwegbuzie, 2020; Wachsmann vd., 2019). Bu kapsamda 20 tezde bu konulara hiç yer verilmemiş, 5 tezde hem nicel hem de nitel yöntem yetkinliğine ilişkin oldukça sınırlı bilgiler yer almıştır. Son yıllarda gerçekleştirilen sadece bir tezde araştırmacı rolleri, yöntem bilgisi, ekip işbirliği, tez sürecinde yaşanan sorunlar ve bulunan çözüm önerileri açıklanmıştır. Çelik'in (2019) tezinde araştırmacı rolüne şu şekilde yer vermiştir:

Hem uygulamacı, hem veri toplama araçlarını hazırlama ve toplama öncüsü, hem de gözlemci rolleri üstlenen araştırmacı, erken çocukluk özel eğitimi ve doğal öğretim uygulamaları alanında yurt dışı ve içi gözlem ve uygulama deneyimine sahiptir. Ayrıca hem nitel hem de nicel araştırma yöntemleriyle tasarlanmış çeşitli proje ve çalışmalarda rol alarak farklı araştırma yöntemleriyle çalışmalar gerçekleştirme konusunda bilgi ve deneyim kazanmıştır.

## Tema 9. Etik konular

Bilimsel araştırmalarda etik ilkelerin benimsenmesi esastır. Araştırmalarda etik ihlalin önüne geçmek üzere hangi önlemlerin alınmış olduğuna dair bilgilere yer verilmesi beklenmektedir (Creswell, 2012). Türkiye'de 2019 yılı itibari ile "Etik Kurul Onayı Belgesi" tüm bilimsel araştırmalarda zorunlu kılınmıştır (T.C. Resmi Gazete, 9 Mart 2019, sayı: 30709). Bu çalışmadaki tezler incelendiğinde, 2019 yılı ve sonrasındaki tüm tezlerde etik kurul onay belgesine yer verildiği görülmektedir.

Tezlerin büyük bir kısmında daha çok; gerekli izinlerin alınması, katılımcı kimliklerinin gizliliği için kod isimlerin kullanılması, araştırmanın amacının net bir şekilde katılımcılarla paylaşılması gibi etik ilkelere yer verildiği dikkat çekmektedir. Bunun dışında, çok az tezde etik konusunun hem araştırma hem de uygulama etiği boyutunda ayrıntılı ele alındığı görülmektedir. Çelik'in (2019) tezinde araştırma sürecine başlamadan önce (informed consent), veri toplama sürecinde (situational ethics, relational ethics) ve raporlama sürecinde (exit ethics) temel alınan etik konulara yer verilmiştir.

## Tartışma, Sonuç ve Öneriler

Çalışmanın amacı, Türkiye'deki özel eğitim anabilim dallarında karma araştırma yöntemiyle gerçekleştirilmiş lisansüstü tezlerin çözümlenmesidir. Bu çerçevede ortaya çıkan ilk temel bulgu, özel eğitim alanında karma yöntemle gerçekleştirilen lisansüstü tezlerde yıllar içerisinde ciddi bir artış gözlenmesi, bu artışın ise özellikle son yıllarda hız kazanmasıdır. Bu bulgu, araştırma paradigmalarının yıllar içerisindeki gelişimine ve değişimine uygun bir gelişmedir (Creswell, 2012; Creswell & Plano-Clark, 2018; Corrigan & Onwuegbuzie, 2020; Günbayı, 2020). Bu konu yöntemin güncel bir eğilim olmasından ziyade, özel eğitim alanı ile karma araştırma yönteminin yakın ilişkisi açısından tartışılmaktadır (Collins vd., 2006; Klinger & Boardman, 2011; Trainor, 2011). Yapılan tartışmalarda, özel eğitimin doğasının karma araştırma yöntemine uygunluğu şu görüşlerle desteklenmektedir: Özel eğitim engellilik, insan hakları ve hak savunuculuğu, bireysel ve kültürel farklılıklar ve eğitime eşit erişim gibi toplumsal, sosyal, politik ve kapsayıcı eğitimle ilgili pek çok konunun araştırıldığı bir alandır. Bu yöntemin alanın kültürel, ontolojik ve epistemolojik boyutlarının çoklu bakış açısıyla tartışılmasına katkılar sağlayabileceği belirtilmektedir (Collins vd., 2006; Klingner & Boardman, 2011; Trainor, 2011). Ayrıca her yetersizlik grubunun kültürel ve gelişimsel açıdan kendine özgü özelliklerinin olması farklı yetersizlik gruplarıyla ilgili çeşitli araştırma problemlerinin birden fazla kaynaktan veri toplanarak daha güçlü bir şekilde yorumlanmasını gerektirmekte, karma araştırma yöntemi araştırmacının eline nicel ve nitel verilerden oluşan çok daha güçlü bir sentez sunmaktadır (Trainor, 2011). Özel eğitim, uygulamalı ve bireyselleştirmeye dayalı bir alandır. Bu nedenle farklı yetersizlik gruplarının gereksinimlerinin keşfedilmesi, bu gereksinimler temelinde müdahalelerin geliştirilmesi, uygulanması ve etkisinin değerlendirilmesi oldukça önemlidir (Corr vd., 2019; Klinger & Boardman, 2011).

Özel eğitimde tartışılan bir diğer önemli konu, teori ve uygulama arasında bir boşluk olduğudur (Odom vd., 2005). Özellikle müdahale içeren desenlerin işe koşulduğu karma yöntem araştırmalarının bu boşluğu doldurma potansiyeli taşıdığı vurgulanmaktadır (Klingner & Boardman, 2011; Schneider & McDonald, 2007; Vaughn vd., 2000). Türkiye'deki özel eğitim alanında karma yöntem tezlerin çoğunluğunun müdahale içeriyor olduğu ve bir müdahalenin etkisini tahmin etmeyi amaçladığı görülmektedir. Bu bulgular, özel eğitim-karma araştırma yönteminin yakın ilişkisiyle ilgili dayanakları desteklemektedir. Ancak, katılımcı gereksinimlerine dayalı program



geliştirme çalışmalarının oldukça sınırlı kalmış olduğu dikkat çekicidir. Bu nedenle, özel eğitimin gereksinimlere dayalı doğasının Türkiye'deki çalışmalara bütünüyle yansımaları tartışmalı görünmektedir.

Üniversitelerdeki lisansüstü eğitim programlarında karma araştırma paradigmasına yer verilmesi ve bu araştırma yöntemine ilişkin spesifik derslerin açılması özel eğitim alanında yapılacak çalışmaların yöntem bilimsel bakış açısını etkileyecektir (Wachsmann vd., 2019). Yapılan çalışmada, bu bakış açısını lisansüstü programlarına yansıtan, kaynak ve uzman desteği sunan üniversitelerde karma araştırma yöntemiyle gerçekleştirilmiş daha fazla sayıda tezin olduğu ortaya çıkmıştır. Örneğin, Anadolu Üniversitesi'nin lisansüstü doktora eğitim programında "özel eğitimde karma araştırma yöntemi" adlı spesifik bir dersin olduğu, bu üniversitenin kaynak ve uzman desteği sunduğu ve araştırmacıları projelerle desteklediği görülmektedir. Yapılan çalışmaların ise çoğunlukla doktora tezi olduğu dikkat çekicidir. Alanyazında karma araştırma yöntemiyle yapılan çalışmaların büyük emek, zaman planlaması ve işbirliğine dayalı bir ekip çalışması gerektirdiği belirtilmektedir (Corrigan & Onwuegbuzie, 2020; Wachsmann vd., 2019). Ayrıca hem araştırmacının hem de danışmanın yöntem bilimsel bilgisi ve deneyimi tezlere yön veren önemli bileşenlerdendir (Corrigan & Onwuegbuzie, 2020; Wachsmann vd., 2019). Doktora eğitimi süreci, yüksek lisansa göre daha uzun soluklu, uzman işbirliği ve kaynak desteği gerektiren çalışmalardır. Türkiye'de özel eğitim alanındaki karma yöntem araştırmalarının doktora düzeyinde gerçekleştiriliyor olması, planlamada bu temel bileşenlerin dikkate alındığını düşündürmektedir.

Karma yöntem araştırmalarında amacın ve soruların belirlenmesi; kuramsal ve kavramsal alt yapıyı ortaya koymakta, örneklemin belirlenmesine yardımcı olmaktadır (Cresswell, 2012; Johnson & Christensen, 2010). Bronfenbrenner'in ekolojik sistemler yaklaşımı (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2006); karma yöntem araştırmalarının temel aşamalarına (araştırma sorularının belirlenmesi, örneklem seçimi vb.) önemli dayanaklar sunmaktadır (Corrigan & Onwuegbuzie, 2020). Gerçekleştirilecek karma yöntem araştırmalarının ekolojik sistemin hangi düzeyini (mikrosistem, ekzosistem, mezosistem, makrosistem, kronosistem) kapsadığı önemlidir. Çünkü elde edilen bulguların genellebilirliği katılımcıların sistemin hangi düzeyinden seçildiği ile ilişkilidir (Corrigan & Onwuegbuzie, 2020). Türkiye'de özel eğitim alanındaki lisansüstü tezlerde, araştırmacının amacının ve sorularının net bir şekilde ifade edildiği görülmektedir. Ancak, birtakım sınırlılıklar söz konusudur. Bunlardan birincisi, tezlerde hem nicel hem de nitel yöntemi birleştiren daha kapsayıcı araştırma sorularının sınırlı olmasıdır. İkincisi ise, amaçların ve soruların daha çok mikrosisteme yönelik olması ve genellebilirlik noktasında sınırlı kalmasıdır. Özel eğitim alanının doğası gereği homojen bir katılımcı grubunun oluşturulması güç olup; bu durum elde edilen bulguların kendi içerisinde yorumlanmasına yol açmaktadır (Odom vd., 2005). Dolayısıyla, araştırmacının amacı ve örneklemin belirlenmesi birbirlerini karşılıklı olarak etkileyen iki temel aşamadır (Corrigan & Onwuegbuzie, 2020; Newman vd., 2003). Yapılan çalışmada yer alan tezlerin daha çok özel gereksinimleri olan çocuk, öğretmen ve ailelere yönelik olduğu görülmektedir. Bu bulgular, özel eğitim alanında karma araştırma yöntem

araştırmalarının yeni bir paradigma olması ve makrosistemdeki paydaşlara (politika yapıcılar, yöneticiler vb.) ulaşmada yaşanan zorluklarla ilişkilendirilebilir.

Araştırmacılar için zorlu aşamalardan bir diğeri, karma araştırma deseninin seçilmesidir (Creswell & Plano-Clark, 2018). Günümüzde desene ilişkin gelişmeler ve tartışmalar devam etmektedir (Creswell & Plano-Clark, 2018). Terminolojide yaşanan karmaşıklık, karma yöntem desenlerinin ortaya konulmasını zorlaştırmaktadır. Uluslararası alanyazında desenler gelişmeye devam ederken, bu desenlerin ulusal alanyazına farklı adlarla çevrilmesi bu karmaşayı daha çok artırmaktadır (Şan, 2020). Bu çalışmadaki tezlerde de desenlerin ortaya konulmasında terminoloji karmaşıklığının yaşandığı dikkat çekicidir. Türkiye’de 2015 yılı ve sonrasındaki tezlerde desen isimlerinin daha net bir şekilde ortaya koyulduğu gözlenmektedir. Bu bulgu, karma araştırma yöntemiyle ilgili uluslararası ve ulusal kaynakların artışıyla ilişkilendirilebilir. Nitekim son yıllardaki tezlerde pek çok kaynağa yer verilerek desenlerin ortaya konulduğu görülmektedir (Şan, 2020). Desenlerin termonojisindeki karmaşıklık, karma araştırma yönteminin adlandırılmasında da gözlenmektedir. Bu karmaşa, uluslararası alanyazında mixed method, mixed methods, mixed method research, mixed methods research olarak adlandırılabilen bu yöntemin ulusal alanyazına çevirisinin her araştırmacının bakış açısına göre şekillendiğine işaret etmektedir. Bazı çevirilerdeki anlam kaymaları ve hatalarının, Türkçe’nin yetersizliği ile değil araştırmacının bilgisi, deneyimi ve bakış açısı ile ilişkili olabileceği düşünülmektedir.

Çalışmalarda, karma araştırma yöntemine ve desene hangi gerekçeyle yer verildiğinin ortaya koyulması önemlidir. Tezlerin bazılarında desenin seçilme gerekçesinin ortaya konulmadığı dikkat çekmektedir. Bunda bazı tezlerin geçmiş yıllarda, bazı tezlerin ise aynı tez danışmanı tarafından yürütülmüş olması rol oynamış olabilir. Bazı tezlerde ise, sadece sosyal geçerlik verisi toplanmış ve bu tezler karma yöntem araştırması olarak tanımlanmıştır. Yaşanan bu sınırlılıklar; karma araştırma yönteminin özel eğitim alanında yeni gelişen bir paradigma olması, felsefesinin ve amaçlarının anlaşılabilmesi, kaynak, danışman ve araştırmacı yeterliliği ile ilişkilendirilebilir. Ayrıca karma yöntem araştırması yürütecek araştırmacılar için temel rehberlerin olmaması bu tür sınırlılıklara yol açmış olabilir (Corrigan & Onwuegbuzie, 2020; O’leary, 2004; Onwuegbuzie & Poth, 2016). Bununla birlikte, alanyazında karma araştırma yönteminin beş temel gerekçesi; veri çeşitlenmesi, tamamlayıcılık, geliştirme, yeniden başlama ve genişletme olarak sıralanmaktadır (Greene vd., 1989). Tezlerde daha çok veri çeşitlenmesi, tamamlayıcılık, geliştirme ve genişletme amaçlarıyla bu yöntemin kullanıldığı ifade edilmiştir. Ancak Türkiye’de özel eğitim alanındaki karma yöntem tezlerinin “yeniden başlama” amacıyla gerçekleştirilmediği dikkat çekicidir. Bunun temel nedeni, bu çalışmanın lisansüstü tezleri kapsamıyla açıklanabilir. Lisansüstü tezler zaman sınırlaması olan çalışmalar olduğu için, araştırma sorusunun yeniden şekillendirilmesine dayalı olan yeniden başlama amacıyla desenlenemeyebilir. Dolayısıyla, Türkiye’de özel eğitim alanında araştırma sorusunun yeniden şekillendirilmesine yol açan tutarsızlıkların ve çelişkilerin keşfedilmesine dayalı çalışmalara gereksinim duyulduğu söylenebilir.

Karma yöntem araştırmalarının altyapısının ortaya konulduğu en temel bölümlerinden biri yöntemdir. Yöntem bölümünde desen adı ve desenin seçilme gerekçesi dışında, nicel

ve nitel veri toplama tekniklerinin, her iki yönetime ilişkin geçerlik ve güvenilirlik çalışmalarının ayrıntılı olarak açıklanması önerilmektedir (Onwuegbuzie & Poth, 2016; Creswell & Plano-Clark, 2018; Corrigan & Onwuegbuzie, 2020). Tezlerin yarısına yakınında ayrıntılı olarak her iki yönetime ilişkin geçerlik-güvenirlik bilgilerinin sunulmamış olduğu gözlenmektedir. Bu bulgular, tezlerin yöntem sunumunda birtakım sorunlar yaşandığına işaret etmektedir.

Karma yöntem araştırmaları nitel ve nicel yöntemlerin basit bir birleşimi değildir. Bu süreçte iki yöntemin veri toplama yollarının birbirini destekler nitelikte kullanılması, verilerin kapsamlı bir biçimde bütünleştirilmesi, bu yaklaşımın yazılan rapora yansıtılması gerekmektedir (Cresswell, 2012; Creswell & Plano-Clark, 2018). Bu çalışmanın en önemli bulgularından biri, tezlerde nitel ve nicel bulguların genellikle ayrı ayrı başlıklandırılarak raporlanmış olmasıdır. Lisansüstü tezlerin büyük çoğunluğunda nicel ve nitel bulguların harmanlanarak sentezlenmesi yolunun izlenmediği dikkat çekicidir. Sentezlenen çalışmaların ise özellikle son yıllara ait olduğu gözlenmektedir. Bu bulgular, ulusal alanyazında gerek araştırmacılar gerekse tez danışmanları tarafından karma araştırma felsefesinin tam olarak anlaşılmadığının önemli bir göstergesi olabilir.

Karma yöntem araştırmalarında araştırmacının yeterliliği, rolleri ve etik dikkate alınması gereken güncel konulardır (Cresswell, 2012; Wachsmann vd., 2019). Alanyazında karma yöntem araştırması planlayan ve yürüten bir araştırmacının her iki yöntem konusundaki bilgisinin, deneyiminin, karma yöntem paradigmasına yönelik inancının tüm araştırma sürecini doğrudan etkilediği vurgulanmaktadır (Neupane, 2019; Wachsmann vd., 2019). Ayrıca araştırmacının yeterliliklerinin farkında olması, hangi noktalarda ekip işbirliğini kuracağını belirlemesi, rollerini iyi bir şekilde tanımlaması sürecin yürütülmesini kolaylaştırmaktadır (Doyle vd., 2009; Wachsmann vd., 2019). Mevcut çalışmanın pek çok bulgusu, danışman dışında araştırmacının yöntem bilimsel yeterliliği ile de ilişkilendirilerek yorumlanmıştır. Tezlerin büyük çoğunluğunda, araştırmacının araştırma paradigmalarına bakış açısı ve araştırma yöntemleri konusundaki deneyimi gibi konuların teze yansıtılmadığı gözlenmektedir. Güncel alanyazında karma yöntem araştırmalarında etik konusunun nicel ve nitel paradigmalarda çerçevesinde ayrıntılı bir şekilde tartışılması gerektiği de önemle vurgulanmaktadır (Cresswell, 2012). Ancak, tezlerin tamamına yakınında etik konusunun çok yüzeysel bir şekilde ele alındığı, son yıllardaki birkaç çalışmada bu konuların ayrıntılı olarak tartışıldığı gözlenmektedir. Bu bulgular, karma araştırma yönteminin kuramsal ve felsefi altyapısının araştırmacılar tarafından tezlere yansıtılmadığına işaret etmektedir.

Sonuç olarak, özel eğitim alanında karma araştırma yönteminin kullanımı güncel ve gelişmekte olan bir konudur. Özel eğitim alanındaki karma yöntem araştırmalarının sayısı son yıllarda giderek artsa da; planlama, uygulama ve raporlama süreçlerinde gözlemlenen birtakım temel sorunların devam etmesi dikkat çekicidir. Bunlar; yöntemin kuramsal ve felsefi alt yapısının ve seçilme gerekçesinin çalışmalara tam anlamıyla yansıtılmaması, termonolojideki karmaşıklık, yöntem bölümünde nicel ve nitel veri toplama yöntemlerinin, geçerlik ve güvenilirlik çalışmalarının, araştırmacı rollerinin ve etik konuların ayrıntılı olarak açıklanmaması, raporlama sürecinde nicel ve nitel verilerin bütünleştirilerek sunulmamasıdır. Sorunların tümü, uluslararası alanyazında tartışılan

birtakım temel konularla ilişkilidir. Bu konular; karma yöntem araştırmasının tüm aşamalarına ilişkin rehberlerin olmaması, araştırmacı ve danışmanların yöntem bilimsel eksiklikleri ve kaynak yetersizliği olarak sıralanabilir (Corrigan & Onwuegbuzie, 2020; Wachsmann vd., 2019).

Bu çalışmanın bulguları, Türkiye'deki özel eğitim anabilim dallarında karma yöntemle gerçekleştirilen lisansüstü tezlerle sınırlıdır. Çalışmanın kendine özgü sınırlılıkları ve bulguları ışığında ileri araştırmalara ve uygulamaların niteliğini artırmaya yönelik aşağıdaki öneriler sunulabilir:

### **İleriki Araştırmalara Yönelik Öneriler**

- Karma araştırma yönteminin doğasını, felsefesini ve kuramsal alt yapısını, ayırt edici yönlerini, neden gerekli olduğunu ortaya koyan çalışmalar yapılabilir.
- Kullanılan terimlerle ilgili kavram karmaşasını gidermeye yönelik çalışmalar yapılabilir. Böylece ortak bir terminoloji oluşturma yönünde adımlar atılabilir.
- Türkiye'de karma yöntem araştırması yürüten araştırmacıların deneyimleri ve görüşleri keşfedilebilir. Böylece alanda yaşanan sorunlar daha ayrıntılı bir şekilde ele alınarak, bu sorunlara yönelik çözüm önerileri geliştirilebilir.
- Ekolojik sistemin her bir düzeyiyle ilişkili paydaşları kapsayan daha büyük örneklemli çalışmalar gerçekleştirilebilir. Böylece karma araştırma yönteminin özel eğitimdeki yansımaları farklı açılardan değerlendirilebilir.
- Özel eğitim alanının diğer çalışma alanlarıyla yöntem bilimsel anlamda karşılaştırıldığı çalışmalar gerçekleştirilebilir.

### **Uygulamanın Niteliğini Artırmaya Yönelik Öneriler**

- Karma yöntem araştırmaları konusunda çalışmalar yürüten disiplinler arası veya ötesi bir akademisyenler topluluğu ya da danışmanlık sistemi geliştirilebilir. Böylece karma yöntem araştırması konusunda kendini geliştirmek isteyen araştırmacılar için profesyonel bir destek ağı oluşturulabilir.
- Karma yöntem araştırmacılarına yol gösteren rehberlerin hazırlanması çok işlevsel olabilir.
- Karma yöntem araştırmalarında ekip halinde çalışmak oldukça değerli ve gereklidir. Bu nedenle, üniversitelerde bu yöntemin kullanılmasını teşvik eden ve destek sunan birimler oluşturulabilir.
- Karma yöntem araştırmalarının uzun soluklu bir çalışma ve işbirliği gerekmesi nedeniyle, özellikle doktora sürecindeki araştırmacıların bu yöntemi kullanması teşvik edilebilir.

- Lisansüstü eğitim programlarında karma yöntem araştırmaları dersleri açılabilir.
- Karma yöntem ile yürütülmüş iyi uygulama örneklerine ya da modellerine yer veren platformlar oluşturulabilir.

**Son Not.** Yazarlar olarak dileğimiz, karma yöntem araştırmalarının popüler olduğu için değil, araştırma sorusunu daha iyi yanıtlayacağına inanıldığında işe koşulmasıdır. Bu yöntemle araştırma yapmayı düşünen araştırmacıların karma yöntemin kalite standartlarını bir kontrol listesi haline getirmelerini, bu listeyi değerlendirerek yola çıkmaya karar vermelerini öneririz.

**Etik Kurul Onayı:** Bu araştırmanın yöntemi insan unsuru içermediğinden etik kurul onayına gerek duyulmamıştır.

**Bilgilendirilmiş Onam:** Gerekli değil.

**Hakem değerlendirmesi:** Dış hakem değerlendirmesi.

**Yazarların Katkısı:** Fikir - M.D., S.Ç., G.T.; Tasarım - M.D., S.Ç.; Verilerin Toplanması ve İşlenmesi - S.Ç., G.T.; Danışmanlık – M.D.; Verilerin Analizi ve Yorumu - M.D., S.Ç., G.T.; Alanyazın Taraması – S.Ç., G.T.; Yazma - S.Ç., G.T.; Eleştirel Değerlendirme -Tüm yazarlar.

**Çıkar Çatışması:** Yazarlar herhangi bir çıkar çatışması beyan etmemiştir.

**Finansal Açıklama:** Yazarlar bu çalışmanın herhangi bir finansal destek almadığını beyan etmişlerdir.

## Kaynaklar

\*Bu çalışma kapsamında analizi yapılan tezler

- Amerikan Psikoloji Derneği (American Psychological Association) (APA) (2015). *APA Publication manual yayım kılavuzu* (6. Basımın Türkçesi). Kaktüs Yayınları.
- Anguera, M. T., Camerino, O., Castañer, M., Sánchez-Algarra, P., & Onwuegbuzie, A. J. (2017). The specificity of observational studies in physical activity and sports sciences: Moving forward in mixed methods research and proposals for achieving quantitative and qualitative symmetry. *Frontiers in Psychology*, 8(2196), 1-13. <https://doi.org/10.3389/fpsyg.2017.02196>
- \*Anıl, A. (2019). *İşverenlerin engellilere yönelik tutumları ile engelli çalışanların çalışma alanına yönelik görüşlerinin incelenmesi [Examining attitudes of employers towards the disabled and opinions of employees toward their working area]* (Tez No. 542424) [Yüksek Lisans Tezi, Necmettin Erbakan Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- Aşkun, V., & Çizel, R. (2020). Twenty years of research on mixed methods. *Journal of Mixed Methods Studies*, 1, 28-43. <https://doi.org/10.14689/jomes.2020.1.2>
- Baim-Lance, A., Onwuegbuzie, A., & Wisdom, J. (2020). Project management principles for optimizing publication productivity of mixed methods studies. *The Qualitative Report*, 25(3), 646-661. <https://doi.org/10.46743/2160-3715/2020.4149>
- Balcı, A. (2013). *Sosyal bilimlerde araştırma yöntem teknik ve ilkeler* (10. bs.). Pegem Akademi.
- Baloğlu, B. (2009). *Sosyal bilimlerde araştırma yöntemleri* (4. bs.). Der Yayınları.
- \*Bayraklı, H. (2016). *Okul öncesinde kaynaştırma konulu Anne Eğitim Programının çıktılarının anne ve öğretmen görüşlerine göre değerlendirilmesi: Bir karma yöntem araştırması [Evaluating outcomes of a mother training program about inclusion in early childhood according to mothers' and teachers' views: A mixed method study]*. (Tez No. 432660) (Doktora Tezi, Ankara Üniversitesi). Yükseköğretim Kurulu Ulusal Tez Merkezi.
- \*Bilgiç, E. (2018). *Kaynaştırma uygulamalarındaki öğretimsel uyarlamalar eğitiminin sınıf öğretmenlerinin öğretimsel uyarlamaların önemine ilişkin görüşlerine etkisi [The effects of training about instructional adaptations of importance for inclusive education on primary school teachers' opinions]*. (Tez No. 527289) [Doktora Tezi, Anadolu Üniversitesi] Yükseköğretim Kurulu Ulusal Tez Merkezi.
- Bowen, G. (2017). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27-40. <https://doi.org/10.3316/QRJ0902027>
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge: Harvard University Press.
- Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. In W. Damon & R. Lerner (Series Eds.) & R. M. Lerner (Vol. Ed.), *Handbook of child psychology: Vol 1: Theoretical models of human development* (pp. 793-828.) (6th ed.). Wiley.
- Bryman, A. (2006). Integrating quantitative and qualitative research: How is it done? *Qualitative Research*, 6(1), 97-113. <https://doi.org/10.1177/1468794106058877>
- \*Bural, B. (2020). *Zihin engelli öğrencilerle çalışan öğretmenlerin öğretim yöntem ve teknikleri ile ilgili yeterlik düzeylerinin geliştirilmesinde uygulanan eğitim programının etkililiği [The effectiveness of education programme adapted for improving the competency levels of teachers who work with students with intellectual disabilities in terms of teaching methods and techniques]*. (Tez No. 616657) [Doktora Tezi, Necmettin Erbakan Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- \*Cankuvvet, N. (2015). *Çocuğu koklear implant adayı ebeveynlerin gereksinimlerine dayalı bilgilendirme programı geliştirilmesi [Development of an information program based on the needs of parents with cochlear implant candidate to child]* (Tez No. 385585) [Doktora Tezi, Anadolu Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- Collins, K. M., Onwuegbuzie, A. J., & Sutton, I. L. (2006). A model incorporating the rationale and purpose for conducting mixed methods research in special education and beyond. *Learning Disabilities: A Contemporary Journal*, 4(1), 67-100. <https://www.researchgate.net/publication/242218134>

- Corr, C., Snodgrass, M. R., Greene, J. C., Meadan, H., & Santos, R. M. (2019). Mixed methods in early childhood special education research: Purposes, challenges, and guidance. *Journal of Early Intervention, 42*(1), 20-30. <https://doi.org/10.1177/1053815119873096>
- Corrigan, J. A., & Onwuegbuzie, A. J. (2020). Toward a meta-framework for conducting mixed methods representation analyses to optimize meta-inferences. *The Qualitative Report, 25*(3), 785-812. <https://doi.org/10.46743/2160-3715/2020.3579>
- Creswell, J. W., Shope, R., Plano Clark, V. L., & Green, D. O. (2006). How interpretive qualitative research extends mixed methods research. *Research in the Schools, 13*(1), 1-11. <https://www.lcwu.edu.pk/ocd/cfiles/Gender%20&%20Development%20Studies/GDS-502/Thevalidityissueinmixedresearch.pdf#page=8>
- Cresswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Pearson Publishing.
- Creswell, J. W., & Plano-Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). Sage Publications.
- Creswell, J. W., & Zhang, W. (2009). The application of mixed methods designs to trauma research. *Journal of Traumatic Stress, 22*(6), 612-621. <https://doi.org/10.1002/jts.20479>
- \*Çelik, S. (2019). Okulöncesi öğretmenlerine yönelik olarak geliştirilen yüz yüze ve web tabanlı doğal öğretim öğretmen eğitimi programı (ODÖP)'nin etkililiğinin incelenmesi [Evaluating the effectiveness of teacher training program based face to face and web based naturalistic teaching (TPNT) developed for preschool teachers] (Tez Numarası: 544399) [Yüksek lisans tezi, Anadolu Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- \*Deniz, S. (2019). Özel öğrenme güçlüğüne sahip öğrencilerle çalışan öğretmenler için geliştirilen öğretmen yeterlikleri eğitim programının etkililiği [Effectiveness of the teacher qualifications education program developed for teachers working with students with special learning deficiency] (Tez No. 543749) [Doktora Tezi, Necmettin Erbakan Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- Doyle, L., Brady, A. M., & Byrne, G. (2009). An overview of mixed methods research. *Journal of Research in Nursing, 14*(2), 175-185. <https://doi.org/10.1177/1744987108093962>
- Dures, E., Rumsey, N., Morris, M., & Gleeson, K. (2011). Mixed methods in health psychology: Theoretical and practical considerations of the third paradigm. *Journal of Health Psychology, 16*, 332-341. <https://doi.org/10.1177/1359105310377537>
- \*Eker, A. (2020). Özel yetenekli öğrencilerin öğretmenlerinin mesleki yeterliklerini artırmaya yönelik geliştirilen öğretmen eğitimi programının etkililiği [The effectiveness of training programme for gifted and talented students' elementary teachers in order to enhance their competencies](Tez No. 616539) [Doktora Tezi, Necmettin Erbakan Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- \*Erkaya, A. (2018). Okul öncesi ve ilkökul dönemindeki işitme kayıplı çocukların ev ve okul dışı ortamlardaki iletişim sorunlarının incelenmesi [An examination of communication problems of pre-school and elementary school aged children with hearing loss in environments other than home and school] (Tez No. 523708) [Yüksek Lisans Tezi, Anadolu Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- Fırat, M., Kabakçı Yurdakul, I., & Ersoy, A. (2014). Bir eğitim teknolojisi araştırmasına dayalı karma yöntem araştırması deneyimi. *Eğitimde Nitel Araştırmalar Dergisi - Journal of Qualitative Research in Education, 2*(1), 65-86. <https://doi.org/10.14689/issn.2148-2624.1.2s3m>
- Foss, C., & Ellefsen, B. (2002). The value of combining qualitative and quantitative approaches in nursing research by means of method triangulation. *Journal of Advanced Nursing, 40*(2), 242-248. <https://doi.org/10.1046/j.1365-2648.2002.02366.x>
- Glesne, C. (2011). *Becoming qualitative researchers: An introduction* (4th ed.). Pearson Education.
- Greene, J. C. (2006). Toward a methodology of mixed methods social inquiry. *Research in The Schools, 13*(1), 93-98. <https://doi.org/10.1177/1558689807309969>
- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis, 11*(8), 255-274. <https://doi.org/10.3102/01623737011003255>
- Günbayı, İ. (2020). Knowledge-constitutive interests and social paradigms in guiding mixed methods research (MMR). *Journal of Mixed Methods Studies, 1*, 44-56. <https://doi.org/10.14689/jomes.2020.1.3>
- Gorard, S., & Taylor, C. (2004). *Combining methods in educational and social research*. McGraw-Hill Education.

- Heward, W.L. (2009) *Exceptional Children. An Introduction to Special Education*. Pearson Education.
- \*İçyüz, B. S. (2019). *Otizm spektrum bozukluğu olan çocukların sosyal becerilerinin gelişiminde yaratıcı drama yönteminin etkililiğinin incelenmesi* [Investigating the effectiveness of creative drama method in the development of social skills of children with ASD](Tez No. 551296) [Yüksek Lisans Tezi, Necmettin Erbakan Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- \*İçyüz, R. (2016). *İşitme kayıplı çocuğu kaynaştırmaya devam eden ebeveynlerin sorunlarının ve gereksinimlerinin belirlenmesi* [Problems and needs of the parents of children with hearing loss attending inclusive education] (Tez No. 432660) [Yüksek Lisans Tezi, Anadolu Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- Johnson, R. B., & Christensen, L. (2010). *Educational research: Quantitative, qualitative, and mixed approaches* (7th ed.). Sage Publication.
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14-26. <https://doi.org/10.3102/0013189X033007014>
- Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed-methods research. *Journal of Mixed-methods Research*, 1(2), 112-133. <https://doi.org/10.1177/1558689806298224>
- \*Kahveci, G. (2015). *Birleştirilmiş davranışsal konsültasyon programının görmeyen otizmlı çocuğun uygun olmayan davranışlarına ve iletişim/sosyal becerilerine etkisi* [The effect of conjoint behavioral consultation program on problem behavior and communication/social skills with a blind and autistic child] (Tez No. 397457) [Doktora Tezi, Gazi Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- \*Karaca, M. A. (2018). *Kaynaştırma eğitimi programının öğretmenlerin kaynaştırma uygulamalarındaki mesleki yeterliliklerine etkisi* [The effect of integration training program on the professional competencies of teachers about integration interventions] (Tez No. 509031) [Yüksek Lisans Tezi, Necmettin Erbakan Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- \*Karahan, S. (2019). *Okul öncesindeki özel gereksinimli çocukların sosyal becerilerine ilişkin anne, baba ve öğretmen görüşleri: Karma yöntem çalışması* [Mother, father and teachers' views on social skills of pre-school children with special needs: A mixed method study] (Tez No. 593767) [Yüksek Lisans Tezi, Hasan Kalyoncu Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi'nden edinilmiştir.
- \*Karaslan, Ö. (2010). *Etkileşime dayalı erken eğitim programının (edep) gelişimsel yetersizliğe sahip çocuklar ve anneler üzerindeki etkililiği* [The effectiveness of responsive teaching early intervention program on children with developmental disabilities and their mothers] (Tez No. 265733) [Yüksek Lisans Tezi, Anadolu Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- \*Kaya, D. (2011). *Yetişkin zihin engelli bireylerin sosyal becerilerinin gelişiminde yaratıcı drama yönteminin etkililiğinin incelenmesi* [The analysis of the efficiency of creative drama method on the development of social skills of adults with mental disabilities](Tez No. 278833) [Yüksek Lisans Tezi, Bolu Abant İzzet Baysal Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- \*Kılıç, M. (2020). *İşitme kayıplı çocukların dil gelişimlerinin desteklenmesine yönelik aile gereksinimlerinin belirlenmesi* [Determination of family needs for supporting the language development of children with hearing loss] (Tez No. 623792) [Yüksek Lisans Tezi, Anadolu Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- Klingner, J. K., & Boardman, A. G. (2011). Addressing the "research gap" in special education through mixed methods. *Learning Disability Quarterly*, 34(3), 208-218. <https://doi.org/10.1177/0731948711417559>
- Leech, N. L., & Onwuegbuzie, A. J. (2009). A typology of mixed methods research designs. *Qual Quant*, 43, 265-275. <https://doi.org/10.1007/s11135-007-9105-3>
- Li, S., Marquart, J. M., & Zercher, C. (2000). Conceptual issues and analytic strategies in mixed-method studies of preschool inclusion. *Journal of Early Intervention*, 23(2), 116-132. <https://doi.org/10.1177/105381510002300206>
- \*Melekoğlu, M. (2017). *Erken çocuklukta okul çağı olumlu davranış desteği modelinin etkililiği* [The effectiveness of school-wide positive behavior support model in early childhood] (Tez No. 463439) [Doktora Tezi, Anadolu Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- Morgan, D. L. (2014). Pragmatism as a paradigm for social research. *Qualitative Inquiry*, 20(8), 1045-1053. <https://doi.org/10.1177/1077800413513733>
- Neel, R.G. (1981). *Sosyal davranışta araştırma yöntemleri* [Research methods in social behavior.]. (Trans. Ayşe Can Baysal). Fatih Yayınevi Matbaası.



- Neupane, N. (2019). Paradigm shift in research: Emergence of mixed methods research design. *Journal of NELTA Gandaki (JoNG)*, 1, 74-86. <https://doi.org/10.3126/jong.v1i0.24462>
- Newman, I., Ridenour, C. S., Newman, C., & DeMarco, G. M. P. (2003). A typology of research purposes and its relationship to mixed methods. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 167-188). Sage Publications Ltd.
- O'Relary, Z. (2004). *The essential guide to doing research*. Sage Publications Ltd.
- Odom, S. L., Brantlinger, E., Gersten, R., Horner, R. H., Thompson, B., & Harris, K. R. (2005). Research in special education: Scientific methods and evidence-based practices. *Exceptional children*, 71(2), 137-148. <https://doi.org/10.1177/001440290507100201>
- Onwuegbuzie, A. J. & Poth, C. (2016). Editors' afterword: Toward evidence-based guidelines for reviewing mixed methods research manuscripts submitted to journals. *International Journal of Qualitative Methods*, 15(1), 1-13. <https://doi.org/10.1177/1609406916628986>
- Onwuegbuzie, A. J., & Collins, K. M. T. (2017). The role of sampling in mixed methods-research enhancing inference quality. *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, 69(2), 133-156. <https://doi.org/10.1007/s11577-017-0455-0>
- Onwuegbuzie, A. J., & Leech, N. L. (2004). Post hoc power: A concept whose time has come. *Understanding Statistics*, 3(4), 201-230. [https://doi.org/10.1207/s15328031us0304\\_1](https://doi.org/10.1207/s15328031us0304_1)
- Onwuegbuzie, A. J., & Leech, N. L. (2007). A call for qualitative power analyses. *Quality and Quantity*, 41, 105-121. <https://doi.org/10.1007/s11135-005-1098-1>
- \*Özdemir, E. (2016). *Kaynaştırma uygulamalarına devam eden işitme kayıplı öğrencilerin sosyal uyumlarının incelenmesi [Investigating the social adaptation of students with hearing loss in inclusive education]* (Tez No. 438263) (Yüksek Lisans Tezi). Yükseköğretim Kurulu Ulusal Tez Merkezi.
- Punch, K. F. (2009). *Introduction to research methods in education*. Sage Publications Ltd.
- \*Sani-Bozkurt, S. (2016). *Otizm spektrum bozukluğu olan çocuklara sosyal beceri öğretiminde teknoloji destekli etkileşimli ortam tasarımı ve etkililiği [Design and effectiveness of technology enhanced interactive media in teaching social skills for children with autism spectrum disorder]*(Tez No. 432444) [Doktora Tezi, Anadolu Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- Schneider, B., & McDonald, S. K. (2007). *Scale-up in education: Issues in practice* (Vol. 2). Rowman and Littlefield.
- \*Şahin, C. H. (2019). *Otizm spektrum bozukluğu olan çocuğa sahip anne-babalara ev içi güvenlik becerilerinin öğretimi: Karma araştırma [Training on home safety skills for parents of children with autism spectrum disorder: a mixed method research]* (Tez No. 570280) [Doktora Tezi, Anadolu Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- Salehi, K., & Golafshani, N. (2010). Commentary: Using mixed methods in research studies: An opportunity with its challenges. *International Journal of Multiple Research Approaches*, 4(3), 186-191. <https://doi.org/10.5172/mra.2010.4.3.186>
- Şan, E. (2020). Türkiye'de eğitim alanında yayınlanan karma yöntemle dayalı makalelerin incelenmesi [Based mixed methods study of the article published in the field of education in Turkey] (Tez Numarası: 624474) [Yüksek lisans tezi, Maltepe Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- Tashakkori, A., & Teddlie, C. (2003). The past and future of mixed method research: From data triangulation to mixed model designs. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social & behavioral research* (pp. 671-701). Sage Publications Ltd.
- T.C. Resmi Gazete, 9 Mart 2019, sayı: 30709. <https://www.resmigazete.gov.tr/eskiler/2019/03/20190309.htm>
- Teddlie, C., & Tashakkori, A. (2009). Major issues and controversies in the use of mixed methods in the social and behavioral science. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 3-50). Sage Publications Ltd.
- Teddlie, C., & Yu, F. (2007). Mixed methods sampling: A typology with examples. *Journal of Mixed Methods Research*, 1, 77-100. <https://doi.org/10.1177/2345678906292430>
- \*Tomris, G. (2019). *Down sendromlu çocuğu olan ebeveynlere yönelik geliştirilen doğal öğretime dayalı erken müdahale (DÖDEM) programının ebeveyn ve çocukları üzerindeki etkililiği [The effectiveness of an early intervention program based on naturalistic teaching for parents of children with down syndrome on parents]*

- and their children](Tez No. 542844) [Doktora tezi, Anadolu Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- \*Toper-Korkmaz, Ö. (2015). *Eve dayalı olarak gerçekleştirilen etkileşim temelli erken çocuklukta müdahale programının (ETEÇOM) otizm spektrum bozukluğu tanılı çocuklar ve anneleri üzerindeki etkililiği* [Effectiveness of home-based responsive teaching (RT) early intervention program on children with autism spectrum disorder and their mothers](Tez No. 385584) [Doktora tezi, Anadolu Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- Trainor, A. A. (2011). Commentary: Using mixed methods to transform special education research. *Learning Disability Quarterly*, 34(3), 219-221. <https://doi.org/10.1177/0731948711417560>
- \*Tunalı, C. (2018). *Özel yetenekli öğrencilerin sayı duyasu düzeylerinin belirlenmesi* [The determination of gifted students' level of number sense] (Tez No. 512940) [Yüksek lisans tezi, Dokuz Eylül Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- Turkish Higher Education Institution (2020). *Özel Eğitim Öğretmenliği Programı Bulunan Tüm Üniversiteler* [All Universities with Special Education Teaching Programs]. <https://yokatlas.yok.gov.tr/lisans-bolum.php?b=20903>
- Vaughn, S., Klingner, J., & Hughes, M. (2000). Sustainability of research-based practices. *Exceptional Children*, 66(2), 163-171. <https://doi.org/10.1177/001440290006600202>
- Wachsmann, M. S., Onwuegbuzie, A. J., Hoisington, S., Gonzales, V., Wilcox, R., Valle, R., & Aleisa, M. (2019). Collaboration patterns as a function of research experience among mixed researchers: A mixed methods bibliometric study. *The Qualitative Report*, 24(12), 2954-2979. <https://doi.org/10.5296/jei.v3i1.10699>
- Yardley, L., & Bishop, F. L. (2015). Using mixed methods in health research: Benefits and challenges. *British Journal of Health Psychology*, 20(1), 1-4. <https://doi.org/10.1111/bjhp.12126>
- Yıldırım, A., & Şimşek, H. (2013). *Sosyal bilimlerde nitel araştırma yöntemleri* [Qualitative research methods in the social sciences] (9. bs.). Seçkin Yayıncılık.
- \*Yıldırım-Hacıbrahimoğlu, B. (2013). *Özel gereksinimli öğrencilerin ilköğretime geçişte yaşadıkları güçlüklerin belirlenmesi* [Determination the difficulties of the students with special needs by teachers as transition to elementary school] (Tez No. 449827) [Doktora tezi, Ankara Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.
- \*Yılmaz, B. (2014). *Okul öncesi kaynaştırma sınıflarının kalitesinin değerlendirilmesi* [Evaluating preschool inclusive classrooms' quality in Turkey] (Tez No. 397446) [Yüksek lisans, Gazi Üniversitesi]. Yükseköğretim Kurulu Ulusal Tez Merkezi.



**Yazarlar**

Murat DOĐAN  
Metodoloji, Biliřsel Sreçler, Psikolojik  
Dinamikler, zel Eđitim, Aileler, İřitme Engelliler

Seçil ÇELİK  
Erken Çocuklukta zel Eđitim, Okul ncesi  
Dnemde Kapsayıcı Eđitim, Çocuk Geliřimi,  
Kanıt-Temelli Uygulamalar, Metodoloji

Gzde Tomris  
Erken Çocuklukta zel Eđitim, Okul ncesi  
Dnemde Kapsayıcı Eđitim, Çocuk Geliřimi,  
Kanıt-Temelli Uygulamalar, Metodoloji

*İletiřim*

Anadolu niversitesi, Eđitim Fakltesi, zel  
Eđitim Blm, 26100  
Tepebařı, Eskiřehir

E-posta: [mudogan@anadolu.edu.tr](mailto:mudogan@anadolu.edu.tr)  
Anadolu niversitesi, Eđitim Fakltesi, zel  
Eđitim Blm, 26100  
Tepebařı, Eskiřehir

E-posta: [secilcelik@anadolu.edu.tr](mailto:secilcelik@anadolu.edu.tr)

Eskiřehir Osmangazi niversitesi, Eđitim  
Fakltesi, zel Eđitim Blm,  
Odunpazarı, Eskiřehir

E-posta: [gtomris@ogu.edu.tr](mailto:gtomris@ogu.edu.tr)

# Okul Psikolojik Danışmanlarının Okulda Adalet Algıları ve Hak Savunuculuğu Görevlerine İlişkin Farkındalıkları

Sinem TARHAN\*

## Atıf için:

Tarhan, S. (2022). Okul psikolojik danışmanlarının okulda adalet algıları ve hak savunuculuğu görevlerine ilişkin farkındalıkları. *Journal of Qualitative Research in Education*, 29, 33-55, doi: 10.14689/enad.29.2

**Öz:** Bu çalışma okul psikolojik danışmanlarının okulda adaletin üç bileşeni olan dağıtım, etkileşim ve süreç adaleti bağlamında okuldaki hak savunuculuğu görevlerine ilişkin farkındalıklarını belirlemek amacı ile yapılmıştır. Durum çalışması deseninde yapılan araştırmanın çalışma grubu ölçüt örnekleme ve maksimum çeşitlilik yöntemi kullanılarak belirlenmiştir. Orta öğretim kurumlarında görev yapan 14 okul psikolojik danışmanı ile çalışılmıştır. Araştırma verileri yarı yapılandırılmış görüşme formu ile toplanmış, içerik analiz yoluyla incelenmiştir. Bulgulara göre, okul psikolojik danışmanları yönetici ve öğretmenlerin demokratik tutumları oranında okul ortamlarını adaletli olarak nitelendirmektedirler. Öğrenciler okuldaki kayırmacı, önyargılı tutumlar, sağlıksız iletişim ve aldıkları notlar gibi çeşitli konularda şikayetlerini dile getirmektedir. Öğrenciler haksızlığa uğradıklarında kızgınlık mutsuzluk, çaresizlik gibi duygusal tepkiler yanında öğretmenlere, okul eşyalarına ya da kendilerine yönelik saldırgan tepkiler de göstermektedir. Okul psikolojik danışmanları adaletsiz durumla karşılaşan bir öğrenciyi duygularını paylaşıp rahatlaması, hakkını araması ve öğretmeni ile konuşması için desteklemektedir. Adaletsiz bir durumla karşılaşan öğrencinin kendi hakkını savunması gerektiğini düşünen okul psikolojik danışmanları, sorunların çözümü için nadiren öğretmenlerle görüşme yoluna gitmektedir. Öğrencilerin yaşadıkları mağduriyetleri gidermek için çaba harcayan okul psikolojik danışmanlarının, hak savunucu olmak yerine arabulucu olmayı daha işlevsel buldukları söylenebilir. Sonraki çalışmalar için özel okul - devlet okulu bağlamında yapılan hak savunuculuğu çalışmalarının karşılaştırılması önerilebilir.

**Anahtar Kelimeler:** Hak savunuculuğu, okul psikolojik danışmanı, okulda adalet

## Makale Hakkında

Gönderim Tarihi:  
05.08.2020

Düzeltilme Tarihi:  
29.06.2021

Kabul Tarihi:  
05.10.2021

## Makale Türü

Araştırma

©2022 ANI Yayıncılık. Tüm hakları saklıdır.

\*  Sorumlu Yazar: Bartın Üniversitesi, Türkiye, [snmtarhan@bartin.edu.tr](mailto:snmtarhan@bartin.edu.tr)

## Giriş

Öğrencilerin uyumunu ve başarısını artırmak amacıyla okullarda psikolojik danışma ve rehberlik (PDR) çalışmalarına duyulan ihtiyaç her geçen gün artmaktadır. Buna karşın okul psikolojik danışmanlarının okuldaki konumları, rol, görev ve sorumluluklarına ilişkin tartışmalar da artarak devam etmektedir. Okul psikolojik danışmanları hizmet alanları kapsamında oryantasyon, psikolojik danışma, çevre ve veli ile ilişkiler, bireyi tanıma, müşavirlik, araştırma geliştirme, izleme ve değerlendirme, yöneltme-yerleştirme ve bilgi toplama hizmetlerini yürütmektedir (Yeşilyaprak, 2013). Bunların yanında okul psikolojik danışmanlarının 21.yy okullarında farklı görevleri olması gerektiği, öğrencilerin akademik başarılarının önündeki engelleri kaldırmak için çaba göstermeleri, okulun değişim ve gelişimi için proaktif liderler ve savunucular olarak mevcut görevlerinin ötesine geçebilmeleri gerektiği ileri sürülmektedir (House ve Sears, 2002). The Council for Accreditation of Counseling and Related Educational Programs (CACREP) (2019) temel standartlarında okul danışmanlarının, öğrencilerin akademik, kişisel -sosyal ve kariyer gelişimlerini engelleyen durumlar kadar toplumsal, çevresel ve kurumsal fırsatları anlayacak bilgi ve beceriye de ihtiyaç duydukları ifade edilmiştir. Okul psikolojik danışmanlarının güçlü bir kişisel / profesyonel alanları, iyi düşünülmüş vizyon ve misyonları, tanımlanmış rolleri ve bu rolleri yerine getirebilmek için hazırlanmış programları olması gerektiği vurgulanmıştır. Bu rollerden biri de hak savunuculuğudur.

Hak savunuculuğu; psikolojik danışmanın, danışanın iyi oluşu önünde engel teşkil eden kurumsal veya dışsal koşulları ortadan kaldırmaya veya azaltmaya yönelik yaptığı mesleki etkinlikler olarak tanımlanır (Toporek ve Liu, 2001; akt. Keklik,2010). Psikolojik danışmanların, danışanları ile empati kurarak sosyal değişim için kullandıkları bir güçlendirme stratejisi (Green, McCollum ve Hays,2008) olan hak savunuculuğu American School Counselor Association (ASCA) Modeli'nin (ASCA, 2012) ana temalarından biridir. Okul psikolojik danışmanları, öğrencilerin başarılarını engelleyen her türlü sistemsel engelin ortadan kaldırılması, öğrencilerin programlardan en üst düzeyde yararlanabilmesi ve bu konuda gerekli politikaların oluşturulması gibi amaçlar çerçevesinde öğrencilerin hak savunuculuğunu üstlenmelidir (ASCA, 2012; House ve Martin,1998). Hak savunuculuğu, psikolojik danışma ve rehberlik (PDR) çalışmalarının ilkeleri arasında yer alan "PDR hizmetleri tüm öğrencilere yöneliktir, her birey eşsizdir, her birey saygıya değerlidir" gibi ifadelerin doğal sonucu (Erkan,2017), empatik olmanın da gereğidir (Lewis, Ratts, Paladino ve Toporek, 2011).

Hak savunuculuğu yoksul ve dezavantajlı öğrencilerle diğer öğrenciler arasındaki başarı farkı yaratan engelleri ortadan kaldırmaya odaklanır (House ve Martin, 1998). Okul psikolojik danışmanları açısından bakıldığında hak savunuculuğu dezavantajlı grupların haklarının savunulması ve eğitimsel eşitliğin sağlanmasına yönelik etkinlikleri içerir (Erkan, 2017). Çünkü cinsiyet, dil, etnik köken, sosyal sınıf, cinsel yönelim, engel durumu, aile yapısı gibi bazı özellikler nedeni ile dezavantajlı olan öğrenciler okulda sosyal uyumsuzluk ve akademik başarısızlık yaşayabilmekte, ayrımcılığa maruz kalabilmektedir. Okul psikolojik danışmanlarının hak savunuculuğu faaliyetleri bu

öğrencilerin okuldaki hizmetlerden eşit olarak yararlanmasını (Bailey, Getch ve Chen-Hayes,2003), kişisel ve mesleki olarak geleceğe daha iyi bir şekilde hazırlanmasını kolaylaştıracaktır. Hak savunuculuğu hizmetleri öğrenciler kadar aileleri de kapsamalıdır. Çünkü aileler eğitim ve farkındalık düzeylerinin yetersizliği, yoksulluk, ilgisizlik gibi sebeplerle çocuklarının haklarını savunabilecek durumda olmayabilirler. Bu nedenle okul psikolojik danışmanları; öğrencilere ve ailelerine, okul görevlilerine taleplerini nasıl iletebileceklerini öğretmek bürokratik sistemle ilgili sorunlarında yardımcı olabilir, ailelere özel ders, kurs vb. fırsatlar konusunda bilgi vererek çocuklarının akademik başarısı için destek sistemlerine nasıl ulaşabileceklerini öğretebilirler (House ve Hayes, 2002),

Trusty ve Brown (2005) hak savunuculuğu yapabilmek için gerekli bilgi, beceri ve tutumdan söz etmektedir. Hak savunuculuğu çalışmalarında kullanılacak bilgiler; kaynağın bilgisi (insan, program, kurumlar, STK vb.), sistem bilgisi (okul kuralları, bireylerin ve ailelerin yasal hakları, okul danışmanlarının kendi rol ve sorumlulukları), çatışma çözme bilgisi (süreçte karşılaşılabilecek anlaşmazlık ve çatışmalar ile başa çıkmak ve sorunlara bütüncül olarak bakabilmek için gerekli olan bilgi) ve sistem değişimi bilgisi (sistem ve alt sistemler ile bunların nasıl işlediği ve nasıl değişebileceği) olmak üzere dört gruba ayrılmaktadır. Hak savunuculuğu için gerekli beceriler; iletişim, işbirliği, problemi anlama ve çözme olarak sıralanmaktadır. Bu bilgi ve beceriler doğrultusunda oluşan tutumlar ise hak savunuculuğu rolünün farkında olma, özerk düşünebilme ve davranabilme, empatik olabilme, ihtiyacı olanların haklarını savunabilme için risk alabilme olarak sıralanmaktadır. Gültekin'e (2004) göre de bir okul psikolojik danışmanının kendi önyargılarının, hizmet vereceği gruplara karşı olumlu/ olumsuz duygularının farkında olması ve bu yönde eğitim alması sunacağı hak savunuculuğu hizmetinin daha objektif ve etkili olmasını sağlayacaktır.

Son yıllarda etkili olmaya başlayan çok kültürlü danışmanlık yeterlilikleri okul danışmanlığını etkilemiş ve hak savunuculuğu uygulamalarını ön plana çıkarmıştır (Toporek, Lewis ve Crethar, 2009). Sosyal adalet yaklaşımının bir ürünü (Holcomb-McKoy, 2007, akt. Erkan,2017) olan sosyal savunuculuk, bir bireyin ya da grubun yararı için adaletsizlikleri gidermek veya koşulları iyileştirmek için eylemde bulunması gerektiği inancına dayanır (House ve Martin,1998). Farklı gruplarla çalışan okul danışmanlarının bu grupları anlayabilmek için sosyal adalet anlayışına bağlı olmaları gerektiği, sosyal adaletin danışan danışman arasındaki ilişkiyi güçlendiren bir strateji olduğu ileri sürülmektedir (Green, McCollum ve Hays,2008). Sosyal adalet kavramı örgüt adaletini (Greenberg,1987, akt. Cropanzano ve Greenberg, 1997), örgüt adaleti de okul ve sınıf adaleti kavramlarını gündeme getirmiştir (Kepekçioğlu,2015). Sonuçlara veya öğretim bağlamında ortaya çıkan süreçlere ilişkin adalet algısı olarak tanımlanan sınıfta adaletin (Chory-Assad ve Paulsel, 2004), dağıtım, süreç ve etkileşim adaleti olmak üzere üç boyutu vardır (Paulsel ve Chory- Assad, 2005). Dağıtım adaleti; gelir, ödül ya da fırsatların dağıtımında eşitliği, süreç adaleti; yöneticilerin kararlarının bireye, zamana ve ortama göre değişmemesini, etkileşim adaleti ise tüm bireylerle ilişkilerin eşitlik çerçevesinde yürütülmesini ifade eder (Colquitt, Greenberg ve Zapata-

Phelan, 2005). Bu bağlamda öğrencilerin okulda karşılaştıkları adaletsiz durumlarla mücadele edilmesinde hak savunuculuğu görevi önemlidir.

Hak savunuculuğu Türkiye’de üzerinde çok az durulan bir kavramdır. Bununla birlikte, sık sık değişen müfredat, sınav ve eğitim sistemleri, engelli öğrenciler, üstün yetenekliler, mevsimlik işçiler, özellikle kız çocukların eğitim almalarının önündeki engeller, çalışan çocuklar, iç ve dış göçler, mülteciler gibi değişkenler göz önüne alındığında okul psikolojik danışmanlarının hak savunuculuğu görevlerinin ne kadar önemli ve gerekli olduğu ortaya çıkmaktadır. Kağnıcı (2017) okul psikolojik danışmanlarının mülteci çocuklarla etkin bir şekilde çalışabilmek için çok kültürlü psikolojik danışma ve hak savunuculuğu yeterliklerine sahip olması gerektiğini ileri sürmüştür. Gültekin (2004) hak savunuculuğunu bütün gruplar için verilmesi gereken bir hizmet olarak görmekle birlikte özellikle dezavantajlı gruplar açısından fırsat eşitliğinin sağlanmasında önemli olduğunu belirtmektedir. Demokratik bir toplumda eğitimde eşitlik tüm çocukların özellikle de eğitime ulaşmada sorun yaşayan yoksul ve azınlık gruplardan gelen öğrencilerin geleceğe daha iyi hazırlanmalarında önemlidir (House ve Martin, 1998). Hak savunuculuğu farklı özellikteki bireyler için esnek ve alternatifli eğitim olanakları sunarak (Svec,1987; Stone ve Clark,2001) öğrencilerin okulu bırakma oranlarının azalmasını sağladığı için kurumsal ve bireysel düzeyde sunulan önleme programlarının temel bileşenlerinden biri olarak kabul edilir (Berkowitz ve Chwast,1971, akt. Svec,1987). Türk Psikolojik Danışma ve Rehberlik derneği tarafından hazırlanan “Okul Psikolojik Danışmanı Meslek Standartları”nda (MYK, 2017) meslek elemanından beklenen tutum ve davranışlardan biri olarak “Mesleki konularda ve danışan haklarında savunucu olmak” maddesinin yer alması hak savunuculuğu kavramının tanınması ve işlevsel hale gelmesi açısından önemlidir. Ayrıca Özel Eğitim ve Rehberlik Hizmetleri Genel Müdürlüğü bünyesinde hazırlanan “Rehberlik Hizmetleri Plan Hazırlama Kitapçığı”nda (2018) hak savunuculuğun destek hizmetler kapsamında yer almaktadır. Bu durum okul PDR servisi çalışmalarında hak savunuculuğunun gittikçe daha belirgin bir yer alacağı şeklinde yorumlanabilir.

Bu araştırmada orta öğretim kurumlarında görev yapan okul psikolojik danışmanları ile çalışılmıştır. Orta öğretim öğrencileri gelişimsel özellikleri göz önüne alındığında, bilişsel, duygusal ve sosyal açıdan kendini bulma ve kanıtlama çabası içinde olan, hak, adalet konularına duyarlı, sorgulayan, araştıran, meslek seçme ve geleceğini planlama sürecinde olan bireylerdir. Bu nedenle ortaöğretim kurumlarında okul psikolojik danışmanlarının hak savunuculuğu görevlerine daha fazla ihtiyaç duyulduğu düşünülmüştür. Yurt içi alanyazın incelendiğinde okul psikolojik danışmanlarının hak savunuculuğu konusunda az sayıda çalışmaya rastlanmıştır. Gültekin (2004) okul psikolojik danışmanlarının savunuculuk rolleri hakkında bilgi verirken, Nazlı (2007) okul psikolojik danışmanlarının değişen rollerine değinmiştir. Keklik (2016) hak savunuculuğu kavramını, hak savunuculuğunun tarihini ve ACA tarafından yayımlanmış olan hak savunuculuğu yeterliklerini tanıtmıştır. Köse (2015) okul PDR hizmetlerindeki paradigma değişimi ve okul psikolojik danışmanın liderlik rolü üzerinde durmuş, Gökmen (2020) okul psikolojik danışmanlarının hak savunuculuğu bağlamında yaptıkları çalışmaların kapsayıcı eğitim açısından önemine dikkat çekmiştir. Alan yazında okul psikolojik danışmanlarının hak savunuculuğu görevlerini

kendi görüşleri doğrultusunda inceleyen bir çalışma bulunmamaktadır. Bu araştırma hak savunuculuğu görevinin okul psikolojik danışmanlarının bakış açısı ile incelenmesi ve bu incelemenin okuldaki adalet kavramı çerçevesinde yapılması açısından önemlidir.

Araştırmada okuldaki adalet temelinde okul psikolojik danışmanlarının hak savunuculuk görevlerine ilişkin algıları belirlenmeye çalışılmıştır. Araştırmada şu sorulara cevap aranmıştır:

1. Okul psikolojik danışmanlarının okul ortamlarının adil oluşuna ilişkin görüşleri nelerdir?
2. Okul psikolojik danışmanlarının öğrencilerin yaşadıkları haksızlıklar karşısındaki tutumları nasıldır?
3. Okul psikolojik danışmanlarının hak savunuculuk görevine ilişkin farkındalıkları nasıldır?
4. Okul psikolojik danışmanlarının hak savunuculuk görevine ilişkin bakış açıları nasıldır?

## Yöntem

Bu bölümde araştırmanın yöntemi, çalışma grubu, veri toplama aracı, verilen toplanması, bu süreçte araştırmacının rolü ve verilen analizi hakkında bilgi verilmiştir.

## Araştırma Deseni

Bu çalışmada nitel araştırma yöntemlerinden durum çalışması deseni kullanılmıştır. Gerçek yaşamın, içindeki bir ya da birkaç durumun araştırılması (Yin,2009, akt. Creswell, 2018) olan durum çalışması öznel bir durumun belirlenmesi ile başlar. Zaman yer ve parametrelerle sınırlandırılan durum (Creswell, 2018)., bilgi toplamada kullanılan görüşme, gözlem ve belgelerin analizine dayanır (Denzin ve Lincoln,1998). Çalışma araştırmacının durumdan çıkardığı genel anlam çerçevesinde vardığı sonuçlarla tamamlanır (Creswell, 2018). Durum çalışmaları, 'nasıl' ve 'niçin' sorularını temel almakta, araştırmacının kontrol edemediği bir olgu ya da olayın derinlemesine incelenmesine olanak vermektedir (Yıldırım ve Şimşek 2011). Bu çalışmada ortaöğretim kurumlarında görev yapan okul psikolojik danışmanlarının okulda yaşanan adaletsiz durumlara ilişkin algıları, hak savunuculuğu konusundaki görüşleri ve yaptıkları hak savunuculuğu çalışmaları kendi sınırları içinde belirlenmeye çalışılmıştır.

## Çalışma Grubu

Çalışma grubunun belirlenmesinde amaçlı örnekleme yöntemlerinden ölçüt örnekleme ve maksimum çeşitlilik örnekleme kullanılmıştır. Ölçüt örnekleme yöntemi, araştırmacı tarafından belirlenmiş ya da önceden hazırlanmış bir dizi ölçütü karşılayan



durumların çalışılmasıdır (Yıldırım ve Şimşek, 2011). Bu çalışmada ortaöğretim kurumunda çalışıyor olmak ve okulunda hak savunuculuğu yapıyor olmak ölçüt olarak belirlenmiştir. Okul psikolojik danışmanlarının hak savunuculuğu yapıp yapmadıkları daha önceden okullarda okul danışmanları, öğretmenler ve idarecilerle yapılan çalışmalar ve gözlemler neticesinde tespit edilmiştir. Maksimum çeşitlilik örneklemede ise amaç görece küçük bir örneklem oluşturarak bu örnekleme taraf olabilecek bireylerin çeşitliliğini maksimum derecede yansıtmaktır. Bu çalışmada farklı türdeki (Anadolu lisesi, fen lisesi, mesleki ve teknik lise, imam hatip lisesi vb) ortaöğretim kurumlarında görev yapan okul psikolojik danışmanlarına ulaşılmıştır. Söz konusu okul türleri öğrencilerin akademik başarısı, motivasyonu, öğrenci velilerinin ekonomik, sosyal, kültürel düzeyi ve okul iklimi olarak çeşitlilik göstermektedir. Böylece okullarda yaşanması olası adaletsiz durumlar ve bu adaletsizliklere yönelik sergilenen hak savunuculuğu faaliyetleri konusunda ayrıntılı bilgi alınabileceği düşünülmüştür. Çalışmaya 8'i kadın 6'si erkek olmak üzere toplam 14 okul psikolojik danışmanı katılmıştır. Kıdemleri 1 yıl ile 24 yıl arasında değişen katılımcıların kimliklerini gizli tutmak amacıyla okul isimlerine ve türlerine yer verilmemiş okul psikolojik danışmanları RPD1, RPD2.... olarak kodlanıp görüşleri sıralanmıştır. Araştırma için araştırmacının görev yaptığı üniversiteden etik kurul onayı alınmıştır (2020- SBB-0016 nolu karar)

## Veri Toplama Aracı ve Verilerin Toplanması

Araştırma verileri yarı yapılandırılmış görüşme formu ile yüz yüze görüşme yapılarak toplanmıştır. Okul psikolojik danışmanlarına açık uçlu sorular sorulmuş, ayrıntılı olarak cevap verebilmeleri için sondaj sorularından yararlanılmıştır. Görüşme sorularını oluşturabilmek için okuldaki adalet ve hak savunuculuğu konularındaki alanyazın taranmış, PDR alanında uzman olup aynı zamanda hak savunuculuğu ve sınıf adaleti konularında çalışmalar yapan bir akademisyenden ve nitel çalışmalar yapan bir ölçme değerlendirme uzmanından görüş alınmıştır. Soruların anlaşılabilirliğini test etmek amacıyla önce bir okul psikolojik danışmanı ile görüşme yapılmış, soruların açık ve anlaşılır olduğu tespit edilerek asıl uygulamaya geçilmiştir. Görüşme formunda, katılımcıların demografik bilgilerine yönelik sorular dışında beş görüşme sorusu ve iki sondaj sorusu kullanılmıştır. Yarı-yapılandırılmış görüşme formu kullanılması amaç katılımcıların herhangi bir kısıtlama olmadan ayrıntılı cevap verebilmelerini sağlamaktır. Okul psikolojik danışmanlarından randevu alınarak gerçekleştirilen her bir görüşme yaklaşık 30 dakika sürmüştür, görüşmeler katılımcıların bilgileri ve izinleri doğrultusunda ses kaydına alınmıştır. Görüşme soruları aşağıda belirtilmiştir:

1. Bu okulda öğrenci –öğretmen iletişimlerini (verdikleri notlar, uyguladıkları kurallar ve öğrencilerle iletişim biçimleri vb. temelinde) adil buluyor musunuz? Neden?
2. Öğrenciler haksızlığa uğradıkları şikâyeti ile size geliyorlar mı? En çok hangi konulardan şikâyet ediyorlar?
  - a. Adaletsizliğe uğrayan çocuklar nasıl tepkiler veriyorlar?

3. Siz öğrencilerin haksızlığa uğradığı durumlar gözlediniz mi? Ne tür durumlar bunlar?
4. Bir öğrenci okulda haksızlığa uğruyorsa onun hakkını kim savunmalı? Neden?
5. Okul danışmanlarının hak savunuculuğu rolleri hakkında fikriniz var mı? Bu görevi yerine getirmek ister misiniz?
  - a. Hak savunuculuğu yaptığınızda ne gibi tepkiler alıyorsunuz?

## Verilerin Analizi

Araştırma verilerinin analizinde içerik analizi yöntemi kullanılmıştır. İçerik analizinde yapılan temel işlem birbirine benzeyen verileri belirli kavramlar ve temalar çerçevesinde bir araya getirmek ve bunları okuyucunun anlayabileceği şekilde düzenleyip yorumlamaktır. Verilerin analizi; verilerin kodlanması, temaların bulunması, kodların ve temaların düzenlenmesi, bulguların tanımlanması ve yorumlanması olmak üzere dört aşamada gerçekleştirilir (Yıldırım ve Şimşek, 2011). Bu çalışmada 14 okul psikolojik danışmanı ile yaklaşık 7 saat süren görüşmeler yapılmıştır. Görüşmelerin ses kayıtları bilgisayar ortamına aktarılmış, 56 sayfalık metin haline gelen kayıtlar iki kez ayrıntılı olarak incelenmiştir. Daha sonra görüşme metinleri, sorulara verilen cevaplara göre sınıflandırılmış ve düzenlenmiştir. Analizin ilk aşamasında her cümlenin kavramsal olarak ne ifade ettiği belirlenerek önce kodlar ardından kodların birbiri ile ilişkilerine odaklanılarak kategori ve temalar oluşturulmuştur. Bulguların sunumunda katılımcıların cümlelerinden doğrudan alıntılara yer verilmiş ve bulgular alanyazın dikkate alınarak yorumlanmıştır.

## Geçerlik ve Güvenirlik Çalışmaları

Guba ve Lincoln (Guba ve Lincoln, 1981; Lincoln ve Guba, 1985 akt. Spencer ve Ritchie, 2012) nitel araştırmalarda inandırıcılık olması gerektiğine dikkat çekerek inanılabilirlik, güvenilirlik, onaylanabilirlik ve aktarılabilirlik olmak üzere dört temel kriter belirlemiştir. Creswell (2018) nitel araştırmada inandırıcılığa katkı sağlayan bazı yöntemlerden söz etmiştir. Uzun süreli etkileşim, meslektaş değerlendirmesi ve çeşitleme bunlardan bazılarıdır. Bu araştırmanın inanırılığını artırmak için bu üç yöntem de kullanılmıştır.

Yıldırım ve Şimşek'e (2011) göre nitel çalışmalarda görüşülen kişiler görüşmenin başlangıcında genellikle araştırmacı etkisine açıktır. Görüşme süresi ilerledikçe bir güven ortamı oluşur ve görüşülen kişi verdiği yanıtlarda daha samimi olabilir. Araştırmacı ile veri kaynağı arasında oluşan etkileşimin geniş bir zamana yayılması araştırma verilerinin inandırıcılığını artırır. Bu çalışmada okul psikolojik danışmanları okullarındaki odalarında ziyaret edilmiş ayrı ayrı ve ayrıntılı görüşmeler yapılarak aynı ortamda kalma süresi uzatılmış, böylece sürecin kendi doğal ortamında gerçekleşmesi sağlanmıştır. Ayrıca araştırmacının daha önce de okul psikolojik danışmanları ile birlikte çalışmalar yapmış olmasının güven ortamını güçlendirdiği düşünülmektedir. Araştırmanın planlanması ve uygulanması sürecinde biri doktor öğretim üyesi diğeri ise tez aşamasındaki doktora öğrencisi olmak üzere PDR alanında iki uzmandan destek

alınmıştır. Böylece inanırlığı arttıran meslektaş değerlendirmesi sağlanmaya çalışılmıştır. Analizin doğruluğunu, gerçekliğini ve objektifliğini teyit etmek için analizci çeşitlemesinden yararlanılmıştır. Analizci çeşitlemesi iki veya daha fazla kişiye aynı nitel verilerin bağımsız olarak analiz ettirilmesi ve bulguların karşılaştırılmasıdır. Analizci çeşitlemesi tüm veri toplama işini tek bir araştırmacının yapmasından kaynaklanabilecek olası ön yargıları azaltmaya yardımcı olur (Patton,2014;560). Bu çalışmanın planlanması ve uygulanmasına destek sağlayan iki PDR uzmanı verilerin analizinde de çalışmış, böylece analizci çeşitlemesi yöntemi kullanılmıştır. Analizi yapan uzmanlar tarafından soruya en uygun cevap olduğu düşünülen ve üzerinde görüş birliğine varılan ifadeler araştırma bulgularında sunulmuştur. Böylece geçerliği sağlamak için “doğrudan alıntılara yer verilmesi” stratejisi de kullanılmıştır. Verilerin analizinde kodlayıcılar arası güvenilirliği hesaplamak için Miles ve Huberman’ın (1994) formülünden yararlanılmıştır. Miles ve Huberman’a (1994) göre kodlayıcılar arasındaki uyumun %80 oranında, Hall ve Houten’e (1983) göre ise en az %70 oranında olması araştırmacının güvenilirliği için yeterlidir. Bu çalışmada kodlayıcılar arası güvenirlığın %90 olarak hesaplanması araştırma sonuçlarının güvenilir olduğunu göstermektedir denebilir. Araştırmacının tutarlılığını sağlamak için görüşmelerde sorular benzer tarzda sorulmuş ve kayıt altına alınmıştır. Nitel araştırmalarda aktarılabirliğin sağlanması için ayrıntılı betimleme yöntemi önerilmektedir (Erlandson vd., 1993’den akt. Yıldırım ve Şimşek, 2011). Ayrıntılı betimleme “ham verinin ortaya çıkan kavram ve temalara göre yeniden düzenlenmiş bir biçimde okuyucuya yorum katmadan ve verinin doğasına mümkün olduğu ölçüde sadık kalınarak aktarılması” yaklaşımıdır (Yıldırım ve Şimşek, 2011). Bu araştırmada aktarılabirliği sağlamak için ayrıntılı betimleme yoluna gidilmiştir. Araştırma sürecindeki tüm veriler, alınan notlar ve yapılan kodlamalar gerektiğinde incelemeye sunulmak üzere saklanmıştır. Böylece araştırmacının onaylanabilirliği sağlanmaya çalışılmıştır

## Bulgular

Bu bölümde okul psikolojik danışmanlarının okul ortamının adil oluşuna ve bu bağlamda hak savunuculuğu kavramına ilişkin görüşlerine yönelik bulgulara yer verilmiştir.

### 1. Adaletin Savunulduğu Ortam Olarak Okul

Okul psikolojik danışmanlarından sınıfta adaletin üç boyutu olan dağıtım adaleti, süreç adaleti ve etkileşim adaleti göz önüne alındığında okullarındaki öğrenci- öğretmen iletişimlerini adil bulup bulmadıklarını değerlendirmeleri istenmiştir.

Tablo 1.

## Adaletin Savunulduğu Ortam Olarak Okul

| Temalar           | Alt temalar   |
|-------------------|---|
| Adil okul         | Sağlıklı iletişim<br>Deneyimli öğretmen<br>Öğrenci katılımı<br>Şeffaflık<br>Eşitlikçi tutum                           |
| Adil olmayan okul | Ayrıcalık tanıma<br>Önyargı/ kalıpyargı<br>Hak edilmeyen notlar<br>Sağlıksız iletişim<br>Paydaşların tutum farklılığı |

Tablo 1 incelendiğinde okul psikolojik danışmanlarının bir bölümünün okullarını adil bulurken bir bölümünün adil bulmadığı tespit edilmiştir. Okul psikolojik danışmanlarının büyük bölümü yöneticilerin ve öğretmenlerin tecrübeli oluşu, iletişime açık, şeffaf, tutarlı tavırları ve öğrenci katılımını desteklemelerinin okul ortamında adaleti sağladığını belirtmiştir. Sayılan bu özellikler demokratik tutumun göstergesidir. Okul psikolojik danışmanlarından bazıları doğrudan demokratik tutum ifadesini kullanırken, bazıları demokratik tutumu açıklamak için bu özellikleri belirtmişlerdir. Okul ortamlarını adil olarak değerlendiren psikolojik danışmanların cümlelerinden örnekler aşağıda sunulmuştur.

Yönetici önemli, iyi anlayışlı, demokratik, adil, akademik dilden anlayan, çocukları kendi çocukları gibi gören müdür (PDR4)

Okulumuz adaletli. Öğretmenler çok tecrübeli. Çocukla iletişim konusunda, not konusunda, kurallar konusunda belirli bir tutarlılıkları var ve o tutarlılık çerçevesinde ellerinden geldiği kadar var olan kuralları uygulamaya çalışıyorlar (PDR7).

Evet, demokratik ortam var. Öğrenci meclisi kendi yönetimi ile toplanıp karar alıyor dilekçe ile okul yönetimine müracaat ediyor, okul idaresi de reddetmiyor (PDR8).

Okul psikolojik danışmanlarından bazıları, öğrencilere ayrıcalık tanındığı, akademik olarak başarısız öğrencilere önyargı ile yaklaşıldığı, öğrenciye hak etmediği kadar bol not verildiği ya da kuralları uygulamak konusunda idarecilerle öğretmenler arasında görüş ve tutum farklılıkları olduğu için okul ortamlarını adil bulmadıklarını belirtmişlerdir. Okul psikolojik danışmanların cevaplarından örnekler aşağıda sunulmuştur:

Bu konuyu okul bazında konuşmak zor. İdareciler var, öğretmenler var, sınıfın içi, sınıf dışı boyutu var, tanıdık boyutu var. B şahsı başarılı bir çocuksa davranışı görülmeyebiliyor. Birini seversiniz ya da ailesini tanırsınız falan. (PDR1)

Okulumu açıkçası ben çok adil bulmuyorum. Öğrenciler akademik olarak başarılı değil, bir şey almak istemiyorlar. Bu nedenle öğretmenlerine ekstra zorluk çıkartıyorlar. Öğretmenler de bunun vermiş olduğu durumla öğrencilere açıkçası çok adil yaklaşamayabiliyorlar. (PDR 5)

## 2. Okul Ortamındaki Adaletsiz Muameleler

Okul psikolojik danışmanlarına “Öğrenciler haksızlığa uğradıkları şikâyeti ile size geliyorlar mı? En çok hangi konulardan şikâyet ediyorlar?” sorusu ile “Siz öğrencilerin haksızlığa uğradığı durumlar gözlediniz mi? Ne tür durumlar bunlar? soruları sorulmuştur. Böylece öğrenciler ve okul psikolojik danışmanları tarafından adaletsiz olarak algılanan durumlar belirlenmeye çalışılmıştır. Analiz sonunda öğrencilerin haksızlık olarak dile getirdikleri durumlar ile okul psikolojik danışmanlarının gözledikleri adaletsiz uygulamalar arasında benzerlik olduğu tespit edilmiş ve bulgular aşağıdaki tabloda sunulmuştur.

**Tablo 2.**

*Okul Ortamındaki Haksız Muameleler*

| Temalar      | Alt temalar  |
|--------------|--|
| Haksızlık    | Kayırmacılık<br>Kılık kıyafet<br>Cep telefonu<br>Sınav / ödev<br>Önyargı<br>Paydaşların tutum farklılığı<br>Sağlıksız iletişim |
| Bilinçsizlik | Suistimal<br>Sorumsuzluk   |

Tablo 2 de öğrencilerin dile getirdikleri ve okul psikolojik danışmanlarının gözledikleri adaletsiz durumlar yer almaktadır. Bazı öğrencilerin tanınmışları ya da başarılı olmaları nedeni ile kayırılmaları, bunun en bariz örneğinin kılık kıyafet konusunda yaşanması, cep telefonu kullanımı, sınavların zor olması ya da kopya olayları nedeni ile öğrencilerin hak ettikleri notu alamamaları, pek çok dersi zayıf olmasına rağmen ortalamayı tutturarak öğrencilerin sınıf geçmesi, öğretmenlerin önyargılı ve tutarsız davranışları adaletsiz durumlar olarak dile getirilmektedir. Okul psikolojik danışmanlarının cevaplarından örnekler aşağıda sunulmuştur.

En çok kılık kıyafete müdahale konusunda şikâyet alıyoruz. “Onu görüyor ama görmezden geliyor, beni gördüğü zaman müdahale ediyor” diyor Kayırılan çocuklar oluyor (PDR1)

Genelde not konusunda geliyorlar. Mesela arkadaşım kopya çaktı onu görmediler, o benden yüksek not aldı. Aslında ben daha çok çalışıyorum ama alamıyorum diyor (PDR2).

Geliyorlar, özellikle öğretmen tutumlarından geliyorlar. Öğretmenler arasında tutarlılık yok. Hatta aynı öğretmenin davranışları arasında farklı günlerde de tutarsızlıklar var (PDR11).

Okul psikoloji danışmanları şikâyet konusu olan bazı durumların öğrencilerin bakış açılarının farklı olması, okul kurallarını dikkate almamaları ya da suiistimal etmelerinden kaynaklandığını belirtmişlerdir.

Evet geliyorlar, suiistimal var kıyafet konusunda. Kızlar çok makyaj ve çok dikkat çekici yırtık kotlarla geliyorlar. İdare tepki gösteriyor. Öğrenci kıyafet konusundan şikâyet ederse “bu uyarı size daha önce de yapıldı mı? Siz kurallara uydunuz mu?” diye soruyorum. (PDR10)

Genellikle problemimiz “öğretmenim bana taktı”. Öğretmen dersin huzurunu, güvenliğini sağlamaya çalışıyor. Her sınıfta bunu bozan çocuklar oluyor, öğretmenlerde de kabul edelim bunu, bir önyargı ile çocuğa yaklaşma oluyor (PDR7).

Daha çok kılık kıyafette oldu ya da izin alma. İlk ders için geç kâğıdı alma konusunda geliyorlar. “İdareci bana vermedi” ya da “bana taktı beni önemsemedi” diye geliyorlar. Oradaki olay da şu, sürekli aynı hareketi yaptığı için öğrenci, alışkanlık haline geliyor idareci arkadaşlar fark ediyorlar. Ne yapıyor, geç kâğıdı vermeyebiliyor (PDR12)

Burada bir sondaj sorusu ile okul psikolojik danışmanlarına “Adaletsizliğe uğrayan/ uğradığını düşünen öğrenciler ne gibi tepkiler veriyorlar?” sorusu sorulmuştur.

**Tablo 3.**

*Öğrencilerin Adaletsizliğe Verdikleri Tepkiler*

| Temalar              | Alt temalar   |
|----------------------|---|
| Duygusal tepkiler    | Öfke, çaresizlik, yılgınlık, mutsuzluk  |
| Davranışsal tepkiler | Kendine zarar verme<br>Okul eşyalarına zarar verme<br>Öğretmene karşı gelme<br>Dersi sabote etme<br>Derse katılmama |

Tablo 3 incelendiğinde öğrencilerin adaletsizliğe yönelik duygusal ve davranışsal tepkileri olduğu gözlenmektedir. Adaletsiz bir durumla karşılaşan öğrenciler öfke, çaresizlik, yılgınlık ve mutsuzluk hissetmektedir. Öğrenciler bu duyguların etkisi ile kendine zarar verme, okul eşyalarına zarar verme, öğretmene meydan okuma ve tehdit etme, dersi sabote etme ve derse katılmama davranışları göstermektedir. Okul psikolojik danışmanlarının cümlelerinden örnekler aşağıda sunulmuştur.

Öğrenci haksızlığa uğradığını hissettiği anda yılgınlığı oluyor, gücü yetmediği zamanki çaresizlik (PDR1)

Kızgın olarak geliyor (PDR2)

Bizim öğrenciler genelde şiddete eğilimli öğrenciler. Sınıfta böyle bir durum yaşandığı zaman kendilerine zarar veriyorlar. (PDR5)

Genelde meydan okuyorlar, dolaylı olarak öğretmeni yıpratmaya başlıyorlar. Dersi dinlemiyor, arkadaşı ile konuşuyor sık sık uyarı alacak şekilde davranışlarda bulunuyor. (PDR6)

Öğrencilerin yaşadıkları adaletsiz bir durum karşısında okul psikolojik danışmanlarının neler yaptıklarını daha iyi anlayabilmek için “Öğrenci haksızlığa uğradığı şikâyeti ile geldiğinde ya da siz böyle bir durum gözlediğinizde neler yapıyorsunuz?” sorusu sorulmuştur.

**Tablo 4.**

*Adaleti Sağlamaya Yönelik Tepkiler*

| Temalar     | Alt temalar   |
|-------------|---|
| Desteklemek | Kendini ifade etme<br>Hak arama<br>Arabuluculuk<br>Yönetime bildirmek<br>Öz değerlendirme |

Tablo 4 incelendiğinde okul psikolojik danışmanlarının haksızlığa uğradığı şikâyeti ile gelen öğrencileri dinledikleri, duygu ve düşüncelerini ifade edip sakinleşmelerini sağladıkları belirlenmektedir. Ayrıca öğretmenleri ile konuşmaları ve haklarını aramaları için destekledikleri görülmektedir. Bu süreçte okul psikolojik danışmanlarından bazıları öğrenci ile öğretmen arasında arabulucu olmaktadır. Bazıları ise öğretmenlerle iletişime geçmekte yaşadıkları zorluklar, nedeniyle sorunu okul yöneticilerine bildirerek çözüm bulmaya çalışmaktadır. Okul psikolojik danışmanlarından bazıları yaşanan olayda öğrencinin de payı olabileceği düşüncesi ile öz değerlendirme yapmasını istemektedir. Okul danışmanlarının cümlelerinden örnekler aşağıda sunulmuştur.

“Yasal sınırlar içinde saygısızlık yapmadan ara hakkını” diyorum. (PDR1)

Özellikle öğretmenle ilgili bir şikâyet geldiğinde “Senin adına bunu idareye bildireceğim” diyorum. Şikâyete konu olan öğretmenle herhangi bir görüşme hiç yapmıyoruz, idareye bildiriyoruz, “idarenin sorumluluğu” diye düşünüyoruz. (PDR6)

Şikâyetle geldikleri zaman çocukları dinliyorum. Kesinlikle onlara taraf olmuyorum. Öğrenciden gelen dönütü öğretmen arkadaşımı kırmadan incitmeden çok uygun bir dille iletiyorum. Karşı tarafı da dinliyorum. Ondan sonraki süreçte de iki tarafa da uygun bir şekilde “ben de olayım, görüşmek ister misin?” diyorum yani arabuluculuk yapıyoruz (PDR8)

Duyularını paylaşıyorum, sakinleşmesi için onu dinliyorum. Ondan sonra yaşadığı olayla ilgili kendisine düşen payın ne olduğunu buldurmaya çalışıyorum ne yapmayı planladığını soruyorum, öğretmene yönlendiriyorum. Konuşmaya yönlendiriyorum (PDR11)

### 3. Okul Psikolojik Danışmanlarının Hak Savunuculuğu Görevi

Okul psikolojik danışmanlarına “Bir öğrenci okulda haksızlığa uğruyorsa onun hakkını kim savunmalı? Neden? Sorusu sorularak hak savunuculuğu görevi konusundaki görüşleri belirlenmeye çalışılmıştır.

Tablo 5.

#### Öğrenci Hak Savunuculuğu

| Temalar | Alt temalar   |
|---------|---|
| Beceri  | Öğrenci   |
| Görev   | Okul idaresi<br>Sınıf rehber öğretmeni<br>Rehber öğretmen |

Tablo 5 incelendiğinde okul psikolojik danışmanlarının öncelikli olarak öğrencilerin kendi haklarını kendilerinin savunmaları gerektiği görüşünde oldukları belirlenmiştir. İkinci ağırlıklı görüş bu konunun sadece okul psikolojik danışmanı ile sınırlandırılmayacağı, öğrencilerin hakkının okul idaresi ve sınıf rehber öğretmenleri tarafından da savunulması gerektiği yönündedir. Okul psikolojik danışmanlarının bu konudaki görüşlerinden örnekler aşağıda sunulmuştur.

Kendisi savunmalı öncelikli olarak. Bizim rehber öğretmen olarak amacımız sorun çözme becerisini öğretmektir. (PDR9)

Bence ilk görev sınıf rehber öğretmeninde olmalı. Sınıf rehber öğretmenin çözemediği bir noktada rehber öğretmen katılmalı (PDR7)

#### 4. Okul Psikolojik Danışmanlarının Hak Savunuculuğu Görevine Bakış Açıları

Okul psikolojik danışmanlarına “Hak savunuculuğu rolü hakkında fikriniz var mı?” sorusu sorulmuş ve görüşme yapılan danışmanlardan hiçbirinin bu kavram hakkında net bir fikri olmadığı tespit edilmiştir. Kavram hakkında konuştuktan sonra okul psikolojik danışmanları okulda yaptıkları çalışmalardan bazılarının hak savunuculuğu kapsamında olduğunu fark edip bu çalışmalardan örnekler vermişlerdir. Bu çalışmalar, gönüllü tercih danışmanlığı, ihtiyacı olan öğrencilere ücretsiz yemek ve ek ders imkânı, oryantasyon ve devamsızlığı azaltma çalışmaları, kaynaştırma öğrencilerine sunulan destek, veli görüşmeleri, denetimli serbestlik ve öğrencilerin kötüye kullanımı ile ilgili durumlarda yapılan müdahaleler şeklinde belirtilmiştir. Okul psikolojik danışmanlarının görüşlerinden bazıları aşağıda sunulmuştur.

Siz anlatınca anladım, hak savunuculuğu yapıyordum aslında. Özel ders alamayan öğrenciler için dersleri bitince kalıp konu anlatmasını ya da nöbet günlerinde ders anlatmasını rica ettiğim öğretmenler oldu, çok da işe yaradı. Eğer bu da hak savunuculuğa giriyorsa eğitim hakkı açısından, yapıyorum, destek olmaya çalışıyorum çocuklara (PDR2)

Bu konuda bilgim yok. Siz açıklayınca aslında yaptığımızı fark ettim. Mesela X şehirden bir öğrencimiz vardı. Çocuk 10. Sınıfta geliyor buraya fakat devamsızlık yapıyor, aile muzdarip. Veli hakkını bilmiyor. Aileyi çağırılıp dilekçe verdirdik, aile ve öğrenci ile görüşüp, çocuğun okula devamı sağladık (PDR4)

Ben en çok kaynaştırma öğrencilerinin hak savunuculuğunu yapmaya çalışıyorum. BEP hazırlamayıp uygulamayıp not vererek kaynaştırma öğrencisini sınıfta bırakan öğretmenler var. Bunlara karşı bayağı sesimi çıkarıyorum toplantılarda. (PDR14)

Okul psikolojik danışmanları zaman zaman öğretmenlerin de haklarını savunduklarını belirtmişlerdir. Velilerin haksız talep ve şikayetleri yanında özellikle parçalanmış ailelerden gelen ve akademik başarısı düşük öğrencilerin empatik ve iyi niyetli davranan öğretmenlere yönelik haksız muamelelerinden söz etmişlerdir. Cevaplardan örnekler aşağıda sunulmuştur

Öğretmen arkadaşlar da başvuruyor bize. Onlar da adaletsizliğe uğradıklarını hissediyorlar. Mesela, öğretmen arkadaş veli ile sıkıntı yaşayabiliyor. En son not konusunda bir sıkıntı yaşadık arkadaşımız. Çocuk yazılıdan düşük not almış. Veli öğretmen arkadaşına bağıyordu, ben şahit oldum. Ve biz o veliyi BİMER'e şikayet ettirdik (PDR2)

Ders de işledi, sohbetini de etti, bireysel de ilgilendi. Fakat ders olarak da davranış boyutunda da karşılığını alamadı. Doğrusunu bilmiyor çocuk. O öğretmen tükenmişlik hissetti, çok üzüntü yaşadı. Çocuklara söylüyorum, mümkün olduğunca sakin şekilde tepki veriyorum. Ama anlamıyorlar hatalarını (PDR5)

Okul psikolojik danışmanlarına “Hak savunuculuğu görevini yerine getirmek ister miydiniz?” sorusu sorulmuştur Okul danışmanları “hak savunuculuğu” olarak nitelenen bir görevi yerine getirmek konusundaki kaygılarını paylaşmışlardır.



Tablo 6.

## Hak Savunuculuğu Engelleri

| Hak savunuculuğu engelleri |                            |
|----------------------------|----------------------------|
|                            | Destek görmeme endişesi    |
|                            | Denge sağlayamama endişesi |
|                            | Beceri geliştirme          |
|                            | Sorumluluk kazandırma      |

Tablo 6 incelendiğinde okul psikolojik danışmanlarının adaletsiz durumlara karşı çıktıklarında üst makamlardan yeterince destek alamamaları yanında öğretmenlerle öğrenciler arasında denge sağlamanın zorluğu nedeni ile hak savunuculuğu görevini yerine getirme konusunda tereddütlü oldukları fark edilmektedir. Ayrıca okul psikolojik danışmanları PDR hizmetlerinin öğrenciye sorumluluk kazandırdığını ve problem çözme becerisi geliştirdiğini bu nedenle öğrenci adına "hak savunuculuğu" yapmayı doğru bulmadıklarını belirtmişlerdir. Okul psikolojik danışmanlarının görüşlerinden örnekler aşağıda sunulmuştur.

Mesela. taciz, şiddet olunca bildirmemiz gerektiğini anlatıp, çocuk olmaz dese de bildiriyoruz. Fakat üst makamlarda çaresizlik yaşıyoruz. Elini taşın altına koyma noktasında kimse karışmıyor. (PDR1)

Rehber öğretmenin işi zor, dengeyi bulmak önemli. (PDR9)

Çocuğu savunmak değil de kendini savunmayı öğretmeliyiz. Sonuçta çocuk da kendince haklı, çocuğun da hakları var. O hakları ona bildirerek kendini savunmasını sağlamak daha mantıklı geliyor. Kendini savunmayı öğretmek bakış açısını değiştirir ve kendine özgüven kazandırır (PDR3)

Yardıma ihtiyacı olana yardım ediyoruz ama bunu hak savunuculuğu gibi bir kalıba koymak, netleştirmek ileride sorunlara sebep olabilir diye düşünüyorum. Birini savununca buradaki insani ilişkilerimiz bozulur (PDR13)

Okul psikolojik danışmanlarının hak savunuculuğu görevine ilişkin kaygılarını daha iyi anlayabilmek için "Hak savunuculuğu yaptığınızda ne gibi tepkiler alıyorsunuz?" sorusu sorulmuştur.

Tablo 7.

## Hak Savunuculuğa Yönelik Tepkiler

| Temalar       | Alt temalar  |
|---------------|--|
| Olumlu tepki  | Güven<br>Birlikte geçirilen zaman<br>İyi niyet ve çaba |
| Olumsuz tepki | Eleştiri   |

Tablo 7 incelendiğinde okul psikolojik danışmanlarının hak savunuculuğu yaptıklarında olumlu ve olumsuz tepkiler aldıkları gözlenmektedir. Öğrenci ve öğretmenlerden alınan olumlu tepkilerle aralarındaki güven ilişkisi güçlenmektedir. Ayrıca okul psikolojik danışmanının okuldaki görev süresi ve alandaki tecrübesi, öğretmenlerle kurduğu iletişimin kalitesi ve aralarındaki güven bağı hak savunuculuğunun iyi niyetli bir çaba olarak değerlendirilmesini sağlamaktadır Okul psikolojik danışmanlarının görüşlerinden örnekler aşağıda sunulmuştur.

Bence çocukların çok gelmesinin sebebi de bu, güveniyorlar, önemsendiklerini biliyorlar. Çocukların kendilerini ifade etmeleri ve haklarını savunmaları konusunda destek olmaları için toplantılarda öğretmen arkadaşlardan yardım istiyoruz. Destek de görüyorum. Yıllardır burada olmanın getirdiği bir şey de var. Gelenler hep ortama uyum sağlıyorlar (PDR2)

Öğretmen sizdeki iyi niyet ve çabayı görürse destek oluyor. Öğretmenle kurulan iletişim, ilişki önemli. Birlikte geçirilen zaman arttıkça ilişkinin kalitesi artıyor (PDR10)

Okul psikolojik danışmanları, genç ve alanda tecrübesiz olmaları yanında öğretmenlerin kişilik yapılarının katı ve iletişime kapalı olduğu durumlarda zorluk yaşayabildiklerini dile getirmişlerdir. Olumsuz tepki aldığını belirten bir okul psikolojik danışmanını görüşlerinden örnek aşağıda sunulmuştur

Öğrencinin hakkını bir öğretmene ya da idareye karşı savunduğunuzda sizi bir çıkıntı olarak görebilirler, bu da çok biliyor diye tepkiler olabileceğini düşünüyorum. Notlarla ilgili bazı hocalarla hiç konuşulmuyor, sizi kendi işine hiç karıştırmıyor. (PDR14)

## Sonuç ve Tartışma

Bu çalışma okul psikolojik danışmanlarının okulda adaletin üç bileşeni olan dağıtım, etkileşim ve süreç adaleti bağlamında okuldaki hak savunuculuğu görevlerine ilişkin algılarını belirlemek amacı ile yapılmıştır. Çalışmaya katılan okul psikolojik danışmanlarının bir bölümü okullarını adil bir ortam olarak tanımlamışlar, adaletin sağlanmasında okul müdürlerinin ve öğretmenlerin demokratik ve iletişime açık tutumlarının payı olduğunu belirtmişlerdir. Okul ortamlarının adil olmadığını dile getiren okul psikolojik danışmanları ise kuralların uygulanmasındaki tutarsızlıklardan, sağlıksız iletişimden ve ayrımcı uygulamalardan söz etmişlerdir. Okul psikolojik danışmanları kendi gözlemleri yanında, öğrencilerin kılık kıyafet, not, cep telefonu kullanımı, iletişim sorunları, öğretmen ve idarecilerin olumsuz ve ayrımcı tutumları gibi şikayetlerle rehberlik servisine baş vurduklarını belirtmişlerdir. Öğrencilerin bildirdikleri şikayetler sınıfta adaletin üç boyutu olan dağıtım, süreç ve etkileşim adaleti kavramını (Paulsel ve Chory-Assad, 2005 ve Chory, 2007) akla getirmektedir. Bu bulgu Tarhan'ın (2018) araştırmasında öğrencilerin okullarında yaşadıklarını belirttikleri adaletsizliklere verdikleri örneklerle; not, okul/eğitim malzemeleri (dağıtım adalet), kıyafet, okul kuralları (süreç adalet) ve iletişimsizlik, kayırma (etkileşim adalet) ile benzerlik göstermektedir. Bu doğrultuda öğrencilerin okullarda yaşadıkları adaletsiz uygulamalar konusunda, okul psikolojik danışmanları ile öğrencilerin benzer görüşlere sahip oldukları söylenebilir.

Okul psikolojik danışmanları tarafından bildirilen temel şikâyet konusu kılık kıyafettir. Öğrencilerin, velilerinin görüşü alınarak yarı serbest (sadece okul tişörtü) ya da okul öğrenci meclisinin önerisi ile haftanın bazı günleri serbest kıyafet (örn. cuma) giymelerine izin verilmesine rağmen öğrencilerin bu kuralları dikkate almama eğilimde oldukları ifade edilmiştir. Okul kıyafeti konusunda ülkemizde yapılan çeşitli çalışmalar mevcuttur. Uğurlu ve diğ. (2015) öğretmen, öğrenci ve velilerin serbest kıyafet uygulaması hakkında olumsuz görüşlere sahip olduklarını, Kapucu ve Sezgin (2015) öğrencilerin çoğunun serbest kıyafet istemesine karşın, diğer paydaşların çoğunun okul üniformasını desteklediğini, Demir ve Köse (2017) öğrencilerin bir bölümünün serbest kıyafet uygulamasına olumlu, bir bölümünün olumsuz baktıklarını tespit etmiştir.

Öğretmen, öğrenci ve velilerin farklı görüşlere sahip oldukları serbest kıyafet konusunun öğrenciler arasında adaletsizliğe ve okulda disiplin sorunlarına neden olduğu söylenebilir. Şikâyet konularının öğrencilerin kurallara uymama eğilimi, kuralları yanlış anlama ya da bakış açılarındaki farklılıklardan kaynaklandığını dile getiren okul psikolojik danışmanları da mevcuttur. Bu noktada bireyin gerçeğini oluşturan fenomenolojik algı gündeme gelmekte, olayın gerçekliği değil çocuğun o durumu nasıl algıladığı önemli olmaktadır. Bu nedenle öğrencilere okul kuralları, okulda uygulanan ödül-ceza ve sınıf geçme yönetmelikleri hakkında bilgi verilmeli, davranışlarının sorumluluğunu almalarını ve kendileri ile ilgili farkındalık geliştirmelerini sağlayıcı rehberlik etkinlikleri düzenlenmelidir. Böylece yanlış anlama ve algılamaların önüne geçilebilir, bakış açıları zenginleştirilerek öğrencilerin problem tutum ve davranışları ortadan kaldırılabilir.

Okul psikolojik danışmanları haksızlığa uğradığı şikâyeti ile gelen öğrencileri kendini ifade etmesini sağlayarak sakinleştirmek, okul kurallarını ve bu konudaki sorumluluklarını hatırlatmak, öğretmeni ile görüşmesi için yönlendirmek, söz konusu öğretmenle görüşmek ya da durumu idareye bildirmek gibi müdahale yöntemleri uygulamaktadırlar. Bu müdahale yöntemlerinden hangisinin seçildiği okulun yapısı, öğretmenin iletişime açık olup olmaması, okul psikolojik danışmanının yaşı ve deneyimi doğrultusunda değişmektedir. Okul ikliminin katı olduğu, öğretmenlerin yaş ve kıdemlerinin fazla olduğu, öğrenci başarısızlığının ve davranış problemlerinin yoğun olarak yaşandığı okullarda, okul psikolojik danışmanlarının öğretmenlerle iletişime geçemedikleri ve konuyu idareye bildirerek çözüm yolu aradıkları belirlenmiştir. Diğer taraftan okul iklimi demokratik olduğunda okul psikolojik danışmanlarının hak savunuculuğu çabalarının daha kolay kabul edildiği, insiyatif kullanmalarına imkân verildiği ve her yaş ve kıdemdeki öğretmenle sağlıklı iletişim kurulabildiği tespit edilmiştir.

Okul psikolojik danışmanları toplantılarda öğrencilerin yaşadıkları mağduriyetleri dile getirdiklerini, öğrencilerin karşılaştıkları haksız uygulamalara karşı okul ortamlarının onlara sağladığı imkanlar ölçüsünde mücadele ettiklerini vurgulamışlardır. Tarhan'ın (2017) araştırmasına göre rehber öğretmenlerin okullarında ihtiyaç duyulduğunu düşündükleri ilk üç görev sırası ile; toplantılara katılıp görüş bildirmek, bireysel rehberlik hizmetlerini alanın ilke ve standartlarına uygun biçimde yürütmek ve bireyi tanıma etkinliklerini yürütmektir. Bu bulgu okul psikolojik danışmanlarının hak savunuculuğu rollerini yerine getirmeleri açısından önemlidir. Okul psikolojik danışmanlarının toplantılara katılarak okuldaki adaletli /adaletsiz uygulamalar konusunda bilgi vermesi, öğretmen, idareci ve hatta velilerin bu konuda farkındalık geliştirmesine neden olabilir. Hak savunuculuğu yapabilmek için ilk planda öğrenciyi, ailesini, içinde bulunduğu şartları ve eğitimine engel oluşturabilecek riskleri tanımanın gerekli olduğu unutulmamalıdır. Bu nedenle öğrenciyi tanıma çalışmalarının içeriği genişletilmeli ve mutlaka sınıf rehber öğretmenlerinin bu çalışmalara aktif katılımı sağlanmalıdır. Böylece çocukla ilgili herkesin tutum ve davranışlarını gözden geçirerek çocuğun yüksek yararı için iş birliği yapması sağlanabilir.

Okulda adaletsiz bir uygulama ile karşılaştığını düşünen öğrenciler öfke, çaresizlik, kızgınlık ve mutsuzluk hissetmektedirler. Okul psikolojik danışmanlarına gelerek sorunların dile getirenler olduğu gibi sözel ve davranışsal olarak saldırgan tepkiler verenler de mevcuttur. Saldırgan tepkiler öğrencinin kendisine yönelik zarar verme davranışı yanında öğretmene, ders ortamına ya da okul eşyalarına yönelik zarar verme şeklinde de gözlenebilmektedir. Bu bulgu Horan, Chory ve Goodboy (2010) ve Tarhan'ın (2018) araştırma bulguları ile tutarlıdır. Her iki araştırma sonucunda da öğrencilerin yaşadıkları adaletsiz durum karşısında üzüntü, öfke, çaresizlik, kaygı, kin ve nefret gibi olumsuz duygular, okuldan soğuma ve okula gitmek istememe gibi eğitim sürecini olumsuz etkileyecek tutumlar sergiledikleri tespit edilmiştir. Bastırılan olumsuz duyguların öfke ve kaygının artmasına, psikosomatik semptomlara ve sosyal uyumsuzluklara yol açma ihtimali yüksektir. Bu nedenle öğrencilerin duygu ve düşüncelerini sağlıklı bir şekilde ifade etmelerini sağlayacak eğitimler verilmeli, ayrıca yaşadıkları haksız muameleleri dile getirmelerini sağlayacak ve çözüm yolu bulacak güçlü ve tarafsız mekanizmalar oluşturulmalıdır.

Okul psikolojik danışmanlarına göre adaletsiz bir uygulama ile karşılaşan öğrenci kendi hakkını savunmalıdır. Okul psikolojik danışmanları görevlerinin öğrenciye problem çözme becerisini öğretmek ve bu süreçte destek vermek olduğu görüşündedirler. Benzer şekilde Field ve Baker'a (2004) göre okul danışmanları öğrencilere kendini savunma becerilerini öğretmek onları güçlendirmeyi hedefler, böylece öğrencilerin gelecekte karşılaşılabilecekleri akademik, duygusal ve sosyal problemleri aşmak için bir referans çerçevesi geliştirebilmelerini sağlarlar. Hatta öğrencilerin kariyer planlarında önemli rol oynarlar (Martin, 2002). Bu bakış açısı alanyazında gelişimsel savunuculuk olarak tanımlanmakta, öğrencilerin sahip oldukları bilgi, beceri ve tutumları güçlendirerek sağlıklı gelişmelerini desteklemeyi kapsamaktadır (Galassi ve Akos, 2004).

Okul psikolojik danışmanları "hak savunuculuğu" konusunda teorik bilgiye sahip olmamalarına rağmen PDR alanının mesleki ve etik ilkeleri doğrultusunda öğrencilere hizmet sunduklarını ifade etmişlerdir. Ekonomik zorluklar içindeki öğrencilerin eğitime ulaşmalarını kolaylaştırmak, kaynaştırma öğrencilerinin uygun eğitimi almalarını sağlamak, öğrencinin okula devamı ve başarısı için veli görüşmeleri yapmak gibi çalışmalarını hak savunuculuğu kapsamında değerlendirmişlerdir. Alanyazında öğrenci savunucusu olarak eğitim ekibinin içinde yer alan okul danışmanlarının öğretmen, yönetici, aile ve toplu kuruluşları ile işbirliği içinde öğrencilerin akademik, mesleki ve kişilik gelişimine yardımcı olması gerektiği ileri sürülmektedir (ASCA, 1997; Field ve Baker, 2004; Baker, Robichaud, Westforth Dietrich, Wells ve Schreck, 2009). Okul psikolojik danışmanları, zaman zaman öğretmenlerin de haksız muamele ile karşılaştıklarını, veliler ya da öğrenciler tarafından zor durumda bırakıldıklarını belirtmiştir. Böyle bir durumda öğretmenleri dinledikleri ve haklarını savunmaları için destek olduklarını ifade etmiştir. Dixon ve ark. (2010) okul danışmanlarının hak savunuculuğu faaliyetleri kapsamında ebeveynler ve öğretmenler adına da savunuculuk yapabileceklerini vurgulamıştır.

Okul psikolojik danışmanlarının mağdur öğrencilerin yanında olup sorunu çözmek için mücadele etmekle birlikte hak savunuculuğu kavramına pek sıcak bakmadıkları belirlenmiştir. Bunun nedeninin hak savunuculuğunun genel olarak taraf tutmak gibi algılanması ve okuldaki dengeleri korumak adına bu kavramdan uzak durulması olduğu düşünülmektedir. Ayrıca okul danışmanlarının adaletsiz durumlara ya da sorunlara çözüm ararken öğrenci ile öğretmen arasında arabulucu olma gayretlerine özellikle vurgu yaptıkları fark edilmiştir. Bunun iki nedeni olduğu düşünülmektedir. Birincisi öğrencinin şikâyet ettiği konuda aslında kendisinin haksız olduğuna ilişkin örnekler yaşamış olmaları, ikincisi ise diğer öğretmenlerle aralarında bir denge sağlama yönündeki çabalarıdır. Okul psikolojik danışmanlarının bu tutumu Bemak ve Chung'ın (2008) "iyi çocuk olma sendromu" olarak adlandırdıkları bir danışman tutumunu akla getirmektedir. İyi çocuk olma sendromundaki danışmanlar okulda kimse ile çatışmaya girmeyen, herkese saygılı davranan, arabuluculuk yapan, uyumlu çalışılan bireyler olarak görülme eğilimindedirler. Bu durum okul psikolojik danışmanlarının görevlerini gereği gibi yapmalarının önünde engel oluşturabilir. O nedenle okul psikolojik danışmanlarının görevlerini yaparken hak savunuculukta önemli beceriler olan iletişim, iş birliği, problemi belirleme, problemi çözme ve organizasyon becerilerini daha aktif olarak kullanmaları gereklidir (Trusty ve Brown, 2005)

Okul psikolojik danışmanlarının savunuculuk çabalarında zorluklarla karşılaştıkları bazı konular vardır. Bunlardan biri kaynaştırma uygulamaları diğeri de çocukların kötüye kullanımınıdır. Sınıfların kalabalık olması, öğretmenlerin özel eğitim konusundaki bilgilerinin yetersizliği, yönlendirme ve yerleştirme sürecindeki hatalar gibi nedenlerle kaynaştırma öğrencileri eğitimin hemen her kademesinde zorluklarla karşılaşmaktadırlar. Çocuklara yönelik işlenen cinsel suçları bildirme ve önleme çalışmaları ise önyargılar, kültürel değerler, ailenin mahremiyeti ya da yasal süreçlerin takibinin zorluğu nedeni ile zaman zaman sonuçsuz kalmaktadır. Haylı ve Durmuş (2005) okul psikolojik danışmanlarının çözüm sağlayacak yetki ve sorumluluklara sahip olmamalarına ve çalıştıkları kurumlarca desteklenmemelerine rağmen cinsel istismarı vakalarında önemli görevler üstlenmeleri beklendiğinden söz etmektedir. Ayrıca eğitim politikaları oluşturulurken okul psikolojik danışmanlarının görüşlerinin alınmaması onları bir ölçüde eğitim sürecinin dışına doğru itmektedir. Öğrenci sayısının fazlalığı ile kıyaslandığında çok az sayıda okul psikolojik danışmanı görev yapmakta, sorunların çözümünde veli desteği günden güne azalmakta, 1-7 sınıf düzeyinde ders programında rehberlik saatinin olmaması öğrencilere ulaşmayı güçleştirmektedir. Buna rağmen okul psikolojik danışmanları tüm öğrencileri tanıması, tüm sorunları çözmesi gibi ütopyik bir görev beklentisi ile karşılaşmakta ve başarısız olarak nitelenmektedir. Sayılan nedenlerden ötürü çabalarının sistem içinde tıkanması okul psikolojik danışmanlarının çaresiz hissetmesine neden olmakta ve hak savunuculuğu konusundaki motivasyonlarını düşürmektedir. Trusty ve Brown (2005) okul psikolojik danışmanlarının bazı durumlarda çözüm üretemeyeceklerini bilerek kendilerini tükenmişliğe karşı korumak için çaba göstermeleri gerektiğini vurgulamaktadır. Belki de bu nedenle okul psikolojik danışmanları hak savunuculuğunun sadece kendi görevleri olmadığını, öğrenci ile daha yakın iletişim

içinde olan sınıf rehber öğretmenlerinin ve okuldaki tüm süreçlerden sorumlu olan yöneticilerin öncelikli görevi olması gerektiğini ileri sürmüşlerdir. Bu bulgu alan yazın tarafından desteklenmektedir. Okul psikolojik danışmanlarının eğitim süreçlerinde hak savunuculuğu konusunda gerekli bilgi ve becerileri edinmemiş olmaları (Toporek,2000; Field ve Baker,2004) yanında psikolojik danışma sürecinin bireyin iç dünyasına yönelik olması gerektiği yönündeki klasik yaklaşımın etkisi ile hak savunuculuğu görevi ihmal edilmektedir (Erkan, 2017). Ayrıca meslek kuruluşlarının desteklememesi hatta toplumda siyasal bir eylem olarak değerlendirilmesi hak savunuculuğunun PDR alanında yeterli ilgiyi görmesine engel olmaktadır (Erkan, 2017; Keklik, 2010).

Hak savunuculuğu konusu incelenirken psikolojik danışmanların okuldaki varoluş mücadelesi de göz önüne alınmalıdır. Okul psikolojik danışmanları okuldaki konumlarını korumak, mesleki kimliklerini bir yönetici ya da öğretmen kimliği ile birleştirmeden okul topluluğunun aktif bir üyesi olma mücadelesi vermek durumundadırlar (Field ve Baker,2004). Türkiye'nin sosyal, ekonomik ve kültürel yapısındaki hızlı değişimlere ve eğitim sistemindeki tüm zorluklara rağmen, PDR alanı çalışanlarının önemli derecelerde hak savunuculuğu yaptıkları (Keklik, 2010), 21. yy. da kendilerini okul sisteminin önemli bir parçası olarak görmeleri gerektiği vurgulanmaktadır (Yalçın, 2006). Okul danışmanları değişim liderleri, iş birliği sağlayıcıları ve hak savunucuları olarak yeni iletişim yolları oluşturmak, sistemsel değişimlerin, eğitimsel düzenlemelerin, sosyal ve ekonomik küreselleşmenin temsilci olmak durumundadırlar (Dahir, 2009). Bu nedenle okul danışmanları tüm öğrenciler için akademik başarıyı engelleyen sistemik engelleri ve diğer faktörleri en iyi şekilde değerlendirebilecek konumdadırlar (Martin, 2002). Okulda yaşananları daha çabuk duyan, öğrenciyi, öğretmeni ve veliyi okuldaki herhangi birinden daha iyi anlayan okul danışmanları, gelişimsel okul programları ile hakkaniyet, erişim ve destek hizmetlerine dikkat çektiklerinde öğrencilerin başarısını teşvik etmiş olurlar (House ve Hayes, 2002). Öğrenci öğretmen, yönetici, ebeveyn ve toplumun diğer üyeleri ile iş birliği içinde çalışarak öğrencilerin akademik, kariyer ve kişisel-sosyal yeterliliklerinin geliştirilmesi, farklılıklara değer verilmesi ve güçlendirilmesi böylece sosyal adalete bağlılığın artmasını sağlarlar (Galassi ve Akos,2004). Burada önemli ve gerekli olan okul psikolojik danışmanlarında savunuculuk yeterliliği geliştirmektir. Savunuculuk yeterliliği, savunuculuğu etik ve etkili bir şekilde yürütme bilgisi, becerisi ve anlayışı olarak değerlendirilebilir (Toporek, Lewis ve Crethar 2009). Bu nedenle okul psikolojik danışmanlarının hizmet öncesi eğitim sürecinde hak savunuculuğunun temel felsefesi, konusu, sınırları, müdahale yöntemleri konusunda bilgi ve beceri edinmeleri önemlidir. Göreve başladıktan sonra okul PDR servisi programlarını hazırlarken okulda yaşanabilecek adaletsiz durumlar konusunda farkındalık oluşturabilecek etkinliklere yer vermesi, bu programların öğrenciler kadar idareci, öğretmen ve velileri de kapsayıcı etkinlikleri içermesi adaletli uygulamaları destekleyecektir denebilir.

Hak savunuculuğu konusunda yapılacak diğer çalışmalar için şunlar önerilebilir;

- Okul psikolojik danıřmanlarının Okul PDR programlarında ğrencilerin karřılařtıđı/ karřılařabileceđi adil olmayan uygulamaların nasıl belirleneceđi ve nasıl mdahale edilebileceđi konusuna yer verip vermedikleri arařtırılabilir
- Okul psikolojik danıřmanlarının hak savunuculuđu kavramını tanımaları ve grev alanları iinde olduđunu fark ettirecek nitel ve nitel alıřmalar yapılabilir
- zel okulda alıřan okul psikolojik danıřmanları ile devlet okulunda alıřanlar hak savunuculuđu alıřmaları ve bu konuda grdkleri destek aısından karřılařtırılabilir.

**Etik Kurul Onayı:** Bu alıřma iin etik kurul onayı Bartın niversitesi Sosyal ve Beřeri Bilimleri Etik Kurulu'ndan alınmıřtır. (Ref.=2020-SBB-0016)

**Bilgilendirilmiř Onam:** Katılımcılardan bilgilendirilmiř onam alınmıřtır.

**Hakem deđerlendirmesi:** Dıř hakem deđerlendirmesi.

**ıkar atıřması:** Yazarlar herhangi bir ıkar atıřması beyan etmemiřtir.

**Finansal Aıklama:** Yazarlar bu alıřmanın herhangi bir finansal destek almadıđını beyan etmiřlerdir.

## Kaynaklar

- ASCA (2012). *The ASCA National Model: A framework for school counselling programs* (3rd ed.). Alexandria, VA: Author.
- Bailey, D.F., Getch, Y.Q., & Chen-Hayes, S.F. (2003). Professional school counselors as social and academic advocates. In B. T. Erford (Ed.), *Transforming the school counseling profession* (pp. 411-434). Upper Saddle River, NJ: Merrill Prentice-Hall.
- Baker, S.B., Robichaud, T.A., Westforth Dietrich, V.C., Wells, S.C., & Schreck, R.E. (2009). School counselor consultation: a pathway to advocacy, collaboration, and leadership. *Professional School Counseling*, 12(3), 200-206.  
[https://www.jstor.org/stable/42732777?seq=1#metadata\\_info\\_tab\\_contents](https://www.jstor.org/stable/42732777?seq=1#metadata_info_tab_contents)
- Bemak, F., & Chung, R.C.Y. (2005). Advocacy as a critical role for urban school counselors: working toward equity and social justice. *Professional School Counseling In Urban Settings*, 8 (3), 196-202.  
<https://www.jstor.org/stable/42732459>
- CACREP (2019). *Core standards for rehabilitation counselor education programs*.  
<https://www.cacrep.org/directory/>
- Chory, R.M. (2007). Enhancing student perceptions of fairness: the relationship between instructor credibility and classroom justice. *Communication Education*, 56(1), 89-105. <http://dx.doi.org/10.1080/03634520600994300>
- Chory-Assad, R.M., & Paulsel, M.L. (2004). Classroom justice: student aggression and resistance as reactions to perceived unfairness. *Communication Education*, 53(3), 253-273.  
<https://www.tandfonline.com/doi/abs/10.1080/0363452042000265189>
- Cropanzano, R. ve Greenberg, J. (1997). Progress in organizational justice: Tunneling through the maze. *International Review of Industrial and Organizational Psychology*, 12, 317-372.  
[https://www.researchgate.net/publication/261286563\\_Progress\\_in\\_Organizational\\_Justice\\_Tunneling\\_Through\\_the\\_Maze](https://www.researchgate.net/publication/261286563_Progress_in_Organizational_Justice_Tunneling_Through_the_Maze)
- Creswell, J.W. (2018). *Nitel araştırma yöntemleri* (4. Baskı). M.Bütün ve S.B. Demir (Çev. Edt.). Siyasal Kitabevi
- Colquitt, J.A., Greenberg, J., & Zapata-Phelan, C.P. (2005). What is organizational justice? A historical review. In J. Greenberg & J. A. Colquitt (Eds.), *Handbook of Organizational Justice*. USA: Lawrence Erlbaum Associates.
- Dahir, C.A. (2009). School counselling in the 21st century: where lies the future? *Journal of Counselling & Development*, 87, 3-5.
- Demir, E. ve Köse, M. (2017). Okullarda kıyafet serbestliğine ilişkin öğrenci görüşleri. *The Journal of International Lingual, Social and Educational Sciences*, 3(2), 159-176.
- Denzin, N.K., & Lincoln, Y.S. (1998). *The landscape of qualitative research: theories and issues*. Sage.
- Dixon, A.L, Tucker, C., & Clark, M. A. (2010). Integrating social justice advocacy with national standards of practice: implications for school counselor education. *Counselor Education & Supervision*, 50, 103-118.
- Erkan, S. (2017). *Psikolojik danışma ve rehberlikte program geliştirme*. Pegem Akademi
- Field, J.E., & Baker, S. (2004). Defining and examining school counselor advocacy. *Professional School Counseling*, 8(1), 56-63.
- Galassi, J.P., & Akos, P. (2004). Developmental advocacy: twenty-first century *School Counseling*. *Journal of Counselling & Development*, 82, 146-157.
- Green, E.J., McCollum, V.C., & Hays, D.G. (2008). Teaching advocacy counselling within a social justice framework: implications for school ccounsellors and educators. *Journal for Social Action in Counselling and Psychology*, 1(2), 14-30.
- Gökmen, G. (2020). The role of school counselor in inclusive education: advocacy. *Journal of Inclusive Education in Research and Practice*, 1(1), 55-73.
- Gültekin, F. (2004). Bir savunucu olarak okul psikolojik danışmanı. *Eurasian Journal of Educational Reseach*, 4(15), 56-65.
- Hall, R.V., & Houten, R.V. (1983). *Managing behavior, behavior modification: The measurement of behavior*. Austin: Pro-ed.
- Haylı, R.G. ve Durmuş, E. (2015). *Cinsel istismar vakalarında rehber öğretmenin rolü*. 20. Ergen Günleri Konferansı, Malatya.  
[https://www.researchgate.net/publication/322197123\\_Cinsel\\_Istismar\\_Vakalarinda\\_Rehber\\_Ogretmenin\\_Rolu](https://www.researchgate.net/publication/322197123_Cinsel_Istismar_Vakalarinda_Rehber_Ogretmenin_Rolu)
- Horan, S.M., Chory, R.M., & Goodboy, A.K. (2010). Understanding students' classroom justice experiences and responses. *Journal Communication Education*, 59(4), 453-474.
- House, R.M., & Hayes, R.L. (2002). School ccounsellors: becoming key players in school reform. *Professional School Counseling*, 5(4), 249-256. <http://www.biomedsearch.com/article/School-ccounsellors-becoming-key-players/86059885.html>



- House, R.M., & Martin, P.J. (1998). Advocating for better futures for all students: A new vision for school counsellors. *Education*, 119, 284-91.
- House, M.R., & Sears, S.J. (2002). Preparing school ccounsellors to be leaders and advocates: A critical need in the new millennium. *Theory into Practice*, 41(3), 154-162. doi:10.1207/s15430421tip4103\_3
- Kağnıcı, D. Y. (2017). Suriyeli mülteci çocukların kültürel uyum sürecinde okul psikolojik danışmanlarına düşen rol ve sorumluluklar. *İlköğretim Online*, 16(4), 1768-1776. <http://ilkogretim-online.org.tr> doi: 10.17051/ilkonline.2017.342990
- Kapucu, S. ve Sezgin, F. (2015). Liselerde serbest kıyafet uygulamasının çok perspektifli analizi. *Pegem Eğitim ve Öğretim Dergisi*, 5(5), 681-704, <http://dx.doi.org/10.14527/pegegog.2015.037>.
- Keklik, İ. (2010). Psikolojik danışma alanının hak savunuculuğu bağlamında birey ötesi sorumlulukları. *Türk Psikolojik Danışma ve Rehberlik Dergisi*, 4 (33), 89-99.
- Kepekçioğlu, E. S. (2015). Üniversite öğrencilerinin öğretim elemanlarının inanılabilirliği algısı ve sınıfta adalet algısı arasındaki ilişki (Yayınlanmamış doktora tezi, Bolu Abant İzzet Baysal Üniversitesi). <https://tez.yok.gov.tr/UlusalTezMerkezi/>
- Köse, A. (2015). Okul psikolojik danışmasında liderlik araştırmaları için yeni bir analitik çerçeve: dağıtımcı liderlik. *Türk Psikolojik Danışma ve Rehberlik Dergisi*, 5(43) 137-146.
- Lewis, J.A., Ratts, M.J., Paladino, D.A., & Toporek, R.L. (2011). Social justice counselling and advocacy: Developing new leadership roles and competencies. *Journal for Social Action in Counselling and Psychology*, 3(1), 5-16.
- Martin, P.J. (2002) Transforming school counselling: a national perspective. *Theory into Practice*, 41(3), 148-153, doi: 10.1207/s15430421tip4103\_2
- Miles, M.B. ve Huberman, A.M. (1994). *Qualitative data analysis: An expanded sourcebook*. London: Sage.
- MYK (2017). *Ulusal meslek standardı okul psikolojik danışmanı seviye 7*. Mesleki Yeterlilik Kurumu. Ankara.
- Nazlı, S. (2007). Psikolojik danışmanların değişen rollerini algılayışları. *Balıkesir Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 10 (18), 1-17.
- ÖERHGM (2018). Rehberlik hizmetleri plan hazırlama kitapçığı. Ankara: MEB [file:///C:/Users/hp/Desktop/Haksavunuculuğu/Eğitim%20ve%20bilim/01135552\\_rehberlik\\_plan\\_hazirlama\\_kitap\\_cigi.pdf](file:///C:/Users/hp/Desktop/Haksavunuculuğu/Eğitim%20ve%20bilim/01135552_rehberlik_plan_hazirlama_kitap_cigi.pdf)
- Paulsel, M.L., & Chory-Assad, R.M. (2005). Perceptions of instructor interactional justice as a predictor of student resistance. *Communication Research Reports*, 22, 283-291.
- Patton, M.Q. (2014). *Nitel araştırma ve değerlendirme yöntemleri*. M. Bütün ve S.B. Demir (Çev. Edt.), Pegem Akademi
- Spencer, L., & Ritchie, J. (2012). In pursuit of quality. In D. Harper and A.R. Thompson (Eds.) *Qualitative research methods in mental health and psychotherapy* (pp. 227-242). Willey -Blackwell
- Stone, C., & Clark, M. (2001). School ccounsellors and principals: Partners in support of academic achievement. *NASSP Bulletin*, 85(624), 46-53.
- Svec, H. (1987). Youth advocacy and high school dropout. *The High School Journal*, 70(4) 185-192.
- Tarhan, S. (2017). İhtiyaç, yeterlik ve mesleki doyum bağlamında rehber öğretmenlerin görev algıları. *Bartın Üniversitesi Eğitim Fakültesi Dergisi*, 6(3), 1385- 1408.
- Tarhan, S. (2018). Turkish secondary education students' perceptions of justice and their experiences of injustice. *Journal of Education and Learning*, 7(2), 247-260. doi:10.5539/jel.v7n2p247 <http://doi.org/10.5539/jel.v7n2p247>
- Toporek, R.L., Lewis, J.A., & Crethar, H.C. (2009). Promoting systemic change through the ACA advocacy competencies. *Journal of Counselling and Development*, 87(3), 260-268.
- Trusty, J. ve Brown, D. (2005). Advocacy competencies for professional school counsellors. *Professional School Counselling*, 8 (3), 259- 265.
- Uğurlu, C.T., Doğan, S., Toğçu, İ. ve Demir, A. (2015). Serbest kıyafet uygulaması: Kim ne söyledi? *Kuram ve Uygulamada Eğitim Yönetimi*, 21(2), 213-246.
- Yalçın, İ. (2006). 21.yy da psikolojik danışman. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, 39(1), 117-133.
- Yeşilyaprak, B. (2013). *21.yüzyılda eğitimde rehberlik hizmetleri*. Nobel Yayınevi
- Yıldırım, A. ve Şimşek, H. (2011). *Sosyal bilimlerde nitel araştırma yöntemleri*. Seçkin Yayıncılık.

**Yazar**

Sinem TARHAN  
Rehberlik ve Psikolojik Danıřmanlık,  
Yüksek Öğretim

**İletişim**

Doç. Dr. Sinem TARHAN  
Bartın Üniversitesi Eğitim Fakültesi  
Eđitim Bilimleri Bölümü  
Kutlubey Kampüsü 74100 Bartın  
E-mail: [tarhansinem@gmail.com](mailto:tarhansinem@gmail.com)

# Otizm Spektrum Bozukluğu Olan Çocuklara Oyun Becerilerinin Öğretimine İlişkin Özel Eğitim Öğretmenlerinin Görüşlerinin İncelenmesi

Ayşe Çiğdem GÜLVEREN\* Şerife YÜCESOY ÖZKAN\*\* Nuray ÖNCÜL\*\*\*

## Atf için:

Gülveren, A. Ç., Yücesoy Özkan, Ş. ve Öncül, N. (2022). Otizm spektrum bozukluğu olan çocuklara oyun becerilerinin öğretimine ilişkin özel eğitim öğretmenlerinin görüşlerinin incelenmesi. *Journal of Qualitative Research in Education*, 29, 56-77, doi: 10.14689/enad.29.3

**Öz.** Bu araştırmanın amacı, OSB olan çocuklarla çalışan özel eğitim öğretmenlerinin; oyun becerilerini nasıl tanımladıklarını anlamak, OSB olan çocuklara oyun becerilerinin öğretiminde nasıl yapılandırılacağına ilişkin görüşlerini belirlemek ve OSB olan çocuklara oyun becerilerinin öğretimine yönelik deneyimlerini ortaya koymaktır. Araştırmada, nitel araştırma yöntemlerinden fenomenoloji (olgu bilim) deseni kullanılmıştır. Araştırmanın katılımcıları, bir özel eğitim uygulama okulunda görev yapan 14 özel eğitim öğretmeninden oluşmaktadır. Veri toplamak üzere, yarı yapılandırılmış görüşme kullanılmıştır. Bulgular, özel eğitim öğretmenlerinin; oyun becerilerini eğlendiren ve eğlendirirken öğreten etkinlikler olarak tanımladıklarını, OSB olan çocuklara oyun becerileri öğretmeyi önemli ve gerekli bulduklarını, oyunun OSB olan çocukların psikomotor, dil ve iletişim, sosyal-duygusal ve bilişsel alanlardaki gelişimini olumlu yönde etkilediğini düşündüklerini, oyun becerilerinin OSB olan çocuklara yaşları fark etmeksizin her ortamda öğretmenler, anne-babalar ve bakıcılar tarafından öğretilbileceği görüşüne sahip olduğunu göstermektedir. Bulgular ayrıca, öğretmenlerin büyük bir kısmının bireyselleştirilmiş eğitim programlarında oyun becerilerinin öğretimine yer verdiğini ve oyun becerilerinin öğretiminde akran öğretimi, video model ve canlı modelle öğretim, dramatizasyon, yanlışsız öğretim ve fırsat öğretimi gibi yöntemleri kullandıklarını ortaya koymaktadır. Bulgulara dayalı olarak, OSB olan çocuklara oyun becerilerinin kazandırılması konusunda öğretmenlere eğitim ve seminerler verilmesi, ayrıca OSB olan çocuklara bireyselleştirilmiş eğitim programı hazırlanırken oyun becerilerine yönelik amaçlara yer verme konusunda öğretmenlerin teşvik edilip desteklenmesi önerilebilir.

**Anahtar Kelimeler:** Otizm spektrum bozukluğu, oyun becerileri, özel eğitim öğretmenleri, öğretmen görüşleri

## Makale Hakkında

Gönderim Tarihi:  
12.08.2020  
Düzeltilme Tarihi:  
16.11.2021  
Kabul Tarihi:  
14.01.2022

## Makale Türü

Araştırma

© 2022 ANI Yayıncılık. Tüm hakları saklıdır

\* Sorumlu Yazar: Özel Eğitim Uygulama Okulu/Özel Eğitim Öğretmeni/MEB  
\*\* Osmangazi Üniversitesi, Türkiye, [serife.yozkan@ogu.edu.tr](mailto:serife.yozkan@ogu.edu.tr)  
\*\*\* Anadolu Üniversitesi, Türkiye, [noncul@anadolu.edu.tr](mailto:noncul@anadolu.edu.tr)

## Giriş

Oyun, kendiliğinden şekillenen, çocuğun; öğrenmesine, yaratıcılığını geliştirmesine ve enerjisini boşaltabilmesine yarayan, ayrıca sosyal etkileşim başlatmasına fırsat veren keyifli bir etkinliktir (Güneş ve Tuğrul, 2012; Taylor vd., 2004; Tekin ve Tekin, 2007). Bir etkinliğin oyun olabilmesi için oyunu çocuğun kendisinin başlatması, oyunu oynamak istemesi, oyunun kurallarını kabul etmesi ve oyun oynarken eğlenmesi gerekir (Ingersoll, 2012; Warreyn, Van der Baelte ve Royers, 2014). Alanyazında oyuna ilişkin pek çok tanım olsa da bu tanımlarda öne çıkan ve ortak olan bazı noktalar vardır. Bu ortak noktalar oyunu; (a) fiziksel, zihinsel, sosyal-duygusal ve dil gelişimini desteklemek amacıyla gerçekleştirilen, (b) keyif ve rahatlama hissi veren, (c) kendine özgü kuralları olan, (d) özgürce seçimler yapmayı sağlayan, (e) belirli yer ve zaman içinde gerçekleşen, (f) gönüllü katılım esasına dayanan, (g) sosyalleşmeye ve öğrenmeye katkı sağlayan ve (h) doğal ortamlara girmeyi kolaylaştıran etkinlikler şeklinde tanımlanmaktadır (Kasari, Chang ve Patterson, 2013; Nelson vd., 2007; Öncül, 2015; Tüfekçioğlu, 2013; Wolberg ve Schuler, 2006; Wong ve Kasari, 2012). Oyun tanımlarındaki bu ortak noktalar, oyunun, eğitimde ne denli önemli bir yere sahip olduğunu göstermektedir. Ayrıca, özellikle okul öncesi dönemde oyunun çocuk gelişimindeki yeri ve önemi okul öncesi öğretmenleri tarafından da sıklıkla vurgulanmaktadır (Ingersoll, 2012; Trawick-Smith, Swaminathan ve Liu, 2016).

Görüldüğü üzere oyun çocukların gelişimini olumlu yönde destekleyerek eğitimde önemli bir yer tutmaktadır (Aras, 2015; Aronstam ve Braund, 2015; Bowdon, 2015). Bu görüşü destekler şekilde alanyazında da oyunun, çocukların; (a) yaratıcı düşünme, problem çözme ve hayal gücünü kullanma gibi bilişsel becerilerine; (b) iş birliği yapma, paylaşma ve çatışmaları çözme gibi sosyal becerilerine; (c) el-göz koordinasyonu kurma, parça birleştirme, yürüme ve koşma gibi motor becerilerine; (d) iletişim başlatma, sıra alma ve sohbet etme gibi iletişim becerilerine katkı sağladığı yönünde bulgular bulunmaktadır (örn., Aronstam ve Braund, 2015; Bowdon, 2015; Dilekmen ve Bozan-Tüzün, 2018; Marais, 2016; Öncül, 2015; Sandberg ve Samuelsson, 2005; Singer, Golinkof ve Hirsh-Pasek, 2013; Türkoğlu ve Uslu, 2016). Tüm gelişim alanlarına katkı sağlaması ve çocukların öğrenme gereksinimlerini karşılaması nedeniyle oyun, iyi organize edilmiş eğitim-öğretim sürecinin temel bileşenlerinden biri haline gelmekte, dolayısıyla öğretmenlerin eğitim-öğretim sürecinde oyundan yararlanmasını da kaçınılmaz kılmaktadır (Aronstam ve Braund, 2015; Koçyiğit, Tuğluk ve Kök, 2007; Marais, 2018). Çocukların oyun yoluyla geliştiği ve öğrendiği yönündeki bu bakış açısı, eğitim ortamlarını oyunu dikkate alarak düzenlemenin, öğretmenlerin sorumlulukları arasında yer aldığını ortaya koymaktadır (Aronstam ve Braund, 2015; Bowdon, 2015; Dilekmen ve Bozan-Tüzün, 2018; Marais, 2016; Sandberg ve Samuelsson, 2005; Türkoğlu ve Uslu, 2016). Oyun, gelişim için önemli bir araç olduğundan, öğretmenler oyunu etkin bir şekilde kullanabilir ve çocukların gelişimini destekleyebilirler (Broadhead, 2006; Dilekmen ve Bozan-Tüzün, 2018; Durualp ve Aral, 2010; Özdemir ve Ramazan, 2012; Pehlivan, 2005; Ulutaş, 2011). Öğretmenler ayrıca oyun sayesinde çocukların gizli yeteneklerini keşfetme olanağı bulup, onların eğitimine katkıda bulunabilirler (Sandberg ve Samuelsson, 2005).

Oyun, tipik gelişim gösteren çocuklar için önemli olduğu kadar otizm spektrum bozukluğu olan çocuklar için de bir o kadar önemlidir (Patterson ve Arco, 2007). Otizm spektrum bozukluğu (OSB), sosyal iletişim ve sosyal etkileşimde güçlükler ile sınırlı ve yineleyici davranış, ilgi ve etkinlik örüntüleriyle karakterize, gelişimsel bir yetersizliktir (Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition [DSM-5], 2013). OSB'nin bu tanılayıcı özellikleri, OSB olan çocukların oyun gelişimini etkilemekte ve oyun etkinliklerinin tipik gelişim gösteren çocukların oyun etkinliklerinden farklılaşmasına neden olmaktadır (Rutherford vd., 2007). OSB olan çocuklar etkileşim başlatmada ve sürdürmede güçlük çekmekte, farklı sosyal ortamlara uyum sağlamada sınırlılıklar yaşamakta, yalnız olmayı tercih etmekte, insanlar yerine cansız nesnelere ilgi göstermekte, bazı nesnelere karşı aşırı ilgili olmakta ve ilgilerini ya da duygularını paylaşmayı tercih etmemektedirler (Cardon, 2007; DSM-5, 2013; Hobson vd., 2013; MacDonald vd., 2005; Paterson ve Arco, 2007; Sucuoğlu, 2009; Terpstra vd., 2002; White ve Roberson-Nay, 2009). OSB olan çocukların bu özellikleri ise onların arkadaş edinmelerinde ve oyun oynayı öğrenmelerinde engelleyici olabilmektedir (Boutot, Guenther ve Crozier, 2005; Kırcaali-İftar, 2013; Mazurek, 2014; Sucuoğlu, 2013; Terpstra ve Tamura, 2007). Bu genel özelliklerinin yanı sıra OSB olan çocuklar; oyuna katılma, bir oyuncakı alarak oyun oynamaya başlama, oyuncakları amacına uygun kullanma ve diğer çocuklarla oyun oynama gibi oyun becerilerinde de sınırlılıklar yaşamaktadırlar (Boutot Guenther ve Crozier, 2005; Kırcaali-İftar, 2007; Ulke-Kurkcuoğlu, 2012).

Çocukların yaşlarına göre oynadıkları oyunlar değişiklik göstermekte, yaşla birlikte oyunun gerektirdiği beceriler de farklılaşmaktadır (Ingersoll, 2012; Warreyn, Van der Baelt ve Royers, 2014). Tipik gelişim gösteren çocuklar oyun oynamayı ya da oyun için gerekli olan becerileri kendiliğinden, yetişkinleri ya da akranlarını gözleyip taklit ederek kazanabilseler de (Hobson ve Hobson, 2007; Hobson, vd., 2013; Warreyn, Van der Baelt ve Royers, 2014), OSB olan çocuklar oyun oynamayı öğrenmek için, yapılandırılmış ortamlarda ve bağlamlarda, uyarlanmış oyuncaklarla ve oyunlarla sistematik öğretim yapılmasına ihtiyaç duyabilmektedirler (Cardon, 2007; Lifter vd., 2011). Ancak OSB olan çocuklara oyun oynamanın öğretimi çoğunlukla ihmal edilmekte (Holmes ve Willoughby, 2005), bu çocuklar akranlarının doğal olarak tamamladıkları gelişim alanlarında, onların gerisinde kalabilmektedirler (Lifter, Mason ve Barton, 2011). Oyun oynama, OSB olan çocukların akranları ile etkileşim kurmalarını ve bu sayede yeni beceriler kazanmalarını sağladığı, ayrıca grubun bir üyesi olarak sosyal kabul görmelerine yardımcı olduğundan (Baker, 2000), OSB olan çocuklara oyun oynamanın ya da oyunla ilişkili beceri öğretiminin öğretmenler tarafından bireyselleştirilmiş eğitim programları kapsamına alınması önemlidir (Lydon, Healy ve Leader, 2011; Murdock, Ganz ve Crittendon, 2013).

Alanyazında, OSB olan çocukların oyun oynamayı öğrenme gereksinimleri doğrultusunda yapılmış önemli sayıda araştırmaya ulaşmak mümkündür. Bu araştırmalarda, OSB olan çocuklara işlevsel oyun (örn., Lee, Lo ve Lo, 2017), yapı-inşa oyunu (örn., Besler ve Kurt, 2016), kurallı oyun (örn., Odluyurt, 2013) ve sembolik oyun oynama (örn., D'Ateno, Mangiapanello ve Taylor, 2003; Öncül 2015; Reagon, Higbee ve Endicott, 2006; Sani-Bozkurt ve Ozen, 2015; Ulke-Kurkcuoğlu, Bozkurt ve Cuhadar,

2015) becerilerinin öğretiminin yapıldığı görülmektedir. OSB olan çocuklara oyun oynamanın öğretimindeyse yaygın olarak ayırık denemelerle öğretim (örn., Garfinkle ve Schwartz, 2002; Stahmer vd., 2003), etkinlik çizelgeleriyle öğretim (örn., Dettmer vd., 2000; Rao ve Gagie, 2006) ve canlı ya da video modellerle öğretim (örn., Besler ve Kurt, 2016; Odluyurt, 2013; Öncül, 2015; Reagon, Higbee ve Endicott, 2006; Sani-Bozkurt ve Özen, 2015) gibi yöntemlerin kullanıldığı dikkat çekmektedir. Bu çalışmaların ortak bulgusu, OSB olan çocuklara oyun oynamanın öğretiminde kullanılan yöntemlerin etkili olduğu ve yapılan sistematik öğretim sonunda OSB olan çocukların hedeflenen oyun oynama beceri ve davranışlarını kazandığıdır.

Alanyazında, OSB olan çocuklara oyun oynamanın öğretildiği etkililik araştırmaları ya da bu araştırmaların incelendiği derlemeler (Saral ve Ulke-Kurkcuoglu, 2018; Kossyvakı ve Papoudi, 2019) olsa da hem ulusal hem de uluslararası alanyazında OSB olan çocuklarla çalışan öğretmenlerin oyun oynamanın öğretimine ilişkin görüşlerinin ortaya konduğu yeterli sayıda çalışma bulunmamaktadır (Senturk-Cesur ve Odluyurt, 2019). Alanyazında, okulöncesi ve sınıf öğretmenlerinin oyun oynamanın öğretimine ilişkin algı, tutum ve görüşlerinin incelendiği çok sayıda araştırma bulunmaktadır. Bu konuda özellikle son yıllarda yapılan araştırmalarda, öğretmenlerin; oyunun tanımına, oyunun gelişime ve öğrenmeye katkısına, öğretmenin oyun sürecindeki yerine ve oyunun öğretim aracı olarak kullanımına yönelik görüşlerinin incelendiği görülmektedir (Aldhafeeri vd., 2016; Aras, 2015; Baker, 2014; Baker, 2015; Ebbeck vd., 2019; Fesseha ve Pyle, 2016; Pyle ve Bigelow, 2015). Okulöncesi ve sınıf öğretmenleriyle yapılmış araştırmalara ek olarak özel eğitim öğretmenleriyle yürütülmüş araştırmalar ise yalnızca ulusal alanyazınla sınırlı kalmaktadır. Ulusal alanyazında, çalıştıkları yetersizlik grubu fark etmeksizin özel eğitim öğretmenlerinin; oyun öğretimine ilişkin öz yeterliklerinin incelendiği iki (Celep, 2020; Piştav-Akmeşe ve Kayhan, 2017), derslerde oyun ve şarkı kullanma durumlarının belirlendiği bir (Yıkılmış vd., 2017), olmak üzere toplam üç araştırmaya erişilmiştir. Doğrudan, OSB olan çocukların öğretmenlerinin oyun ve oyunun öğretimine ilişkin görüşlerinin belirlendiği ise yalnızca bir araştırma bulunmuştur (Senturk-Cesur ve Odluyurt, 2019).

Senturk-Cesur ve Odluyurt (2019) tarafından yapılan araştırmada, OSB olan 3-7 yaş arasındaki çocukların öğretmenlerinin ve ebeveynlerinin; oyun ve oyun becerilerine, OSB olan çocuklara oyun becerilerinin öğretimine ve oyunla ilgili olarak ne tür materyallere gereksinim duyduklarına ilişkin görüşlerini belirlemek amaçlanmıştır. Betimsel yöntemle gerçekleştirilen araştırmaya 15 öğretmen ve 15 ebeveyn katılmıştır. Veriler yarı-yapılandırılmış görüşmelerle toplanmış ve betimsel olarak analiz edilmiştir. Bulgular, hem öğretmenlerin hem de ebeveynlerin oyun becerilerini çocuğun gelişim alanlarını destekleyen bir etkinlik olarak tanımladığını, OSB olan çocuklara çeşitli beceri ve kavramları öğretmede oyunun kullanılabileceğini düşündüklerini ve OSB olan çocuklara oyun becerilerini öğretmek için görsel materyallere gereksinim duyduklarını göstermektedir.

Görüldüğü üzere, OSB olan çocuklarla çalışan öğretmenlerin oyun oynamanın öğretimine ilişkin görüşlerinin ortaya konduğu yalnızca bir çalışmaya rastlanmıştır. OSB olan çocuklara oyun oynamayı öğretmek önemli olsa da bu tür araştırmaları

planlayabilmek için OSB olan çocuklarla çalışan öğretmenlerin oyunu nasıl algıladıklarını ve tanımladıklarını, çocuklara ne tür oyun olanakları sunduklarını, bireyselleştirilmiş eğitim programlarında oyuna ne düzeyde ve nasıl yer verdiklerini ve oyun becerilerini nasıl öğrettiklerini bilmek önemlidir. Öğretmenler, oyunun çocuk gelişimi için öneminin farkında olmadığı ve bireyselleştirilmiş eğitim programlarında daha çok akademik becerilere odaklanıp oyun becerilerini ihmal ettiklerinde (Lydon, Healy ve Leader, 2011; Murdock, Ganz ve Crittendon, 2013), OSB olan çocuklar oyunun olası katkılarından (Wolfberg ve Schuler, 2006; Wong ve Kasari, 2012) yararlanamamakta, bu durum da çocuğun gelişiminde ihmal ve gecikmelere neden olabilmektedir. OSB olan çocukların gelişimini destekleyecek eğitim ortamlarının düzenlenmesi ve bireyselleştirilmiş eğitim programlarının hazırlanması ancak, mevcut durumlar ortaya konulduktan sonra yapılabilmektedir. Bu nedenle, OSB olan çocuklarla çalışan öğretmenlerin oyun oynamanın öğretimine ilişkin görüşlerinin incelendiği araştırmaların yapılmasına gerek duyulmaktadır. Sıralanan bu noktalardan yola çıkarak araştırmada, önceki araştırma bulgularını genişletip alanyazına katkıda bulunmak üzere OSB olan çocuklarla çalışan özel eğitim öğretmenlerinin; oyun becerilerini nasıl tanımladıklarını anlamak, OSB olan çocuklara oyun becerilerinin öğretiminin nasıl yapılandırılacağına ilişkin görüşlerini belirlemek ve OSB olan çocuklara oyun becerilerinin öğretimindeki deneyimlerini ortaya koymak amaçlanmıştır. Elde edilecek bulguların OSB olan çocuklarla çalışan öğretmenlere ve bu alandaki araştırmacılara yol gösterici olacağı umulmaktadır.

## **Yöntem**

Bu araştırmada nitel araştırma yöntemlerinden olgubilim (fenomenoloji) deseni kullanılmıştır. Olgubilim deseni, katılımcıların bir olguya ilişkin yaşantılarını, algılarını ve bunlara yüklediği anlamları ortaya çıkarmayı amaçlayan araştırma desendir. Bu desende fenomenle ilgili deneyime sahip olan kişilerden veri toplanır ve bu deneyimler bütüncül şekilde betimlenir (Creswell, 2013; Ersoy, 2017). Bu araştırmada da OSB olan çocuklarla çalışan özel eğitim öğretmenlerinin; oyun becerilerini nasıl tanımladıklarını anlamak, OSB olan çocuklara oyun becerilerinin öğretiminin nasıl yapılandırılacağına ilişkin görüşlerini belirlemek ve OSB olan çocuklara oyun becerilerinin öğretimindeki yaşantılarını ortaya koymak amacıyla olgubilim deseni kullanılmış, veriler analiz edilirken olgunun kavramsallaştırılmasına ve tanımlanmasına dikkat edilmiş, bulgular katılımcılardan alıntılar yapılarak yorumlanmıştır (Yıldırım ve Şimşek, 2011).

## **Katılımcılar**

Bu araştırmanın katılımcıları, Marmara Bölgesi'nde bir ilde, Millî Eğitim Bakanlığı'na bağlı bir özel eğitim uygulama okulunun üst kademelerinde görev yapan 14 özel eğitim öğretmeninden oluşmaktadır. Araştırmacılar veri toplamak amacıyla özel eğitim uygulama okuluna başvurmuşlar ve bu okulda görev yapan öğretmenlere araştırmanın amacını açıklamışlardır. Okulda görev yapan öğretmenler arasından araştırmaya katılmak üzere gönüllü olan öğretmenler belirlenmiş ve görüşmeler bu öğretmenlerle

yapılmıştır. Öğretmenlerle görüşme yapmak için öğretmenlerin herhangi bir üniversitenin zihin engelliler öğretmenliği programından lisans derecesine sahip olmaları önkoşul olarak belirlenmiştir. Öğretmenlere ilişkin demografik bilgiler Tablo 1’de gösterilmektedir.

**Tablo 1.**

*Katılımcılara İlişkin Demografik Bilgiler (N=14)*

| Demografik Değişkenler | F |
|------------------------|---|
| <b>Cinsiyet</b>        |   |
| Kadın                  | 9 |
| Erkek                  | 5 |
| <b>Deneyim</b>         |   |
| 1-5 yıl                | 5 |
| 6-10 yıl               | 7 |
| 11-15 yıl              | 2 |
| <b>Yaş</b>             |   |
| 21-25                  | 4 |
| 26-30                  | 3 |
| 31-35                  | 4 |
| 36-40                  | 2 |
| 41-45                  | 1 |

Tablo 1’de de görüldüğü gibi, araştırmaya katılan 14 katılımcıdan dokuzu kadın, beşi erkektir. Katılımcılar arasında 1-5 yıl arasında çalışan beş öğretmen, 6-10 yıl arasında çalışan yedi öğretmen, 11- 15 yıl arasında çalışan ise iki öğretmen bulunmaktadır. Öğretmenlerin çoğunluğunun (n=11) 21-35 yaş arasında olduğu görülmektedir.

## Veri Toplama Aracı

Araştırmada veri toplamak üzere yarı-yapılandırılmış görüşmeler kullanılmıştır. Yarı yapılandırılmış görüşme soruları, yazılı açık uçlu sorulardan oluşmuştur. Görüşmeleri yapmak amacıyla, araştırmanın amacı doğrultusunda yarı-yapılandırılmış sorulardan oluşan bir görüşme formu geliştirilmiştir. Görüşme formu geliştirilmeden önce alanyazın taranmış, tipik gelişim gösteren çocukların öğretmenleriyle görüşme yapılan önceki araştırmalar incelenmiştir. Yapılan incelemeler sonucunda, araştırmanın amacı da dikkate alınarak açık uçlu sekiz sorudan oluşan bir veri toplama aracı hazırlanmıştır. Hazırlanan veri toplama aracının ölçeğini öne sürdüğü konuyu ölçüp ölçmediğini belirlemek üzere içerik geçerliği incelenmiştir (Gay, Mills ve Airasian, 2012). İçerik geçerliğini belirlemek üzere, hazırlanan veri toplama aracı, OSB olan çocuklara oyun becerilerinin öğretimi konusunda çalışmalar yürütmüş üç uzmana gönderilmiş ve uzmanlardan veri toplama aracında yer alan sorulara ilişkin görüşler belirtmeleri istenmiştir. Uzmanlardan gelen görüşler doğrultusunda görüşme sorularında gerekli düzeltmeler yapılarak veri toplama aracına son şekli verilmiştir. Görüşme sorularının



içeriğine ilişkin önemli bir değişiklik yapılmazken, soruların yazım ve ifade etme biçimlerinde düzeltmelere gidilmiştir. İçerik geçerliği incelenerek araştırmacıların yanlılığını önlemek amaçlanmıştır. Bu veri toplama formunda soruların yanı sıra, öğretmenlere ait demografik bilgilerin sorulduğu bir bilgi formu da yer almıştır. Veri toplama formunda yer alan sorular sırasıyla şöyledir:

1. Oyun becerileri deyince aklınıza ne geliyor? Açıklar mısınız?
2. OSB olan çocuklara oyun becerilerinin öğretimi ile ilgili neler düşünüyorsunuz?
3. OSB olan çocuklara oyun becerilerinin öğretiminin hangi gelişim alanlarını etkilediğini düşünüyorsunuz? Sizce oyun becerileri neden bu gelişim alanlarını etkilemektedir?
4. OSB olan çocuklara oyun becerilerinin öğretilmesinde yaş sınırlaması var mıdır? Eğer varsa, sizce bu sınır nedir?
5. OSB olan çocuklara oyun becerilerinin öğretimi nerede yapılmalıdır? Neden?
6. OSB olan çocuklara oyun becerilerinin öğretimini kimler üstlenmelidir? Nedenlerini açıklar mısınız?
7. OSB olan çocukların bireyselleştirilmiş eğitim programlarında oyun becerilerine yer verilmeli midir? Nedenlerini bizimle paylaşır mısınız?
8. Çalıştığınız çocukların bireyselleştirilmiş eğitim programlarında oyun becerisi kazanımlarına yer veriyor musunuz? Yer veriyorsanız, OSB olan çocuklara oyun becerilerinin öğretiminde hangi yöntemleri kullanıyorsunuz?

## **Verilerin Toplanması**

Verilerin toplanması sürecinde sırasıyla; veri toplamak için izinler alınmış, veri toplama ilkeleri belirlenmiş, bu ilkeler dikkate alınarak veri toplama kılavuzu hazırlanmış ve veri toplama süreci gerçekleştirilmiştir. Verileri toplamak üzere öncelikle verilerin toplanacağı özel eğitim uygulama okulunun müdürü ile yüz yüze görüşülmüş, araştırmacının amacı açıklanmış ve belirlenen önkoşulları karşılayan öğretmenlerden veri toplanması isteği belirtilmiştir. Müdür ile yapılan yüz-yüze görüşmede veri toplamanın gönüllülük esasına dayalı olarak gerçekleştirileceği ve elde edilen verilerin yalnızca araştırma kapsamında bilimsel amaçlı kullanılacağı söylenmiş ve katılımcıların kimliklerinin ya da okul bilgilerinin açık bir biçimde paylaşılmayacağı vurgulanmıştır.

Gerekli izinler alındıktan sonra öğretmenlerle randevular planlanmıştır. Araştırmada veri toplamak üzere; (a) veri toplama formunu yazılı olarak verme, (b) katılımcıların görüşlerini yazılı olarak alma, (c) gizlilik ilkesini açıklama, (d) araştırmaya katılımın gönüllü olduğunu belirtme, (e) sorular tam olarak yanıtlanmadığında ya da sorularda eksik olduğunda yeniden bilgi ya da açıklama isteme ve (f) veri toplama sürecinde katılımcıların yanında olarak gerektiğinde onların sorularını yanıtlama, veri toplama ilkeleri olarak benimsenmiştir. Veri toplama süreci, planlanan zamanlarda, araştırmacının ve katılımcıların birlikte belirledikleri öğretmenler odası, sınıf ya da atölye

gibi ortamlarda gerçekleştirilmiştir. Veriler, birinci araştırmacının görüşme yapma yeterliğine ve deneyimine sahip olmaması nedeniyle yazılı olarak toplanmıştır.

Araştırma verileri 18-20 Nisan 2016 tarihleri arasında her bir katılımcıyla belirlenen yer ve zamanda toplanmıştır. Veri toplama süreci araştırmacının ve öğretmenin bir arada olduğu bir ortamda gerçekleştirilmiştir. Veriler toplanmadan önce öğretmenlere görüşmenin amacı hatırlatıldıktan sonra, gizlilik ilkesi açıklanmış ve katılımın gönüllü olduğu söylenerek öğretmenlerin gönüllülüğü yeniden teyit edilmiştir. Öğretmenlerin tamamından katılım için yazılı onam alınmıştır. Veri toplama formu öğretmenlere yazılı olarak verilmiş ve öğretmenlerden formda yer alan her bir soruyu yazılı olarak yanıtlamaları istenmiştir. Bu süreçte araştırmacı öğretmen ile aynı ortamda bulunarak öğretmenin herhangi bir sorusunda soruyu yanıtlamaya çalışmıştır. Veri toplama süreci, 13 ile 18 dakika arasında olmak üzere toplam 4 saat 16 dakika sürmüştür. Her bir öğretmene kod isim olarak numaralar verilmiş ve öğretmenlerin gerçek isimleri yerine raporlamada bu numaralar kullanılmıştır. Veriler tüm öğretmenlerden aynı şekilde toplanmıştır.

## Verilerin Analizi

Araştırmada toplanan verileri analiz etmek amacıyla betimsel analiz kullanılmıştır. Veriler yazılı olarak toplandığından, verilerin ayrıca çevriyazısı (dökümü) yapılmamış, doğrudan analiz aşamasına geçilmiştir. Öncelikle öğretmenler tarafından tüm sorulara verilen yanıtlar iki kez okunmuştur. Yapılan okumanın ardından öğretmenlerin verdikleri yanıtlar dikkate alınarak her bir sorunun yanıtı için anlamlı bölümler oluşturulmuş ve bu bölümlerin kavramsal olarak ne anlama geldiği ortaya konmaya çalışılmıştır. Bu süreçte öncelikle, betimsel analiz yapabilmek amacıyla sorulan sorular doğrultusunda tematik çerçeve oluşturulmuş ve toplanan veriler bu tematik çerçeveye göre işlenmiştir. Analiz sürecinde ihtiyaç duyulması halinde bu tematik çerçevede birleştirme ya da ayırma şeklinde uyarlamalar yapılmıştır. Yapılan veri işleme sürecinin sonunda bulgular tanımlanmış ve yorumlanmıştır (Yıldırım ve Şimşek, 2013). Bulgular raporlanırken, her bir bulgu için öğretmenlerin söylediklerinden alıntılar yapılmıştır. İnanırcılığı artırmak için analiz süreci iki araştırmacı tarafından yürütülmüştür.

## Araştırmanın İnanırcılığı

Bu araştırmanın inanırcılığını (credibility) artırmak üzere öncelikle, veri toplama formu geliştirilirken ilgili alanyazın incelenmiş, soru taslakları oluşturulduktan sonra içerik geçerliğini ortaya koymak amacıyla alan uzmanlarının görüşüne başvurulmuştur. Görüşmeler okunduktan sonra, birinci araştırmacı tarafından verilere ilişkin katılımcı teyidi alınmıştır. Bu aşamada bulgular, bireysel görüşmeler yapılarak katılımcılara özetlenmiş, katılımcılardan soruların yanıtlarının doğru anlaşılıp anlaşılmadığını teyit etmeleri istenmiştir. Ayrıca katılımcılara, görüşme metinlerine ilişkin eklemek ya da görüşme metinlerinden çıkarmak istedikleri ifadeler olup olmadığı sorulmuştur. Araştırmada inanırcılığı artırmak için ayrıca, bulguların tamamı yorum yapılmadan doğrudan verilmiş ve katılımcıların görüşlerinden doğrudan alıntılar yapılarak

desteklenmiştir. Veri analizleri, birinci araştırmacının yanı sıra nitel araştırma yöntemleri konusunda deneyimli olan ikinci araştırmacı tarafından da yapılmış, iki araştırmacının analizlerindeki benzer temalar olduğu gibi bırakılırken, farklılaşan temalar için tartışma yapılarak uzlaşmıştır. Araştırmanın yinelebilirliğini artırmak için ayrıntılı betimleme yapılmış, bulgular, katılımcı kodları kullanılarak tutarlılığını kontrol etmeye olanak verecek şekilde sunulmuştur.

## Araştırmanın Etiği

Bu araştırmanın tasarlanmasından, yayımlanmasına kadar tüm süreçte etik ilkeler dikkate alınmıştır. Araştırma planlandıktan sonra kurumsal izinler alınmıştır. Araştırmacının görüşme yapma yeterlik ve deneyimi olmadığı için verilerin yazılı olarak toplanmasına dikkat edilmiştir. Katılımcılara, katılımın gönüllülük esasına dayalı olduğu açıklanmış ve gizlilik ilkesinden söz edilmiştir. Katılımcılar katılımcılara araştırmacının amacı konusunda bilgilendirilmiş ve katılımcılardan yazılı onam alınmıştır. Raporlama yapılırken, katılımcıların görev yaptıkları okulun adı gizli tutulmuş, katılımcılara kod isimler verilerek raporlanmıştır. Toplanan veriler katılımcılara teyit ettirilmiş, ulaşılan bulguların tümü araştırma raporunda yansıtılmıştır.

## Bulgular

Bu bölümde, OSB olan çocuklarla çalışan özel eğitim öğretmenlerinin; oyun becerilerinin tanımına ilişkin görüşlerinin yanı sıra OSB olan çocuklara; oyun becerilerinin öğretimine, oyun becerilerinin öğretiminin hangi gelişim alanlarını etkilediğine, oyun becerilerinin öğretiminin ne zaman, nerede ve kim tarafından yapılması gerektiğine, oyun becerileri öğretip öğretmediklerine ve oyun becerilerinin öğretiminde hangi yöntemleri kullandıklarına ilişkin görüşleriyle ilgili bulgular yer almaktadır.

## Oyun Becerilerinin Tanımı

Araştırmaya katılan 14 öğretmenden 12'si, "Oyun becerileri denince aklınıza ne geliyor? Açıklar mısınız?" sorusunu oyun becerilerini kendi sözcükleriyle tanımlayarak yanıtlamıştır.

Öğretmenler oyun becerilerini genel olarak, çocuğu eğlendiren ve eğlendirirken çocuğun öğrenmesini sağlayan etkinlikler olarak açıklamışlardır. İki öğretmen oyun becerilerinin tanımını yaparken iletişim becerilerinin önemine vurgu yapmış, üç öğretmen ise oyun becerilerinin tanımında, çocuğun kendisini özgürce ifade etme becerisinden bahsetmiştir. Öğretmenler bu soruya yanıt verirken; "Duygusal ve motor becerilerinin gelişmesi, sosyal rollerin öğrenilmesi, iletişim becerilerinin geliştirilmesi aklıma geliyor" (Öğretmen 1), "Akranlarıyla sosyalleşmeyi, zamanı etkili kullanmayı, sıra alma ve kendini ifade etme gibi becerileri içeren etkinlikleri gerçekleştirme..." (Öğretmen 2), "Çocuğun kendini ifade edebildiği, yeteneklerini keşfettiği, tüm gelişim alanlarını eğlenerek geliştirdiği alan olarak düşünüyorum" (Öğretmen 12) ve "Sadece boş vakit doldurma eylemi olarak görülmezsiniz, belirli kurallara dayanan ya da kurallarla

yapılandırılmamış, çocuğun diğer gelişim alanlarına öğretimsel açıdan pozitif etkiler sunan, ... eğlendirirken öğreten, iş ve işlemleri yapmasında ihtiyaç duyulan beceriler, oyun becerileri olarak tanımlanabilir" (Öğretmen 14) ifadelerini kullanmışlar ve oyunu işlevsel bir beceri olarak tanımlamışlardır.

## OSB Olan Çocuklara Oyun Becerilerinin Öğretiminin Önemi

OSB olan çocuklara oyun becerilerinin öğretimi ile ilgili görüşleri sorulan öğretmenler; sosyalleşme sorunları nedeniyle OSB olan çocuklara oyun becerilerinin öğretiminin önemli olduğundan söz etmiş, taklit becerilerinin kazandırılması gerektiği üzerinde durmuş, oyun yoluyla çocuklara başta iletişim ve sosyal beceriler olmak üzere pek çok becerinin öğretilebileceğini vurgulamış ve bu sürecin zorluğundan söz etmişlerdir. Öğretmen 2, "Otizmli bireylerin özellikle küçük yaş gruplarında, farklı durumlarla ve ortamlarla ilgili oluşturulan oyunlar günlük hayat becerilerinde çok yarar sağlamaktadır; ancak, takıntılar nedeniyle oyunlar çeşitlilik göstermelidir" ifadesi ile oyunun günlük yaşamın içine gömülmesi ve çocukların özelliklerini dikkate alması gerektiğini vurgulamıştır. Öğretmen 2 "Her çocuğun hayatında oyunun önemli bir rolü olduğu gibi OSB'li bireyler için de mutlaka olmalıdır" ifadesiyle oyunun her çocuğun yaşamında önemli bir yere sahip olduğu üzerinde durmuştur. Öğretmen 3, "Oyun becerilerine en çok ihtiyaç duyan bireyler OSB olan çocuklardır" sözleriyle; Öğretmen 9 ise "Oyunla çocuklara bir şeyler öğretmenin daha kolay olacağını düşünüyorum. Hem görsel hem işitsel hem de yaşayarak olduğu için" cümleleriyle oyunun öğrenmeye olan katkısından bahsetmişlerdir. Öğretmen 4, "Otizmli çocukların en önemli sorunu, sosyalleşme yetersizliğidir. Oyun becerilerinin bu çocuklara kazandırılması sosyalleşmelerine yardımcı olacaktır" diyerek, Öğretmen 13 ise "Öncelikle sosyal gelişimini desteklediği ve kendini ifade etmesini sağladığı için kesinlikle gereklidir" şeklinde oyun becerilerinin öğretiminin sosyal ve duygusal gelişime etkisini ortaya koymaya çalışmıştır. Öğretmen 7, "Otizmli çocukların nesnelere, canlı-cansız varlıklara karşı ilgi göstermemesi, sosyal etkinliklere katılmayı istememesi, temel kavramlar olan göz kontağının, taklit becerilerinin yetersiz olması veya olmaması durumları göz önünde bulundurulursa, oyun becerileri son derece önemlidir" ifadeleriyle oyunun OSB olan çocuklar için önemine değinmiştir.

## Oyun Becerilerinin OSB Olan Çocukların Gelişim Alanlarına Etkisi

Öğretmenlere, OSB olan çocuklara oyun becerilerinin öğretiminin hangi gelişim alanlarını etkilediğinin sorulduğu soruya öğretmenlerden yedisi tüm gelişim alanlarını, beşi sosyal-duygusal gelişim alanını, üçü dil ve iletişim gelişim alanını, üçü psikomotor gelişim alanını ve biri ise bilişsel gelişim alanını etkilediği yönünde yanıt vermiştir. Öğretmen 4, "Sosyal, psikomotor ve bilişsel yani tüm gelişim alanlarını etkiler. Yapılan tüm hareketler psikomotor gelişimi doğrudan olumlu olarak etkiler. Grupa oynanan oyunlar çocukların sosyalleşmesini sağlar. Tüm bunlar çocuğun bilişsel gelişimine de yardımcı olur" ifadesiyle, Öğretmen 6 "Oyun becerisinin başta bilişsel olmak üzere psikomotor, dil ve duygusal bütün alanlara etkisinin olduğuna şahit oldum" sözleriyle, Öğretmen 7 "Psikomotor, sosyal gelişim, dil gelişimi, bilişsel gelişim, kısacası bütün alanlara etki ettiğini düşünüyorum" cümleleriyle ve Öğretmen 9 "Toplumsal yaşam

kurallarını öğrenme, kendini ve çevresini tanıma, bedenini kullanabilme ve kendini ifade edebilmeyi geliştirdiğini düşünüyorum” şeklinde oyun becerilerinin OSB olan çocukların tüm gelişim alanlarına katkısından söz etmiştir.

## OSB Olan Çocuklara Oyun Becerilerinin Ne Zaman, Nerede ve Kimler Tarafından Öğretileceği

OSB olan çocuklara oyun becerilerinin öğretilme yaşının ne olması gerektiğine ilişkin soruya öğretmenlerin 12’si yaş sınırı olmamakla birlikte erken çocukluk döneminde öğretilmesinin uygun olacağı şeklinde yanıt verirken, ikisi oyun becerilerinin öğretilmesine ilişkin herhangi bir yaş sınırı olmayacağı şeklinde kesin ifadeler kullanmışlardır. Öğretmenler bu soruyu “Oyun becerilerinin erken çocuklukta yoğun olarak verilmesinin yanı sıra oyun becerilerinde herhangi bir yaş sınırı yoktur, olmamalıdır” (Öğretmen 2), “Hiçbir eğitimin biyolojik yaşla sınırlandırılabilceğini düşünmüyorum, oyun için de bireyin kişisel ve sosyal gelişimine dikkat edilmelidir” (Öğretmen 6), “Belirli bir yaş sınırı kesin bir şekilde ifade etmek uygun olmayabilir. Her bireyin hazır bulunuşluk düzeyi, bireysel özellikleri kendine mahsus olabilir. Ancak genel bir ifade kullanmak gerekirse erken çocukluk döneminde daha yüksek verim alınması muhtemeldir” (Öğretmen 14) sözleriyle yanıtlamışlar ve oyun becerilerinin mümkün olduğunca erken çocukluk döneminde öğretilip ileri yaşlara bırakılmaması gerektiğini ifade etmişlerdir.

OSB olan çocuklara oyun becerilerinin öğretileceği ortamın ne olması gerektiği konusundaki soruya öğretmenlerin tümü benzer yanıtlar vermişlerdir. Öğretmenler OSB olan çocuklara oyun becerilerinin; çocukların günlük yaşamda buldukları her ortamda öğretilbileceğini, öğretilcek oyun becerisinin ya da becerilerinin ortam seçimini belirleyeceğini, öğretim için akranların bulunduğu ortamların tercih edilmesinin uygun olacağını, öğretim ortamlarının güvenli olmasına dikkat edilmesi gerektiğini ve mümkün olduğunca doğal ortamlarda fırsat öğretimi yoluyla öğretim yapılmasının uygun olduğunu belirtmişlerdir. Öğretmen 1, “Bana göre fırsat öğretimi kullanarak ya da ortam hazırlanarak yapılmalıdır...” diyerek fırsat öğretilmesine vurgu yaparken; Öğretmen 2, “Çocuğun doğal yaşam ortamında, günlük kullandığı ortamlar dışında yapılandırılmış ortamlarda tercih edilmeli. Ortam değişikliği yapılmalıdır. Çocuğun genelleme yapması gerekir. Biliyorsun genelleme bizim çocuklar için zor bir kazanım. Öğrendiği beceri tek ortamla sınırlı kalmamalı”; Öğretmen 8, “Çocuğun yaşam alanlarında uygun olur...” ve Öğretmen 10, “Doğal ortamlar oluşturulmalı...” sözleriyle doğal ortamlarda öğretim yapmaya ve genellemeye yönelik sözler söylemişlerdir. Öğretmen 4, “Her yerde yapılabilir ancak gerekli önlemler alınmalı...” sözleriyle, Öğretmen 6 ise “Bunun için oyun türüne göre karar verilir, buna uygun her ortama gidilir” şeklinde öğretimin her ortamda olabileceğini ifade etmişlerdir.

Öğretmenlere OSB olan çocuklara oyun becerilerinin öğretilmesini kimin üstleneceğinin sorulduğu soruya öğretmenlerden 11’i yapılacak öğretimi uzman ve öğretmenler ile aile ve bakıcı gibi yakınların üstlenmesi gerektiğini, üçü ise yapılacak öğretimi sadece uzman ve öğretmenlerin üstlenmesi gerektiğini dile getirmişlerdir. Öğretmen 1, “Otizm spektrum bozukluğuna sahip bireylere oyun becerilerinin öğretimi çocuğun hayatındaki herkes tarafından üstlenilmeli, uzman, aile, bakıcı, birinci derece akrabalar...”;

Öğretmen 2, "Aile, eğitmen, bakıcı tarafından sunulmalıdır" ve Öğretmen 7, "Oyun becerilerinin öğretiminde özel eğitim öğretmenlerinin önderliğinde aile bireyleri de mutlaka yer almalıdır, sınırlandırmayı engellemek için" sözleriyle yapılacak öğretimi uzman ve öğretmenlerin yanı sıra aile ve bakıcı gibi yakınların üstlenmesi gerektiğini ifade etmişlerdir. Öğretmen 11, "Oyun becerilerinin amacına uygun hizmet edebilmesi için bu alanda uzman olan kişiler tarafından ... yapılmalıdır" ve Öğretmen 14, "Otizm spektrum bozukluğuna sahip öğrencilerle deneyim yaşamış veya başka bir ifadeyle özel eğitim alanında en az lisans düzeyinde yeterlilik almış profesyonel eğitimciler tarafından öğretim yapılmalıdır" diyerek yapılacak öğretimi sadece uzman ve öğretmenlerin üstlenmesi gerektiğini söylemişlerdir.

### **OSB Olan Çocukların Bireyselleştirilmiş Eğitim Programlarında Oyun Becerilerine Yer Verilmesi Gerekliliği ve Nedenleri**

OSB olan çocukların bireyselleştirilmiş eğitim programlarında oyun becerilerine yer verilmesinin gerekliği ve nedenleriyle ilgili soruya öğretmenlerin tamamı, oyun becerilerinin bireyselleştirilmiş eğitim programlarında olması gerektiği şeklinde yanıt vermişler ve bunun nedenlerine ilişkin açıklamalar yapmışlardır. Öğretmen 5, "Oyun becerisi diğer alanları da etkiliyor, her gelişim alanına uygun oyun becerilerine bireysel eğitim planında yer verilmeli"; Öğretmen 6, "Bence BEP'te oyun becerileri, diğer amaçlardan daha fazla yer almalıdır..."; Öğretmen 9, "Evet verilmeli çünkü en önemli sorun, hayal gücünün yoksunluğu ve sosyal alanlarının yetersizliği. Bu sebeple bu alanları geliştirmek için oyun becerileri öğretimi planda da olmalıdır" ve Öğretmen 12, "Oyun becerileri ile öğretim planlı olmalı ve sistematik çalışılmalıdır. Bireysel eğitim programında yer almalıdır" sözleriyle oyun becerilerinin bireyselleştirilmiş eğitim programlarında kesinlikle olması gerektiğinin altını çizmiş ve nedenlerinden söz etmişlerdir.

### **OSB Olan Çocukların Bireyselleştirilmiş Eğitim Programlarında Oyun Becerilerine Yer Verilmesi ve Öğretimde Kullanılan Yöntemler**

Öğretmenlerin OSB olan çocukların bireyselleştirilmiş eğitim programlarında oyun becerilerine ilişkin kazanımlara yer verip vermedikleriyle ilgili soruyu öğretmenlerin 11'i yer verdikleri şeklinde yanıtlarken, üçü yer vermedikleri şeklinde yanıtlamışlardır. Öğretmen 1, "Gömülü oyun olarak BEP'te oyun becerisi kazanımlarına yer verdim. Renk bilgisi, ritmik saymalar, para, alışveriş... Örnek verirse, defterin kaç para olduğu gibi konularında oyun becerilerine yer verdim"; Öğretmen 7, "Milli Eğitim müfredatının öğretmenlere izin verdiği ölçüde yer vermeye gayret ettim"; Öğretmen 10 ise "Milli Eğitim'de değil fakat özel sektörde çalıştığımda oyun becerisine yer vermiştim..." sözleriyle OSB olan çocukların bireyselleştirilmiş eğitim programlarında oyun becerilerine ilişkin kazanımlara yer verdiklerini dile getirmişlerdir. Öğretmen 3, "Yer veremedim, nedeni oyun becerilerinde kendimi yeterli bulmadığımdan. Hala geliştirme süreci içindeyim" sözleriyle, Öğretmen 13 ise "BEP kapsamında planlanmış bir oyun becerisi öğretimi yapmadım. Sınıfta hafif düzeyde otizmliler öğrenciler var ve sınıfta kalabalık, ders saatlerimiz sınırlı" ifadelerini kullanarak OSB olan çocukların

bireyselleştirilmiş eğitim programlarında oyun becerilerine ilişkin kazanımlara yer vermediklerini söylemişler ve ardından gerekçelerini açıklamışlardır.

Öğretmenlere, bireyselleştirilmiş eğitim programında oyun becerilerine yer vermeleri durumunda, OSB olan çocuklara oyun becerilerinin öğretiminde hangi yöntemleri kullandıklarının sorulduğu soruya öğretmenlerden 10'u yanıt verirken, diğer öğretmenler oyun becerilerini kazandırmaya yönelik öğretim yapmadıkları için bu soruyu yanıtlamamışlardır. Soruya yanıt veren öğretmenlerden yedisi akran öğretimi, beşi video modelle öğretim, beşi dramatizasyon, üçü canlı modelle öğretim, ikisi yanlışsız öğretim ve ikisi fırsat öğretimi kullandıklarını ifade etmiştir. Öğretmen 14, *"Bence bu durum öğrenciden öğrenciye değişir... Şimdi bir öğrenciye video modelle öğretim yaparken, diğerine dramatizasyon ya da akran eğitimiyle bu beceriler öğretilir, kesin bir yöntemden bahsedemeyiz..."*; Öğretmen 10, *"Geçmişte çalıştığım dönemde, öğrenciler ağır otizliydi ve çok zorlandım ama video modelle bunu biraz aştım..."*; Öğretmen 11, *"Ben dramatizasyon yöntemini kullanıyorum"*; Öğretmen 4, *"... model olmayla gerçekleştiririm. Sonra akran eğitimi, hedeflere ulaşmada etkilidir, drama yöntemine de sık sık yer veririm. Öğrencinin düzeyine göre yani"* ve Öğretmen 5 ise *"Fırsat öğretimi, yapılandırılmış ya da doğal ortamında olabilir fark etmez bence etkili bir yöntem geçmişte öğrencilerimde kullandım. Yine yanlışsız öğretim yöntemleri kullanılır"* ifadeleriyle oyun becerilerinin öğretiminde kullandıkları yöntemleri sıralamışlardır.

## Sonuç, Tartışma ve Öneriler

Oyunun, çocukların yaşamlarının ayrılmaz bir parçası olduğu görüşü, eğitim dünyasında yaygın olarak kabul gören bir düşüncedir. Öğretmenler de eğitim yaşamları boyunca, çocukların yaşamında oyunun önemine dikkat çekilen pek çok eğitimden geçmektedir. Çocuk dünyasını anlamamanın bir yolu olarak görülen oyunla ilgili alanyazın genellikle, oyunun çocukların gelişimine katkısını belirlemeye yönelik yapılan çalışmalarla sınırlı kalmaktadır. Bu çalışmada ise OSB olan çocuklarla çalışan özel eğitim öğretmenlerinin; oyun becerilerini nasıl tanımladıklarını anlamak, ayrıca OSB olan çocuklara oyun becerilerinin öğretiminin nasıl yapılandırılacağına ilişkin görüşlerini belirlemek ve OSB olan çocuklara oyun becerilerinin öğretimine ilişkin görüşlerini ortaya koymak amaçlanmıştır. Bulgular öğretmenlerin; oyun becerilerini eğlendiren ve eğlendirirken öğreten etkinlikler olarak tanımladıklarını, OSB olan çocuklara oyun becerileri öğretmeyi önemli ve gerekli bulduklarını, oyunun OSB olan çocukların psikomotor, dil ve iletişim, sosyal-duygusal ve bilişsel alanlardaki gelişimini olumlu yönde etkilediğini düşündüklerini, oyun becerilerinin OSB olan çocuklara yaşları fark etmeksizin her ortamda öğretmenler, anne-babalar ve bakıcılar tarafından öğretilebileceği görüşüne sahip olduğunu göstermektedir. Bulgular ayrıca öğretmenlerin büyük bir kısmının bireyselleştirilmiş eğitim programlarında oyun becerilerinin öğretimine yer verdiğini ve oyun becerilerinin öğretiminde akran öğretimi, video modelle ve canlı modelle öğretim, dramatizasyon, yanlışsız öğretim ve fırsat öğretimi gibi yöntemleri kullandıklarını ortaya koymaktadır.

Araştırmanın ilk bulgusu, öğretmenlerin oyun becerilerine ilişkin tanımlamalarıdır. Öğretmenler oyunu genel olarak, alanyazında tanımlandığı şekilde “eğlendiren ve eğlendirirken öğreten etkinlikler” olarak tanımlamışlardır. Öğretmenler ayrıca oyun yoluyla iletişim becerilerine ve kendini özgürce ifade etmenin önemine vurgu yapmışlar, oyunun sosyal gelişimi destekleyici ve işlevsel etkinlikler olduğunu ön plana çıkarmışlardır. Bu bulgular önceki araştırmalarda sınıf ve okul öncesi öğretmenleri tarafından yapılan oyun tanımlamalarıyla da benzerlikler göstermektedir. Öğretmenler oyunu genellikle “eğlenceli, öğrenme ve gelişme fırsat sağlayan, doğayı keşfetmeye izin veren ve gelişim alanlarını destekleyen etkinlikler” şeklinde tanımlanmakta (Baker, 2000; Izumi-Taylor vd., 2004; Machalicek vd., 2009; Nelson vd., 2007; Senturk-Cesur ve Odluyurt, 2019); ayrıca oyunu “çocukların doğal ihtiyacı” olarak görüp “mutluluk, özgürlük, rahatlık ve heyecan gibi olumlu duygularla” ilişkilendirilmektedirler (Baker, 2015; Boutot, Guenther ve Crozier, 2005; Tekin ve Tekin, 2007). Görüldüğü üzere gerek önceki araştırmalarda gerekse mevcut araştırmada öğretmenlerin oyuna ilişkin algıları ve tanımlamaları büyük ölçüde benzerlik göstermekte; oyun öğretmenler tarafından çocuklar için eğlenceli, öğretici ve gelişimi destekleyici etkinlikler olarak algılanmakta, ayrıca çocuk için bir ihtiyaç olarak kabul edilmektedir.

Araştırma bulguları, öğretmenlerin, OSB olan çocuklara oyun becerilerinin öğretimini önemli bulduklarını ve oyun yoluyla pek çok becerinin öğretilebileceğini düşündüklerini göstermektedir. Bu bulgu öğretmenlerin; oyun oynamamanın çocuklarda duygusal ve bilişsel olumsuzluklara yol açabileceğini düşündükleri önceki araştırma bulgularıyla desteklenmekte (Güneş ve Tuğrul, 2012); oyunun çocuğun gelişim alanlarını desteklemesi nedeniyle önemli olduğu görüşünü paylaştıkları araştırma bulgularıyla da benzerlik göstermektedir (Senturk-Cesur ve Odluyurt, 2019). Bu araştırmadan ve önceki araştırmalardan elde edilen bulgular birlikte ele alınıp değerlendirildiğinde, öğretmenlerin oyunu çocuklar için bir ihtiyaç ve aynı zamanda gelişimi destekleyici bir araç olarak gördüklerini, bu nedenle de tüm çocuklar gibi OSB olan çocukların eğitiminde de oyuna yer verilmesinin önemli ve gerekli olduğunu söylemek mümkündür.

Araştırma sonuçlarına göre, öğretmenler OSB olan çocuklara oyun becerilerinin öğretiminin başta sosyal-duygusal, psikomotor, dil ve iletişim olmak üzere tüm gelişim alanlarını olumlu yönde etkilediğini düşünmektedirler. Bu bulgu, oynanan her oyunun gelişim alanlarına katkıda bulunacağını, oyun gereksinimleri doyumlanmış çocukların yaşamın ileriki yıllarında bilgi, beceri ve kişilik yönünden güçlenmiş bireyler olarak toplumda yer alacağını; buna karşın oyun oynamayan çocukların bedensel, zihinsel ve ruhsal açıdan sağlık sorunları yaşayabileceğini öne süren kuramsal bilgilerle paralellik göstermektedir (Duralp ve Aral, 2010; Pehlivan, 2005;). Buna ek olarak, mevcut araştırmadan elde edilen bulgular, oyunun çocukların hem tek tek gelişim alanları üzerindeki etkisini hem de bütün gelişim alanlarına etkisini inceleyen önceki araştırma bulgularıyla da tutarlıdır (Aras, 2015; Ayan vd., 2012; Aronstam ve Braund, 2015; Bowdon, 2015; Dağbaşı, 2007; Durualp ve Aral, 2010; Erşan, 2006; Gözalan, 2013; Marais, 2016; Pyle Danniels, 2017; Senturk-Cesur ve Odluyurt, 2019; Türkmenoğlu, 2005; Türkoğlu ve Uslu, 2016). Öğretmenler öğrencileri gözlerken çocukların oyunlarına dahil olup oyun sırasında geribildirim ve pekiştireçler sunarak çocukların öğrenme ve gelişimlerini destekleme fırsatı bulmakta, ayrıca oyun sırasında çocuklar



arasında çıkan problemlerin veya çatışma durumlarının iş birlikçi şekilde çözülmesini sağlamaktadırlar. Bu da oyunun doğasını bozmadan problem durumlarının çözülmesi, çocukların gelişim ve öğrenmelerinin desteklenmesi ve pekiştirilmesi açısından büyük önem taşımaktadır (Aras, 2015; Broadhead, 2006; Tarman ve Tarman, 2011; Tsai, 2015; Tuğrul vd., 2014). Özetle oyun, tüm çocukların gelişimini olumlu biçimde etkileyen ve çocukların öğrenmelerine katkı sağlayan etkinlikler olarak görülmelidir.

Başka bir bulgu, öğretmenlerin OSB olan çocuklara oyun becerilerinin öğretilmesi için yaş sınırı olmadığını; ancak okul öncesi dönemde öğretilmesinin iyi olacağını düşündüklerini ortaya koymaktadır. Bu bulgu alanyazındaki, oyun oynamanın erken çocukluk döneminde öğrenilmeye başladığı; ancak oyun oynamak ya da oyun oynamayı öğretmek için yaşın bir sınırlama olmadığını ifade eden kuramsal bilgilerle de desteklenmektedir (Dilekmen ve Bozan-Tüzün, 2018; Türkoğlu ve Uslu, 2016). Öğretmenler oyun becerilerinin, alanyazınla tutarlı biçimde her ortamda öğretilebileceği ve mümkün olduğunca doğal ortamlarda olması gerektiği yönünde görüş bildirmişler (Kırcaali-İftar, Kürkçüoğlu ve Kurt, 2014), oyun becerilerinin öğretimini uzman ve öğretmen gibi öğretmenden sorumlu kişiler ile aile ve bakıcı gibi bakımdan sorumlu kişilerin üstlenmesi gerektiğini dile getirmişlerdir. Öğretmenler, oyunun çocuk gelişimindeki önemini kavrar, oyun, oyuncak ve oyun ortamının seçimi konusunda bilgi ve deneyime, oyun yoluyla gelişim ve öğrenmenin nasıl destekleneceği konusundaysa donanıma sahip olduklarında, çocuklara da bu olanakları sunabilmekte, oyunu "öğrenme" amaçlı kullanabilmektedirler (Tüfekçioğlu, 2013). Bu nedenle, öğretmen yetiştirme programlarının tamamında oyun oynama öğretimine ilişkin içeriğe sahip derslere yer verilmelidir. Öğretimin birincil sorumlusu öğretmenler olsa da OSB olan çocuklar için ailelerin ve bakıcıların öğretimdeki yeri yadsınamaz. Oyun becerilerinin öğretiminde öğretmenlerin yanı sıra çocuğun bakımından sorumlu olan kişilerin de görev alabileceğine ilişkin bu bulgu, alanyazındaki OSB olan çocuk aile ve bakıcılarının çocuklarına öğretim yapma ve uygun davranışlar kazandırma gibi sorumlulukları olduğunu ortaya koyan bilgilerle benzerlik göstermektedir çünkü çocukları en iyi tanıyan ve onlarla en çok vakit geçiren bireyler olarak aile üyeleri ve bakıcılar günlük yaşamda OSB olan çocukların gelişim ve öğrenmelerinin desteklenmesinden de sorumludurlar (Özdemir ve Ramazan, 2012; Tuğrul vd., 2014).

Araştırmanın diğer bir bulgusu öğretmenlerin tümünün OSB olan çocukların bireyselleştirilmiş eğitim programlarında oyun becerilerine yer verilmesi gerektiğine inanmaları; ancak yalnızca bir kısmının bireyselleştirilmiş eğitim programlarında oyun becerilerine yer veriyor olmasıdır. Hazırladıkları bireyselleştirilmiş eğitim programlarında oyun becerilerine yer vermeyen öğretmenler; bu konuda yeterli donanıma sahip olmadıkları, öğrenci özelliklerinin uygun olmadığı ve sınıfların kalabalık olduğu gerekçesini ortaya koymuşlardır. Oysa, özel eğitim öğretmeni yetiştirme programlarında bu konuya özel dersler bulunmaktadır (Tuğrul vd., 2014). Ayrıca psikomotor, günlük yaşam, dil ve iletişim, sosyal-duygusal ya da bilişsel beceriler gibi oyun becerilerinin de OSB olan çocuklara öğretilmesi gereken temel beceriler arasında olması gerektiği, kesinlikle unutulmamalıdır (Kırcaali-İftar, Kürkçüoğlu ve Kurt, 2014).

Araştırmanın son bulgusu ise öğretmenlerin oyun becerilerinin öğretimi sırasında birden fazla öğretim yöntemini kullandıkları ya da kullanabilecekleri şeklindedir. Öğretmenler oyun becerilerinin öğretimini yaparken alanyazındaki araştırmalarla tutarlı biçimde; doğal öğretim (Garfinkle ve Schwartz, 2002), etkinlik çizelgeleriyle öğretim (Dettmer vd., 2000; Rao ve Gagie, 2006), video ve canlı modellerle öğretim (Besler ve Kurt, 2016; Odluyurt, 2013; Öncül, 2015; Reagon vd., 2006; Sani-Bozkurt ve Özen, 2015; Ulke-Kurkcuoglu, Bozkurt ve Cuhadar, 2015) yöntemlerini kullanmaktadırlar. Öğretmenler, özel eğitimin doğasına uygun olacak biçimde öğretim yöntemi seçerken çocukların; özelliklerinin, OSB'den etkilenmişlik düzeylerinin ve yaşlarının seçilen yöntemlerde farklılık oluşturduğunu dile getirmiş, böylece eğitimde bireyselleştirmeye vurgu yapmışlardır.

Bu araştırmanın, OSB olan çocukların gelişimini ve öğrenmesini desteklemede oyunun önemini ortaya koyma ve önceki araştırma bulgularını genişleterek destekleme açısından alanyazına katkı sağladığı düşünülmektedir. Araştırmadan elde edilen bulgular özel eğitim öğretmenlerinin OSB olan çocuklar için; oyunu önemli gördüklerini, hazırladıkları programlarda oyun becerilerinin öğretime yer verdiklerini ve oyun öğretimi yaparken kanıta-dayalı uygulamalardan yararlandıklarını ortaya koyması bakımından hem alanyazına katkı sağlamakta hem de önceki araştırmada elde edilen benzer bulguları genişleterek desteklemektedir (Senturk-Cesur ve Odluyurt, 2019). OSB olan çocuklar için hazırlanan ve sürekli olarak güncellenen programlarda da bu araştırmanın bulgularını dikkate almak ve programlarda oyun becerilerinin öğretime yer vermek önemli bir adım olacaktır. Araştırmanın alanyazına katkısının yanı sıra temel bir sınırlılığı da söz konusudur. Araştırmada veriler yüz-yüze görüşmeler yerine yazılı biçimde toplanmıştır. Yüz-yüze görüşmeler yoluyla daha fazla ve derinlemesine veri elde edilebileceği düşünüldüğünden, bu durum bir sınırlılık olarak değerlendirilebilir.

Görüldüğü gibi oyunun yaşantılar yoluyla öğrenmede, göze çarpan bir etkisi vardır. Öğretmenin bu konuyu anlaması ve dengeyi bunu göze alarak kurması, diğer bir ifadeyle, çocuklara dersi oyun gibi sunması; ancak oyunu ders gibi sunmaması gerekir. Bu denge gözetilerek, ayrıca mevcut araştırmanın ve önceki araştırmaların bulgularından yola çıkarak hem uygulamaya hem de araştırmalara yönelik bazı önerilerde bulunulabilir. OSB olan çocuklara oyun becerilerinin kazandırılması konusunda hizmet-içindeki öğretmenlere yönelik bilgilendirici eğitim ve seminerler düzenlenebilir. OSB olan çocuklara bireyselleştirilmiş eğitim programı hazırlanırken oyun becerilerine yönelik amaçlara yer verme konusunda öğretmenler teşvik edilebilir ve desteklenebilir. Özel eğitim öğretmeni yetiştiren programlardaki öğretmen adaylarına oyun becerilerinin öğretime yönelik derslerde ve uygulama derslerinde oyun becerilerinin kazandırılmasına ilişkin daha fazla uygulama yapma fırsatları sağlanabilir. Ayrıca bu araştırma, yardımcı öğretmenler, branş öğretmenleri ve öğretmen adayları gibi farklı uzmanlarla ya da anne-babalar, bakıcılar ve kardeşler gibi aile üyelerinden oluşan farklı katılımcı gruplarıyla tekrarlanabilir. Bu araştırma, farklı yetersizlik grubundaki çocuklarla çalışan öğretmenlerle yinelenebilir. Ayrıca, oyun becerilerinin planlanmasına ve öğretime yönelik özel eğitim öğretmenlerine rehberlik edecek biçimde eylem araştırmaları tasarlanabilir.



**Etik Kurul Onayı:** Bu alıřma iin etik kurul onayı zorunluluęu olmaması nedeni ile alınmamıřtır.

**Bilgilendirilmiř Onam:** Katılımcılardan bilgilendirilmiř onam alınmıřtır.

**Hakem deęerlendirmesi:** Dıř hakem deęerlendirmesi.

**Yazarların Katkısı:** Fikir – ř.Y.Ö., A..G.; Tasarım - ř.Y.Ö., N.Ö.; Verilerin Toplanması ve İřlenmesi - .A..G.; Danıřmanlık – ř.Y.Ö.; Verilerin Analizi ve Yorumu – ř.Y.Ö., N.Ö.; Alanyazın Taraması – A..G., N.Ö., ř.Y.Ö.; Yazma – N.Ö., ř.Y.Ö.; Eleřtirel Deęerlendirme -Tüm yazarlar.

**ıkar atıřması:** Yazarlar herhangi bir ıkar atıřması beyan etmemiřtir.

**Finansal Aıklama:** Yazarlar bu alıřmanın herhangi bir finansal destek almadıęını beyan etmiřlerdir.

## Kaynaklar

- Aldhafeeri, F., Ioanna P., & Aderonke, F. (2016). Integration of digital technologies into play-based pedagogy in Kuwaiti early childhood education: Teachers' views, attitudes and aptitudes. *International Journal of Early Years Education* 24(3): 342-360. <https://doi.org/10.1080/09669760.2016.1172477>
- American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders-5 [DSM-5]*, Arlington: American Psychiatric Association.
- Aras, S. (2015). Free play in early childhood education: A phenomenological study. *Early Childhood Development and Care*, 186(7), 1173-1184. <https://doi.org/10.1080/03004430.2015.1083558>
- Aronstam, S., & Braund, M. (2015). Play in grade R classrooms: Diverse teacher perceptions and practices. *South African Journal of Childhood Education*, 5(3), 1-10.
- Ayan, S., Memiş, U. A., Eynur, B. R., & Kabakçı, A. (2012). Özel eğitime ihtiyaç duyan çocuklarda oyuncak ve oyunun önemi. *Uluslararası Hakemli Akademik Spor Sağlık ve Tıp Bilimleri Dergisi*, 2(4), 80-89.
- Baker, M. J. (2000). Incorporating the thematic ritualistic behaviors of children with autism into games: Increasing social play interactions with siblings. *Journal of Positive Behavior Interventions*, 2(2), 66-84. <https://doi.org/10.1177/109830070000200201>
- Baker, F. S. (2014). Teachers' views on play-based practice in Abu Dhabi kindergartens. *International Journal of Early Years Education*, 22(3): 271-286. <https://doi.org/10.1080/09669760.2014.944884>
- Baker, F. S. (2015). Challenges presented to personal theories, beliefs and practices of play in Abu Dhabi kindergartens: The English medium teacher perspective. *Early Years*, 35(1), 22-35. <https://doi.org/10.1080/09575146.2014.958982>
- Besler, F., & Kurt, O. (2016). Effectiveness of video modeling provided by mothers in teaching play skills to children with autism. *Educational Sciences: Theory & Practice*, 16(1) 209-230. <https://doi.org/10.12738/estp.2016.1.0273>
- Boutot, E. A., Guenther, T., & Crozier, S. (2005). Let's play: Teaching play skills to young children with autism. *Education and Training in Developmental Disabilities*, 40(3), 285-292. <https://www.jstor.org/stable/23879722>
- Bowdon, J. (2015). The common core's first casualty: Playful learning. *Phi Delta Kappan*, 96(8), 33-37.
- Broadhead, P. (2006). Developing an understanding of young children's learning through play: The place of observation, interaction and reflection. *British Educational Research Journal*. 32(2), 191-207. <https://doi.org/10.1080/01411920600568976>
- Cardon, T. A. (2007). *Initiations and interactions: Early intervention techniques for parents of children with autism spectrum disorders*. Autism Asperger Publishing, APC, Kansas.
- Celep, M. U. (2020). *Okul öncesi özel eğitimde çalışan öğretmenlerin oyun öğretimine ilişkin öz yeterlikleri ve yaratıcı kişilik özelliklerinin incelenmesi* (Yayımlanmamış Doktora Tezi). Marmara Üniversitesi, Eğitim Bilimleri Enstitüsü, İstanbul.
- Creswell, J. W. (2013). Beş nitel araştırma yaklaşımı. M. Bütün & S. B. Demir (Eds.). *Nitel araştırma yöntemleri içinde* (ss. 69-110). M. Aydın (çev.). Ankara: Siyasal Kitabevi.
- Dağbaşı, G. (2007). *Oyun tekniği ve Arapça öğretiminde kullanımı*. (Yayımlanmamış Yüksek Lisans Tezi) Gazi Üniversitesi, Eğitim Bilimleri Enstitüsü, Ankara.
- D'Ateno, P., Mangiapanello, K., & Taylor, B. A. (2003). Using video modeling to teach complex play sequences to a preschooler with autism. *Journal of Positive Behavior Interventions*, 5(1), 5-11.
- Dalgın-Eyiip, Ö. (2011). *Bilgisayar destekli etkinlik çizelgeleriyle sunulan öğretimin otizm spektrum bozukluğu gösteren çocukların çizelge izleme ve rol oyun becerilerini öğrenmedeki etkileri*. (Yayımlanmamış Yüksek Lisans Tezi). Anadolu Üniversitesi, Eğitim Bilimleri Enstitüsü, Eskişehir.
- Dettmer, S., Simpson, R. L., Myles, B. S., & Ganz, J. B. (2000). The use of visual supports to facilitate transitions of students with autism. *Focus on Autism and Other Developmental Disabilities*, 15(3), 163-169.
- Dilekmen, M., & Bozan-Tüzün, N. (2018). Okul öncesi eğitimde oyunun öğretmen görüşlerine göre değerlendirilmesi. *Atatürk Üniversitesi Kazım Karabekir Eğitim Fakültesi Dergisi*, 37, 43-56.
- Durualp, E., & Aral, N. (2010). Altı yaşındaki çocukların sosyal becerilerine oyun temelli sosyal beceri eğitiminin etkisinin incelenmesi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 39(39), 160-172.
- Ebbeck, M., Yim, H. Y. B., & Warriar, S. (2019). Early childhood teachers' views and teaching practices in outdoor play with young children in Singapore. *Early Childhood Education Journal*, 47(3), 265-273. <https://doi.org/10.1007/s10643-018-00924-2>
- Ersoy A. F. (2017). Fenomenoloji. A. Saban ve A. Ersoy (Ed.), *Eğitimde nitel araştırma desenleri içinde* (s. 82-138). Ankara: Anı Yayıncılık.

- Erşan, Ş. (2006). *Okul öncesi eğitim kurumlarına devam eden altı yaş grubundaki çocukların oyun ve çalışma (iş) ile ilgili algılarının incelenmesi*. (Yayınlanmamış yüksek lisans tezi). Gazi Üniversitesi, Eğitim Bilimleri Enstitüsü, Ankara.
- Fesseha, E., & Pyle, A. (2016). Conceptualising play-based learning from kindergarten teachers' perspectives. *International Journal of Early Years Education*, 24(3), 361–377. <https://doi.org/10.1080/09669760.2016.1174105>.
- Gay, L. R., Mills, G. E., & Airasian, P. (2012). *Educational research: Competencies for analysis and applications*. (10<sup>th</sup> edition). Upper Saddle River, NJ: Pearson Education, Inc.
- Garfinkle, A. N., & Schwartz, I. S. (2002). Peer imitation: Increasing social interactions in children with autism and other developmental disabilities in inclusive preschool classrooms. *Topics in Early Childhood Special Education*, 22(1), 26–38.
- Gözalın, E. (2013). *Oyun temelli dikkat eğitim programının 5-6 yaş çocuklarının dikkat ve dil becerilerine etkisinin incelenmesi*. (Yayınlanmamış yüksek lisans tezi). Selçuk Üniversitesi Sosyal Bilimler Enstitüsü, Konya.
- Güneş, G., & Tuğrul, B. (2012). A play tens of teachers, and hundreds of their ideas about child' who doesn't play. *Procedia Social and Behavioral Sciences*, 47(2012), 2025-2030. <https://doi.org/10.1016/j.sbspro.2012.06.943>
- Hobson, J. A., & Hobson, R. P. (2007). Identification: The missing link between imitation and joint attention? *Development and Psychopathology*, 19(2), 411–431. <https://doi.org/10.1017/S0954579407070204>
- Hobson, J., Hobson, R. P., Malik, S., Bargiota, K., & Calo, S. (2013). The relation between social engagement and pretend play in autism. *British Journal of Developmental Psychology*, 31(1), 114–127. <https://doi.org/10.1111/j.2044-835X.2012.02083.x>
- Holmes, E., & Willoughby, T. (2005). Play behaviour of children with autism spectrum disorders. *Journal of Intellectual and Developmental Disability*, 30(3), 156-164. <https://doi.org/10.1080/13668250500204034>
- Ingersoll, B. (2012). Brief report: Effect of a focused imitation intervention on social functioning in children with autism. *Journal of Autism and Developmental Disorders*, 42(8), 1768-1773. <https://doi.org/10.1007/s10803-011-1423-6>
- Kasari, C., Chang, Y. C., & Patterson, S. (2013). Pretending to play or playing to pretend: The case of autism. *American Journal of Play*, 6(1), 124.
- Kırcaali-İftar G., Ülke-Kürkçüoğlu, B., & Kurt, O. (2014). *Otistik çocuklar için davranışsal eğitim programı 1-2*. Ankara: Anı Yayıncılık.
- Kırcaali-İftar, G. (2013). Otizm spektrum bozukluğuna genel bakış. E. Tekin-İftar (Ed.). *Otizm spektrum bozukluğu olan çocuklar ve eğitimleri*. Ankara: Vize Yayıncılık.
- Kırcaali-İftar, G. (2007). *Otizm spektrum bozukluğu*. İstanbul: Daktylos Yayınları.
- Koçyiğit, S., Tuğluk, M. N., & Kök, M. (2007). Çocuğun gelişim sürecinde eğitsel bir etkinlik olarak oyun. *Atatürk Üniversitesi Kazım Karabekir Eğitim Fakültesi Dergisi*, 16, 324-340.
- Lee, S. Y., Lo, Y. Y., & Lo, Y. (2017). Teaching functional play skills to a young child with autism spectrum disorder through video self-modeling. *Journal of Autism and Developmental Disorders*, 47(8), 2295-2306. <https://doi.org/10.1007/s10803-017-3147-8>
- Lifter, K., Foster-Sanda, S., Arzamarski, C., Briesch, J., & McClure, E. (2011). Overview of play: Its uses and importance in early intervention/early childhood special education. *Infants Young Children*, 24(3), 225-245. <https://doi.org/10.1097/IYC.0b013e31821e995c>
- Lifter, K., Mason, E. J., & Barton, E. E. (2011). Children's play: Where we have been and where we could go. *Journal of Early Intervention*, 33(4), 281-297. *Young Children*, 24(3), 225-245. <https://doi.org/10.1177/1053815111429465>
- Lydon, H., Healy, O., & Leader, G. (2011). A comparison of video modeling and pivotal response training to teach pretend play skills to children with autism spectrum disorder. *Research in Autism Spectrum Disorders*, 5(2), 872-884. <https://doi.org/10.1016/j.rasd.2010.10.002>
- MacDonald, R., Clark, M., Garrigan, E., & Vangala, M. (2005). Using video modeling to teach pretend play to children with autism. *Behavioral Interventions*, 20(4), 225-238. <https://doi.org/10.1002/bin.197>
- Machalicek, W., Shogren, K., Lang, R., Rispoli, M., O'Reilly, M. F., Franco, J. H., & Sigafos, J. (2009). Increasing play and decreasing the challenging behavior of children with autism during recess with activity schedules and task correspondence training. *Research in Autism Spectrum Disorders*, 3(2), 547-555. <https://doi.org/10.1016/j.rasd.2008.11.003>
- Marais, K. (2018). Translation and development. J. Evans & F. Fernández (Ed.), *The Routledge handbook of translation and politics* içinde (ss. 95-109). New York: Routledge.
- Mazurek, M. O. (2014). Loneliness, friendship, and well-being in adults with autism spectrum disorders. *Autism*, 18(3), 223-232. <https://doi.org/10.1177/1362361312474121>
- Murdock, L. C., Ganz, J., & Crittendon, J. (2013). Use of an iPad play story to increase play dialogue of preschoolers with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 43(9), 2174-2189. <https://doi.org/10.1007/s10803-013-1770-6>

- Nelson, C., Nelson, A. R., McDonnell, A. P., Johnston, S. S., & Crompton, A. (2007). Keys to play: A strategy to increase the social interactions of young children with autism and their typically developing peers. *Education and Training in Developmental Disabilities, 42*(2), 165-181. <https://www.jstor.org/stable/23879993>
- Odluyurt S. (2013). Kaynaştırmaya devam eden otistik özellikler gösteren çocuklara kurallı oyun öğretiminde akranları tarafından doğrudan model olma ve videoyla model olma öğretiminin etkilerinin karşılaştırılması. *Kuram ve Uygulamada Eğitim Bilimleri, 13*(1), 536-540.
- Öncül, N. (2015). *Otizm spektrum bozukluğu olan çocuklara sembolik oyunların küçük grupla öğretiminde canlı modeller ve video modelleri öğretimin karşılaştırılması*. (Yayınlanmamış Doktora Tezi). Abant İzzet Baysal Üniversitesi, Eğitim Bilimleri Enstitüsü, Bolu:
- Özdemir, A., & Ramazan, O. (2012). Oyuncağa çocuk, anne ve öğretmen bakış açısı. *Eğitim Bilimleri Araştırma Dergisi, 2*(1), 2-16.
- Papoudi, D., & Kossyvakı, L. (2019). *Play and children with autism: Insights from research and implications for practice*. In P. K. Smith & J. L. Roopnarine (Eds.), *Cambridge handbooks in psychology. The Cambridge handbook of play: Developmental and disciplinary perspectives* (p. 563-579). London: Cambridge University Press
- Paterson, C. R., & Arco, L. (2007). Using video modeling for generalizing toy play in children with autism. *Behavior Modification, 31*(5), 660-681. <https://doi.org/10.1177/0145445507301651>
- Pehlivan, H. (2005). *Oyun ve Öğrenme*. Ankara: Anı Yayıncılık.
- Piştav-Akmeşe, P., & Kayhan, N. (2017). Özel eğitim öğretmenlerinin oyun öğretimine ilişkin öz-yeterlik düzeylerinin incelenmesi. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Özel Eğitim Dergisi, 18*(01), 1-26. <https://doi.org/10.21565/ozelegitimdergisi.274303>
- Pyle, A., & Bigelow, A. (2015). Play in kindergarten: An interview and observational study in three Canadian classrooms. *Early Childhood Education Journal, 43*(5), 385-393. <https://doi.org/10.1007/s10643-014-0666-1>
- Pyle, A., & Danniels, E. (2017). A continuum of play-based learning: The role of the teacher in play-based pedagogy and the fear of hijacking play. *Early Education and Development, 28*(3), 274-289. <https://doi.org/10.1080/10409289.2016.1220771>
- Rao, S. M., & Gagie, B. (2006). Learning through seeing and doing: Visual supports for children with autism. *Teaching exceptional children, 38*(6), 26-33.
- Reagon, K. A., Higbee, T. S., & Endicott, K. (2006). Teaching pretend play skills to a student with autism using video modeling with a sibling as model and play partner. *Education and Treatment Of children, 29*(3)517-528. <https://www.jstor.org/stable/42899899>
- Rutherford, M. D., Young, G. S., Hepburn, S., & Rogers, S. J. (2007). A longitudinal study of pretend play in autism. *Journal of Autism and Developmental Disorders, 37*(6), 1024-1039. <https://doi.org/10.1007/s10803-006-0240-9>
- Sandberg, A., & Samuelsson, I. P. (2005). An interview study of gender differences in preschool teachers' attitudes toward children's play. *Early Childhood Education Journal, 32*(5), 297-305. <https://doi.org/10.1007/s10643-005-4400-x>
- Sani-Bozkurt, S., & Ozen, A. (2015). Effectiveness and efficiency of peer and adult models used in video modeling in teaching pretend play skills to children with autism spectrum disorder. *Education and Training in Autism and Developmental Disabilities, 50*(1) 71-83. <https://www.jstor.org/stable/24827502>
- Saral D. & Ülke-Kürkçüoğlu B. (2018). Bakıma gereksinimi olan bireyler için hedef davranış belirleme ve tanımlama. FF. Aksoy (Ed.), *Etkili davranış yönetimi* içinde (ss. 29-55). Eskişehir: Açık Öğretim Fakültesi Yayınları
- Singer, D. G., Golinkof, R. M, & Hirsh-Pasek, K. (2013). *Play Learning: How play motivates and enhances children's cognitive and social-emotional growth*. Erişim tarihi: 22 Mayıs 2021 <http://udel.edu/~roberta/play/book.html>
- Sucuoğlu, B. (2009). Otizm ve otistik bozukluğu olan çocuklar. A. Ataman, (Ed.). *Özel eğitime giriş* içinde (2. Baskı). Ankara: Gündüz Eğitim ve Yayıncılık.
- Sucuoğlu, B. (2013). Engelli çocuklarda oyun gelişimi: Otistik çocuklar. Ü. Tüfekçioğlu, (Ed.) *Çocukta oyun gelişimi* içinde. Eskişehir: Anadolu Üniversitesi Yayınları.
- Şentürk-Cesur, M., & Odluyurt, S. (2019). An investigation of the opinions and suggestions of parents and teachers about the teaching of play skills to children with autism spectrum disorders. *International Journal of Early Childhood Special Education, 11*(2) 128-140. <https://doi.org/10.20489/intjecs.670469>
- Tarman, B., & Tarman, İ. (2011). Teachers' involvement in children's play and social interaction. *Elementary Education Online, 1*(10), 325-337.
- Taylor, S. I., Rogers, C. S., Dodd, A. T., Kaneda, T., Nagasaki, I., Watanabe, Y., & Goshiki, T. (2004). The meaning of play: A cross-cultural study of American and Japanese teachers' perspectives on play. *Journal of Early Childhood Teacher Education, 24*(4), 311-321. <https://doi.org/10.1080/1090102040240411>
- Tekin, G., & Tekin, A. K. (2007). Meanings of child's play according to Turkish early childhood educators: A phenomenological study. *Journal of Instructional Psychology, 34*(4), 207-213.

- Terpstra, J. E., Higgins, K., & Pierce, T. (2002). Can I Play?: Classroom-based interventions for teaching play skills to children with autism. *Focus on Autism and Other Developmental Disabilities*, 17(2), 119–126. <https://doi.org/10.1177/10883576020170020701>
- Terpstra, J. E., & Tamura, R. (2008). Effective social interaction strategies for inclusive settings. *Early Childhood Education Journal*, 35(5), 405-411. <https://doi.org/10.1007/s10643-007-0225-0>
- Toth, K., Munson, J., Meltzoff, A. N., & Dawson, G. (2006). Early predictors of communication development in young children with autism spectrum disorder: Joint attention, imitation, and toy play. *Journal of Autism and Developmental Disorders*, 36(8), 993-1005. <https://doi.org/10.1007/s10803-006-0137-7>
- Trawick-Smith, J., Swaminathan, S., & Liu, X. (2016). The relationship of teacher–child play interactions to mathematics learning in preschool. *Early Child Development and Care*, 186(5), 716-733. <https://doi.org/10.1080/03004430.2015.1054818>
- Tsai, C. Y. (2015). Am i interfering? Preschool teacher participation in children’s play. *Universal Journal of Educational Research*, 3(12), 1028-1033. <https://doi.org/10.13189/ujer.2015.031212>
- Tuğrul, B., Aslan, Ö. M., Ertürk, G., & Altınkaynak, Ş. Ö. (2014). Anaokuluna devam eden altı yaşındaki çocuklar ile okul öncesi öğretmenlerinin oyun hakkındaki görüşlerinin incelenmesi. *İnönü Üniversitesi Eğitim Fakültesi Dergisi*, 15(1), 97-116. <https://doi.org/10.116 10.17679/iuefd.05509>
- Türkmenoğlu, F. (2005). 60–72 aylık çocukların matematik becerilerini kazanmalarında, “oyun yoluyla matematik becerilerini kazandırma programı”nın etkisinin incelenmesi. (Yayınlanmamış Yüksek Lisans Tezi). Gazi Üniversitesi, Eğitim Bilimleri Enstitüsü, Ankara.
- Türkoğlu, B., & Uslu, M. (2016). Oyun temelli bilişsel gelişim programının 60- 72 aylık çocukların bilişsel gelişimine etkisi. *Uluslararası Eğitim Bilimleri Dergisi*, 3(6), 50-68.
- Ülke-Kürkçüoğlu, B. (2012). Otizm spektrum bozukluğu olan çocuklara oyun becerilerinin öğretimi. E. Tekin-İftar (Ed.). *Otizm spektrum bozukluğu olan çocuklar ve eğitimleri* içinde. Ankara: Vize Yayıncılık.
- Ulke-Kurkcuoglu, B., Bozkurt, F., & Cuhadar, S. (2015). Effectiveness of instruction performed through computer-assisted activity schedules on on-schedule and role-play skills of children with autism spectrum disorder. *Educational Sciences: Theory & Practice*, 15(3) 671-689. <https://doi.org/10.12738/estp.2015.3.2432>
- Ulutaş, A. (2011). Okul öncesi dönemde drama ve oyunun önemi. *Adıyaman Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 4(6), 233-242. <https://doi.org/10.14520/adyusbd.116>
- Warreyn, P., Van der Paelt, S., & Roeyers, H. (2014). Social-communicative abilities as treatment goals for preschool children with autism spectrum disorder: The importance of imitation, joint attention, and play. *Developmental Medicine & Child Neurology*, 56(8), 712-716. <https://doi.org/10.1111/dmnc.12455>
- White, S. W., & Roberson-Nay, R. (2009). Anxiety, social deficits, and loneliness in youth with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 39(7), 1006-1013. <https://doi.org/10.1007/s10803-009-0713-8>
- Wolberg, J. K., & Schuler, A. L. (2006). Promoting social reciprocity and symbolic representation in children with autism spectrum disorders. T. Charman & W. Stone (Eds.). *Social and communication development in autism spectrum disorders: early identification, diagnosis, and intervention*. New York: The Guilford Press.
- Wong, C., & Kasari, C. (2012). Play and joint attention of children with autism in the preschool special education classroom. *Journal of Autism and Developmental Disorders*, 42(10), 2152-2161. <https://doi.org/10.1007/s10803-012-1467-2>
- Yıkılmış, A., Terzioğlu, N. K., Mehtap, K. O. T., & Aktaş, B. (2017). Özel Eğitim Öğretmenlerinin Derslerde Oyun ve Şarkıyı Kullanma Durumları. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi*, 17(3), 1567-1583.
- Yıldırım, A., & Şimşek, H. (2011). *Sosyal bilimlerde nitel araştırma yöntemleri* (8.baskı). Ankara: Seçkin Yayınevi.

**Yazarlar**

*İletişim*

Ayşe Çiđdem GÜLVEREN

Özel Eđitim Uygulama Okulu  
Milli Eđitim Bakanlıđı  
Özel Eđitim Öğretmeni

Şerife YÜCESOY ÖZKAN

Osmangazi Üniversitesi  
Eđitim Fakóltesi  
Özel Eđitim Bölümü  
E-mail: [serife.yozkan@anadolu.edu.tr](mailto:serife.yozkan@anadolu.edu.tr)

Nuray ÖNCÜL

Anadolu Üniversitesi  
Eđitim Fakóltesi  
Özel Eđitim Bölümü  
E-mail: [noncul@anadolu.edu.tr](mailto:noncul@anadolu.edu.tr)



# İş Birlikli Öğretim Tekniklerinin Kullanımına Yönelik Bir Eylem Araştırması\*

Sinan ARI\*\* Sabahattin ÇİFTÇİ\*\*\*

## Atf için:

Arı, S. ve Çiftçi, S. (2021). İş birlikli öğretim tekniklerinin kullanımına yönelik bir eylem araştırması. *Journal of Qualitative Research in Education*, 29, 78-110 .doi: 10.14689/enad.29.4

**Öz:** Bu araştırmada; iş birlikli öğretim teknikleri temelinde hazırlanan ve uygulanan eylem planları ile teorik bilgilerle uygulama arasında bir köprü kurarak eğitim-öğretim sürecini ve uygulamalarını geliştirmek hedeflenmiştir. Ayrıca araştırma ile öğrencilerin bilgi ve becerileri doğrultusunda bir araya gelerek dayanışma temelinde beraber öğrenmenin daha etkili olabileceği vurgulanmak istenmiştir. Araştırma nitel araştırma desenlerinden biri olan eylem araştırması deseninde yürütülmüştür. 2018-2019 eğitim-öğretim yılında Yozgat ili Sarıkaya ilçesinde taşıma merkezli bir köy okulunda öğrenim gören 4. sınıf öğrencileri ve öğretmeni ile yürütülen bu araştırmada öncelikle uygulama öncesi on ders saati boyunca gözlem yapılmış, yarı yapılandırılmış görüşmeler ve gözlemlerle mevcut durum anlaşılmasına çalışılmıştır. Daha sonra eylem planları hazırlanarak otuz iki saatlik uygulama gerçekleştirilmiştir. Verilerin analizinde betimsel analiz kullanılmış, uygulama öncesi ve sonrası elde edilen veriler, karşılaştırmalar yapılarak yorumlanmıştır. Elde edilen bulgulara göre iş birlikli öğretim tekniklerinin sosyal bilgiler dersinde işe koşulması ile rekabetçi sınıf ikliminin kırıldığı, öğrencilerde görülen bazı olumsuz davranışların azaldığı, derse olan ilginin arttığı ve sınıf öğretmenin mesleki gelişimine katkı sağladığı tespit edilmiştir. Araştırma, eylem araştırması ile edinilen deneyimlerin alanyazına aktarılması ile gelecek araştırmalara ışık tutacaktır.

**Anahtar Kelimeler:** İş birliği, eylem araştırması, mesleki gelişim, ilkokul

## Makale Hakkında


Gönderim Tarihi:  
05.10.2021  
Düzeltilme Tarihi:  
01.01.2022  
Kabul Tarihi:  
14.01.2022

## Makale Türü

Araştırma

© 2022 ANI Yayıncılık. Tüm hakları saklıdır.

\*Bu makale, ilk yazarın ikinci yazar danışmanlığında 2020 yılında tamamlanmış olduğu doktora tezinden üretilmiştir.

\*\*  SorumluYazar: MEB, [dr.sinanari@gmail.com](mailto:dr.sinanari@gmail.com)

\*\*\*  Necmettin Erbakan Üniversitesi, Konya, Türkiye, [sabahattinciftci@hotmail.com](mailto:sabahattinciftci@hotmail.com)

## Giriş

Değişimi kaçınılmaz kılan modern dünya, pek çok alana olduğu gibi eğitim alanına da birçok yenilik getirmiştir. Bilgi artık hareketsiz katı bir madde değil, akıcı ve hareketli bir sıvı olarak toplumun bütün olayları içerisinde aktif haldedir (Dewey, 2019, 37). Sanayi toplumundan bilgi toplumuna doğru bir dönüşümün yaşandığı bilgi ve teknoloji çağında bilginin hem objesi hem de süjesi insandır. Bilgiyi üreten, etkin olarak kullanan, dağıtan ve ekonomiye dönüştüren ülkeler uluslararası rekabette ön sıralarda yer almaktadır. Temeli insan üzerine kurulmuş olan bilgi toplumlarında kurumlar bilgiye dayalı ve yönetimler de donanımlı insan merkezli düzenlenmektedir (İnce ve Gül, 2006, 221). Ülkeler de bilimsel gelişmeler ışığında ve çağın gerektirdiği ihtiyaçlar doğrultusunda eğitim sistem ve programlarını sürekli güncellemektedirler. Bu nedenle eğitim sistemlerinde öğrencilerin aktif katılımının olduğu, deneme ve deneyimlerle öğrenmelerin temele alındığı, yalnızca öğretmene bağımlı kalarak değil, araştıran, sorgulayan ve öğrenen öğrenci profiline geçilmiştir (Babadoğan, 2005, 102). Eğitim dünyası artık geleneksel yaklaşımdan uzaklaşarak yapılandırmacı yaklaşımı benimsemiştir. Diğer ülkelerde olduğu gibi ülkemiz eğitim sisteminde de öğretmen merkezli eğitim anlayışından öğrenci merkezli eğitim anlayışına bir dönüşüm gerçekleşmiştir. Aktif öğrenmelerin etkin kılındığı ortamlarda öğretmen; öğrencilere fikir veren, yön gösteren, rehberlik yapan, âdeta öğrenmeyi kolaylaştırıcı, tasarımcı rolündedir (Açıkgöz, 2008, 34). Bu yüzden ilkökul programlarının uygulayıcısı sınıf öğretmenleri de ihtiyaç doğrultusunda eğitim-öğretim süreçlerinde kendilerini yenilemek ve güncellemek durumundadır.

Yetenek savaşlarının yaşandığı günümüz dünyasında Sosyal bilgiler dersinin amacını gerçekleştirmek için iyi bir öğrenme ortamı, öğrenme süreci ve öğretim tekniklerine ihtiyaç vardır. Öğretmenler öğretim tekniklerinin neler olduğu, bu tekniklerin işlev ve rolleri hakkında bilgi sahibi olmalıdır (Bilen, 2010, 247). Çünkü Toffler'e göre bilgi çağı yaşamın yeniden yapılandırılmasından başka bir şey değildir (Toffler, 1992 s. 76). Bu noktada bilginin temel kaynağı ve sermayesini yetiştiren öğretmenler de gelişen dünya şartlarında öğretim yöntem ve tekniklerini yeniden yapılandırmalı, mesleki yeterlikleri gereği kendilerini güncellemelidir. Demirkan ve Saraçoğlu (2016), öğretmenlerin öğrenci merkezli, çağdaş öğretim tekniklerini öğrenme-öğretme süreçlerinde kullanmaları gerektiğini vurgulamaktadırlar. Bilgili (2008), yapılan araştırmalardan yola çıkarak derslerde öğrencileri aktif kılacak yöntemlerin kullanılmasının akademik başarıyı artırdığını belirtmiştir.

Aktif öğrenme ortamlarında öğrenciler bilgiyi anlayan, özümseyen, üreten ve öğrendiğini kullanan durumundadır. Bunun için öğrenciler sürekli araştırmalı, neden sonuç ilişkisi kurmalı, sorgulamalı, elde ettiği verileri analiz etmeli ve tüm bunları yaparken de bilgi ve becerilerini etkin bir şekilde kullanarak akranları ile iş birliği yapmalıdır (Sönmez, 2008, 360). Bu ihtiyaçlar doğrultusunda öğrenciyi aktif kılan birçok öğrenme yaklaşımı geliştirilmiştir. Bu yaklaşımlardan biri de iş birlikli öğrenme

yaklaşımıdır. Şimşek (2007), bu yaklaşımı, öğrencilerin sınıf içi ve dışı ortamlarda heterojen gruplarla bir konuda ortak hedef doğrultusunda kendi öğrenmelerini gerçekleştirirken bir taraftan da akranlarının öğrenmelerine yardımcı oldukları, sürekli aktif olunan, problem çözme gücünü artıran, sosyal becerilerin geliştiği bir yöntem olarak ifade etmektedir. İş birlikli öğrenme üzerine birçok tanımlama yapılmıştır. Demirel (2003), iş birlikli öğrenmeyi öğrencilerin küçük gruplar halinde bir sorunu çözmek için ortak bir amaç doğrultusunda öğrenmelerin gerçekleştiği bir yöntem olarak açıklarken Senemoğlu ve diğerleri (2001), küçük heterojen grupların ortak bir hedef doğrultusunda bilimsel bir konu üzerinde birbirlerine yardım ederek öğrenmelerin gerçekleştiği ve genelde grup başarısının ödüllendirildiği bir yöntem olarak ifade etmişlerdir. Siegel (2005) ise bir grup öğrencinin ortak bir amaç için birlikte çalışması ve böylece öğrenci etkileşiminin sağlandığı bir yöntem olarak açıklamıştır. Diğer bir tanımda "İş birlikli öğrenme, güdülenmeyi ve alıkoymayı artırmak, öğrencilerin kendilerine ve diğer arkadaşlarına ilişkin olumlu imaj geliştirmelerinde yardımcı olmak, problem çözme ve eleştirel düşünme gücünü geliştirmek ve iş birliğine dayalı toplumsal beceriler konusunda yüreklendirmek için kullanılan bir sınıf öğrenme yöntemidir" (Christison, 1990) şeklinde geçmektedir.

Yılar (2015), yaptığı araştırmasında diğer araştırmaların (Slavin and, Karwein, 1981; Moskowitz vd.,1983 ve Lazorowitz vd.,1985) bulgularından yola çıkarak iş birlikli öğrenme yaklaşımının öğrencilerin akademik başarılarıyla birlikte birçok beceri üzerinde de olumlu etkileri olduğunu belirtmiştir. Açıkgöz (1996), iş birlikli öğrenmenin güdü, tutum, kaygı gibi duyuşsal özellikleri olumlu etkilediğini, pozitif bir öğrenme ortamı oluşturduğunu belirtmektedir. İş birlikli öğrenmenin yararları birçok bilimsel çalışmada farklı şekillerde sıralanmıştır. Bu faydalardan bazıları: İş birliği sürecinde bilgi ve deneyimlerin paylaşılması (Wessner ve Pfister, 2007, 22), grupların fikirlerini paylaşmaları ve ortaya yeni ürün çıkarmaları (Ingram ve Hathorn, 2004, s. 218), akran öğrenmelerini sağlama (Slavin, 1987, 1161), farklı yeteneklerdeki öğrencileri bütünleştirme, grup içi etkileşimi sağlama (Demirel, 2003, s. 124), derste pasif durumdaki öğrencilerin katılımlarını artırma (Bilgin ve Akbayır, 2002), öğrencilerde yüksek düzeyde motivasyon sağlama (Tauer ve Haravkievicz, 2004) şeklindedir. İlkokul temel bilgi ve becerilerin kazanıldığı, tutum ve değerlerin temelinin atıldığı ilk eğitim basamağıdır. Somut işlemler dönemindeki ilkökul öğrencilerinin temel özelliklerini ve ihtiyaçlarını bilmek oldukça önemlidir. Bu öğrenciler öğrenme ortamlarında özgürce hareket etmek, arkadaşlarıyla etkileşimde bulunmak ve öğrenmeye aktif bir şekilde katılmak isterler (Çelik, 2002, 61). Bunların yanı sıra öğrenciler; problem çözme sürecinde faal bir şekilde uğraşan, akranlarıyla ve öğretmenleriyle tartışan, pasiflik yerine aktif ve sorgulayıcı bir tutum içerisinde (Philips ve Soltis, 2005, s. 51). Yeşilyurt (2009), iş birliğine dayalı öğrenmenin öğrenci davranışları üzerine etkisini incelediği çalışmasında iş birliğine dayalı öğrenmenin bilişsel, duyuşsal ve devinişsel alanlardaki davranışlar üzerinde önemli derecede olumlu etkisinin olduğunu vurgulamaktadır. Güncellenen öğretim programlarında (Türkçe, Sosyal Bilgiler vs) da iş birliğine dayalı öğrenmenin; iş birliği ve iletişim temelinde farklılıklara saygı göstermeye, farklılıkların zenginlik olarak algılanmasına, düşüncelerin rahatça paylaşılmasına ve yeni fikirlerin oluşmasına ortam sağladığı belirtilmiştir (MEB, 2017). Bu araştırma ile bir

tarafından öğretmenlerin mesleki gelişimine katkı sunmak diğer taraftan iş birlikli öğrenme anlayışı ile işlenen sosyal bilgiler dersleri ile oluşan sınıf iklimini ve öğrencilere yansımalarını görmek amaçlanmıştır. Bu amaç doğrultusunda uygulama öncesi ve sonrasında; “Sınıf öğretmenin iş birlikli öğretim teknikleri üzerine düşünceleri nelerdir? Bu teknikler ile işlenen derslerden sonra oluşan sınıf ortamı nasıldır? Öğrencilerin iş birlikli öğretim teknikleri ile işlenen sosyal bilgiler dersleri üzerine düşünceleri nelerdir?” gibi bazı sorulara cevaplar aranmıştır.

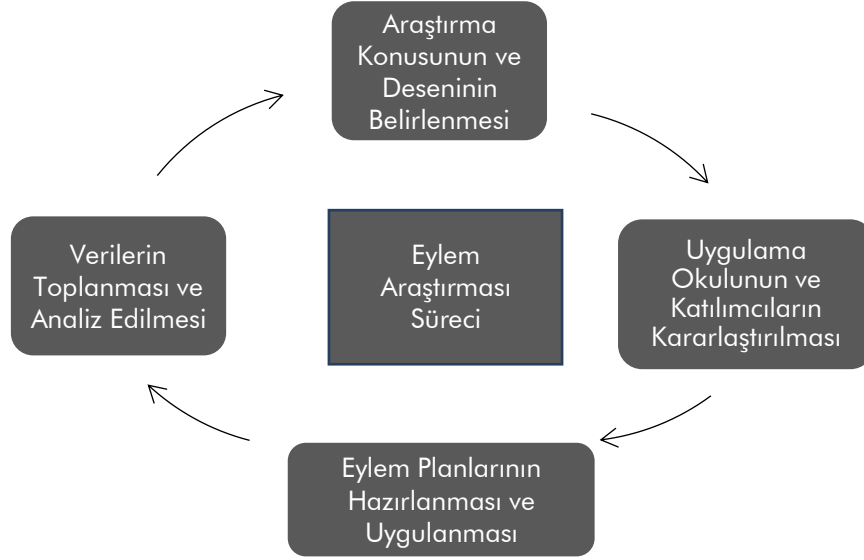
## Yöntem

Bu araştırma; teorik bilgilerle uygulama arasında bir köprü kurarak eğitim-öğretim sürecini ve uygulamalarını geliştirmek, bir taraftan öğretmenlerin mesleki gelişimine katkı sunmak diğer taraftan iş birlikli öğrenme anlayışı ile işlenen sosyal bilgiler dersleri ile oluşan sınıf iklimini ve öğrencilere yansımalarını görmek amacıyla nitel araştırma yöntemlerinin kullanıldığı eylem araştırması olarak desenlenmiştir. Eylem araştırması, bilgiyi bir iktidar biçimi olarak ele alan ve araştırmayla toplumsal aksiyon arasındaki çizgiyi kaldıran uygulamalı bir araştırmadır (Neuman, 2006, 42). Diğer bir tanımda aksiyon araştırması, sosyal bir olayın içindeki aksiyonun iyileştirilmesi için değişimi hedefleyen pratik eksenli bir araştırma yaklaşımıdır (Taylor, 2002).

Derince ve Özgen (2015, s.146), eylem araştırmalarının genelde eğitim alanında yaygın kullanıldığını ve yöneticilerin, danışmanların, özellikle de öğretmenlerin sınıf uygulamalarında yaşadıkları sorunlarda veya bu uygulamaları daha da iyileştirmek için eylem araştırmaları yapılabileceğini, sorunlara çözümler üretilebileceğini belirtmektedir. Tanımların üzerinde uzlaştığı nokta; eylem araştırmasının, ortada bir problem durumu olmasa bile mevcut bir durumu daha iyi hâle getirme odaklı, uygulamaya yönelik, plânlı ve sistematik adımlarla gerçekleştirilen bilimsel bir araştırma yaklaşımı olduğudur.

## Şekil 1.

### Eylem Araştırması Süreci



Alanyazında Piggot-Irvine, Stringer, Kemmis ve McTaggart modeli gibi eylem araştırması modellerinden bahsedilmektedir (Gürgür, 2016). Bu çalışmada ise bak, düşün ve eyleme geç adımlarından oluşan Stringer'e ait sarmal eylem araştırması kullanılmıştır. Bu çalışma kapsamındaki süreç Şekil 1'de gösterilmiştir.

### Araştırma Konusunun ve Deseninin Belirlenmesi

Araştırma konusunun belirlenmesinde; araştırmacının çalıştığı okul ortamındaki tespitleri, kendi tecrübeleri ve düşünceleri ile birlikte, danışmanı başta olmak üzere alanında yetkin kişiler ile yaptığı görüşmeler etkili olmuştur. Araştırmacının idareci olmasından dolayı okulda gerçekleşen bir veli görüşmesinde velinin anlattıklarından sonra bu konu araştırmacının daha fazla dikkatini çekmiştir. Yapılan görüşmede veli, derslerde yapılan yarışmalarda çocuğunun hediye kazanamamasından dolayı hırs yaptığını, evdeki davranışlarının değiştiğini, hırçınlaştığını, evdeki küçük kardeşini hırpalamaya başladığını ve gece uykusunda dahi sayıkladığını belirtmiştir. Bunun üzerine konuya daha çok yoğunlaşmıştır.

Araştırmacının doktora sürecinde "Nitел Araştırma Desenleri ve Uygulamaları" dersinde almış olduğu bilgiler, eylem araştırmasının okul ve sınıf temelli uygulamaları geliştirmeyi amaçlaması, araştırmacının araştırmanın bir parçası olabilmesi, özü gereği bir sorunu çözmeye, iyileştirmeye çalışması ve uygulama imkânı sunması gibi özellikler araştırma deseninin "eylem araştırması deseni" olarak belirlenmesindeki başlıca etkenlerdir.

## Uygulama Okulunun ve Katılımcıların Kararlaştırılması

Bu araştırmanın çalışma grubunu 2018-2019 eğitim-öğretim yılında Yozgat ili Sarıkaya ilçesinde taşıma merkezli bir köy okulunda öğrenim gören 4. sınıf öğrencileri ve ücretli sınıf öğretmeni oluşturmaktadır. Sınıf öğretmenin ilkokul haricinde tecrübesi vardır. Beş yıl boyunca çeşitli kademelerde ücretli öğretmen olarak görev yapmıştır. Araştırmacıyı kendi okuluna iten nedenler; diğer okullardaki idarecilerin ve öğretmenlerin bu tür uygulamalardan kaçınmaları, araştırmacının bu okulda dört yıldır çalışıyor olmasından dolayı öğrenciler ve veliler hakkında ayrıntılı bilgiye sahip olması, uygulamayı araştırmacının bizzat kendisinin yapmak istemesi ve bir başka okulda yapmanın getireceği güçlüklerdir. Bu bağlamda örneklem seçiminde amaçlı örnekleme yöntemlerinden kolay ulaşılabilir durum örnekleme tercih edilmiştir. Kolay ulaşılabilir durum örnekleme araştırmaya hız ve pratiklik kazandıran, araştırmacının erişilmesi kolay olan durumu seçtiği örnekleme yöntemidir (Yıldırım ve Şimşek, 2006, s. 113).

Çalışma grubu 15 kız 10 erkek öğrenciden oluşmaktadır. Bu öğrencilerden 18'i taşıma kapsamında servis aracı ile okula gelmektedir. Annelerin 19 tanesi ilköğretim mezunu ve 6 tanesi ortaokul mezunu olup tamamı ev hanımıdır. Babaların ise 18'i ilköğretim, 5'i ortaokul, 1'i lise mezunudur ve 1'i de okuryazar değildir. Öğrenciler ve aileleri sosyo ekonomik açıdan benzer durumdadır.

## Eylem Planlarının Hazırlanması ve Uygulanması

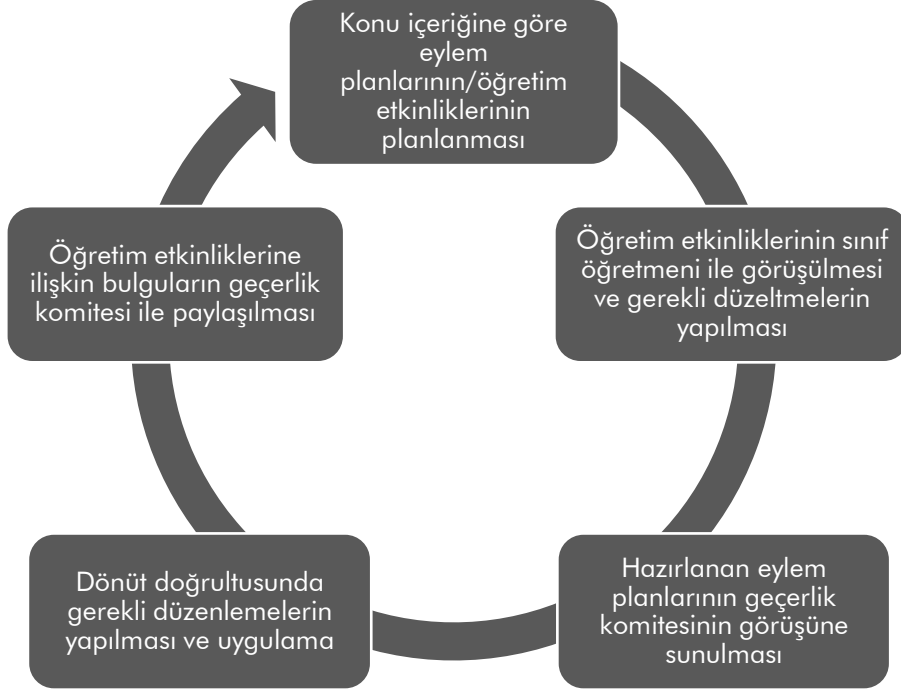
Eylem planları hazırlanmadan önce sınıf öğretmeni ile işlenecek konu başlıkları ve süreleri üzerine bir dizi görüşme gerçekleştirilmiştir. Yapılan görüşmeler neticesinde işlenecek konular, kullanılacak teknikler ve süreler aşağıdaki tabloda gösterilmiştir.

**Tablo 1.**

*İşlenecek Konular, Kullanılan Teknikler ve Süreleri*

| ÜNİTE                      | KULLANILAN TEKNİK        | SÜRE          |
|----------------------------|--------------------------|---------------|
| Üretim, Dağıtım ve Tüketim | Takım Oyun Turnuva (TOT) | 12 ders saati |
| Etkin Vatandaşlık          | Birlikte Öğrenme         | 10 ders saati |
| Küresel Bağlantılar        | JIGSAW-2                 | 10 ders saati |

Dersin işlenişine yönelik tablo 1'de görüldüğü gibi bir planlama yapıldıktan sonra; araştırmacının gözlemleri, sınıf öğretmenin ve geçerlik komitesinin görüşleri doğrultusunda taslak eylem planları hazırlanmış; bu süreçte uygulama esnasında karşılaşılabilecek yeni durumlar için değişiklikler yapılması kararlaştırılmış ve ihtiyaç halinde gerekli değişiklikler gerçekleştirilmiştir.

**Şekil 2.***Eylem Planlarının Hazırlanması ve Uygulanmasına Ait Döngüsel Süreç*

Geçerlik komitesi araştırmacının danışmanı ile birlikte aynı ana bilim dalından üç öğretim üyesinden oluşmaktadır. Eylem planlarının (öğretim etkinliklerinin) hazırlanması ve uygulanmasına ilişkin haftalık döngüsel süreç Şekil 2’de özetlenmiştir.

**Verilerin Elde Edilmesi, Analiz Edilmesi ve İnanırcılığının Sağlanması**

Araştırmanın amacı ve deseni doğrultusunda veri toplama araçları olarak araştırma boyunca; araştırmacı günlüğü, katılımcı gözlem, öğrenci-öğretmen kişisel bilgi formları, eylem planlarında yer alan çalışma ve etkinlik yapıları, kamera kayıtları, gözlemci notları, yarı yapılandırılmış görüşmeler kullanılmıştır. Nitel araştırmalarda veri toplama amacıyla yaygın olarak kullanılan yarı yapılandırılmış görüşme, araştırmacı tarafından önceden belirlenmiş veya görüşme sırasında ortaya çıkan konulara göre yeni soruların da sorulabildiği bir yöntemdir (Güler vd. 2013, s. 113). Bu görüşmeler hem sabit seçeneqli cevaplamayı hem de ilgili konuda derinlere gidebilmeyi sağlayabilen görüşmelerdir. Görüşmecilerin kendilerini ifade etme imkânları, konuda derinlere inilebilme, analiz kolaylığı vb. yönler bu yöntemin avantajlarıdır (Büyüköztürk vd., 2013).

Etik kurallar gereği görüşmecilerden gerekli izinler alınmış ve elde edilen verilerin araştırma dışında kullanılmayacağı görüşmecilere açıklanmıştır. Ayrıca görüşmecilere, isimlerinin araştırmanın hiçbir aşamasında verilmeyeceği, bunun yerine kod kullanılacağı belirtilmiştir. Araştırma kapsamında görüşmenin gidişatına göre ana soru köküne bağlı kalmak kaydı ile öğrencilere ve sınıf öğretmenine açık uçlu ek sorular sorulmuş, ihtiyaç halinde bazı eklemelerde bulunulmuştur. Özellikle öğrencilerden daha detaylı cevaplar alabilmek adına bu yola başvurulmuştur. Görüşmeler müdür yardımcısı odasında görüşmecilerin rahat olabilecekleri bir ortamda birebir gerçekleştirilmiştir.

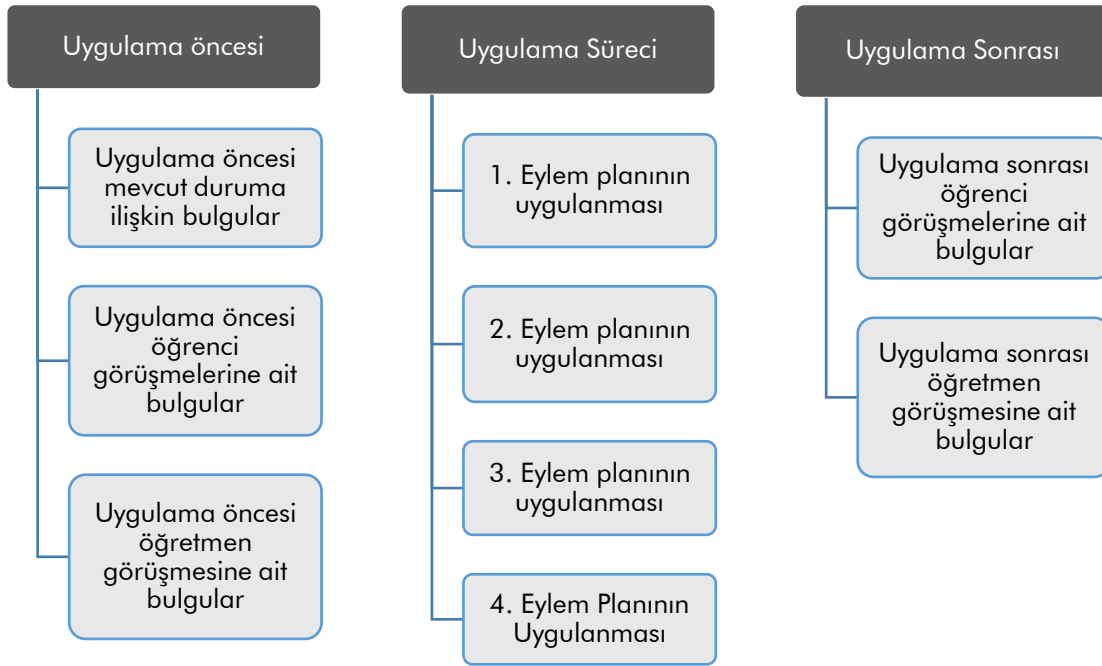
Araştırma kapsamında elde edilen verilerin analizinde betimsel analiz kullanılmıştır. Yıldırım ve Şimşek'e (2006, s. 224) göre betimsel analiz, daha çok araştırmanın kavramsal yapısının önceden açık bir biçimde ifade edildiği araştırmalarda kullanılmaktadır. Veriler daha önceden belirlenen temalara ya da araştırma sorularının ortaya koyduğu çerçeveye göre yorumlanır ve özetlenir. Bulgular arasında neden-sonuç ilişkileri kurulması, karşılaştırmalar yapılması yorumların kalitesini artıran etmenlerdir. Büyüköztürk vd. (2013, s. 245) McMillan'ın açıklamaları doğrultusunda yaptıkları açıklamaya göre nitel bir çalışmada detaylı alan kayıtlarının alınması, araştırmacı tarafından doğru ve kapsamlı bilgi sağlanması, katılımcılardan alıntılarının yapılması ve bu alıntılarının ekleme yapılmadan olduğu gibi aktarılması güvenilirliği artırmaktadır. Ayrıca araştırma boyunca elde edilen veriler alanında uzman ikinci bir kişi tarafından da analiz edilmiştir.

Güler vd. (2003, s. 135) nitel araştırmalarda kullanılan farklı yaklaşımların her birinin kendine has analiz yöntemi olduğunu ancak buna rağmen örtüştükları birçok noktanın da olduğunu belirtmektedirler. Engel ve Schmitt'tan (2005) yola çıkarak bu ortak noktaları toplanan verilerin yazıya dökülmesi, verilerin ana konsept etrafında organize edilmesi, konseptlerin birbirleri ile olan ilişkisinin ortaya konması, verilerin değerlendirilerek konseptlere meşruluk kazandırılması ve veri analizinin belli bir mantık çerçevesinde sunulması olmak üzere beş aşamada açıklamışlardır. Bu bağlamda araştırma sürecinde toplanan veriler yazıya dökülmüş, görüşme sorularından oluşturulan tematik çerçeveler etrafında organize edilerek kodlar oluşturulmuştur. Araştırmacı tarafından yapılan bu işlemler başka bir alan uzmanı tarafından da gerçekleştirilmiş, tutarlı olduğu anlaşıldıktan sonra bulgular aşamasına geçilmiş ve bulguların elde edilen tüm verilerle neden-sonuç ilişkisi bağlamında ilişkilendirilmesine özen gösterilmiştir.

## **Bulgular**

Araştırma bulguları uygulama öncesi, uygulama süreci ve uygulama sonrası olmak üzere üç ayrı kategoride sunulmuştur. Araştırma bulgularının sistematığı aşağıdaki şekilde gibidir.



**Şekil 3.****Araştırma Bulgularının Sistematiği****Uygulama Öncesi Mevcut Duruma İlişkin Bulgular**

Araştırmacı, uygulama öncesi iki ay boyunca on ders saati sınıf gözlemi yapmış, günlük tutmuş, saha notları almış, video ve ses kayıtları yapmıştır. Ders gözlemlerinde dersin genel işlenişine, kullanılan yöntem ve tekniklere, öğretmen-öğrenci iletişimlerine, öğrencilerdeki sosyal katılım, empati, iş birliği gibi becerilere, dayanışma, sorumluluk, sevgi, saygı gibi değerlere ve öğrenci davranışlarına daha çok dikkat edilmiştir. Öğretmenin derslerde genellikle sunuş yoluyla öğretim yaptığı görülmüştür.

Öğrenci davranışlarına yönelik yapılan gözlemlerde genelde dersin dikkatli dinlendiği, derse katılımın öğretmenin sorduğu sorulara cevap verme şeklinde olduğu görülmüştür. Öğretmen konusunu bitirdikten sonra öğrencilere zaman zaman notlar aldırılmaktadır. Öğrencilerin yazmayı sevdikleri göz önüne alındığında kısa notlar yazdırılması öğrenciler için olumludur ancak bunun dışında öğrencilerin etkin olacağı, aktif katılım sağlayacağı bir ortam görülmemektedir. Bu durum gözlem formuna şu şekilde yansımıştır:

...Öğrenciler sorulara cevap verme ya da öğretmene soru sorma dışında çok aktif olmuyorlar doğal olarak. Önceki derste tuvalete çıkan öğrenciler yine dışarı çıktılar. Derse katılım sağlamayan öğrencilerden bir kaçının sıranın üzerine kafalarını koyup neredeyse uyuduklarını gözlemlerdim. Öğretmen not aldırırken hafif uğultular olsa da not yazmayan hiçbir öğrenci yoktu... (AGF, 19.12.2018)

## Uygulama Öncesi Öğrenci Görüşmelerine Ait Bulgular

Öğrencilere ilk olarak sosyal bilgiler dersi üzerine genel düşünceleri sorulmuştur. Verilen cevaplar incelendiğinde öğrencilerin çoğu sosyal bilgiler dersini sevdiğini az bir kısmı da bazen sevip bazen sevmediğini belirtmiştir. Öğrencilerin çoğunun dersi sevmesi hedeflenen kazanımların verilmesi açısından önemlidir. Dersin içeriğine yönelik dört öğrenci haricinde diğer öğrencilerin hemen hemen hepsinin bir fikri vardır. Sosyal bilgiler dersinde yapılan etkinliklere dair öğrenci görüşleri alındığında öğrencilerin en çok söylediği etkinlikler aşağıdaki tabloda özet halinde sunulmuştur.

**Tablo 2.**

### Sosyal Bilgiler Dersinde Yapılan Etkinlikler

| Tema   | Kodlar                      | F ( ) |
|--|-----------------------------|-------|
| Sosyal Bilgiler Dersinde Yapılan Etkinlikler | Fotokopi –çalışma kâğıtları | 14    |
|  | Yazma                       | 14    |
|  | Çoktan seçmeli test         | 10    |
|  | Okuma                       | 6     |
|  | Soru-cevap                  | 6     |
|  | Düz anlatım                 | 4     |

Öğrenci ifadelerinden, sosyal bilgiler dersinde genelde sunuş yoluyla öğretimin getirdiği klasik etkinlikler ve uygulamalar yapıldığı anlaşılmaktadır ancak bu etkinliklerin çoğunda öğrencilerin birbirleri ile iletişim kuracakları, iş birliği yapacakları bir durum ortaya çıkmamaktadır. Öğrenci ifadelerinden bazıları şöyledir;

Puanlı test yapıyoruz. Mesela bisikleti kimin bulduğunu araştırıp geliyoruz, ertesi gün söylüyoruz. Ders işlenirken kitaptaki yazıları okuyoruz, kitaptaki etkinlikleri yapıyoruz. Bazen de öğretmen kâğıt getiriyor. Çoktan seçmeli sorular var, Doğru-yanlışlar var, eşleştirmeli sorular var, boşluk doldurma var. (Ö3)

Öğretmen ilk başta anlatıyor ondan sonra o konu ile ilgili puanlı fotokopi filan veriyor. Yazı yazdırıyor, bize not aldırıyor. (Ö6)

Kitaptan okuyoruz, etkinlikleri yapıyoruz, soru çözüyoruz. Öğretmen bize sorular soruyor biz onu cevaplıyoruz. (Ö9)

Derste yapılan etkinlikler üzerine öğrenci yorumları alındıktan sonra öğrencilere derste yapmaktan hoşlandıkları ve hoşlanmadıkları şeyler üzerine düşünceleri sorulmuştur. Öğrencilerin çoğunluğu genel olarak hoşlanmadığı bir şey olmadığını daha çok yazı yazmaktan ve fotokopi kâğıtları ile yapılan etkinliklerden hoşlandıklarını belirtmişlerdir. Bu düşünceler üzerine öğrencilere dersin nasıl işlenmesini istedikleri sorulmuş ve alınan cevaplarda geçen ifadeler kodlanarak aşağıdaki tabloda belirtilmiştir.

**Tablo 3.****Öğrencilerin Sosyal Bilgiler Dersinin Nasıl İşlenmesini İstediklerine Dair Düşünceleri**

| Tema   | Kodlar  | F () |
|--|---|------|
| Öğrencilerin Sosyal Bilgiler Dersinin Nasıl İşlenmesini İstediklerine Dair Görüşleri | Eğlenceli hâle getirilerek (bulmacalı test, fıkra, bilmece vb.) | 13   |
|  | Daha çok yazarak  | 10   |
|  | Oyunlu  | 9    |
|  | Projeksiyon ile   | 6    |
|  | Birbirimize sorular sorarak                                     | 6    |
|  | Kitaptan  | 3    |
|  | Öğretmenin anlatması ile  | 3    |

Tablo 3'te görüldüğü üzere öğrenciler derslerin daha çok eğlenceli hâle getirilerek ve yazarak işlenmesini istediklerini belirtmişlerdir. Bir önceki tablo incelendiğinde öğrencilerin çoğunluğunun yazmayı sevdiğini görülmektedir. Bu durum öğrencilerin verdikleri cevaplardaki tutarlılığı ortaya koymaktadır. Konu üzerine bazı öğrencilerin görüşleri şöyledir:

Deftere daha çok yazalım, isterim. Bulmacalı test verilsin. Akıllı tahta yok ama projeksiyondan göstereyim. Tahtaya çizerek göstereyim." (Ö1)

Eğlenceli ve herkesin daha çok söz hakkı olmalı. Herkes daha çok okumalı. Öğretmen beni kaldırmalı, sağı solu göstereceğimizde ben kalkıp gösterdiğimde daha çok hoşuma gidiyor. Bazen öğretmenimize bazen arkadaşlarıma sorular soruyorum bu da güzel. (Ö5)

Projeksiyondan tahtaya yansıtarak. İşlediğimiz konu ile ilgili sorular, etkinlikler yansıtılmalı. Eğlenceli olmalı... Etkinlik yapmalıyız, yazma, oyunlar, proje yapıp sunma. (Ö16)

Öğrencilerin her birinin derslerden beklentisi farklıdır. Fakat derslerin eğlenceli geçmesi yönündeki düşünceleri ortak bir nokta olarak görülmektedir.

**Uygulama Öncesi Öğretmen Görüşmesine Ait Bulgular**

Araştırmacı araştırma konusu gereği öğretmenin derste kullandığı yöntem ve tekniklerle ilgili ve iş birlikli öğretim teknikleri üzerine öğretmenle bir görüşme gerçekleştirmiştir. Görüşmede ilk olarak öğretmene sosyal bilgiler dersinde hangi yöntem ve teknikleri ne sıklıkta kullandığı üzerine bir soru yöneltilmiştir. Öğretmenin cevabı aşağıda sunulmuştur:

Sosyal bilgiler dersini işlemeden önce hocam, plana bakıyorum, kitabı okuyorum; önceden kitabı bir gözden geçiriyorum hangi konular varmış diye. Önemli yerlerin altını çiziyorum. Kafamda önceden bir planlama yapıyorum. Bir de yardımcı kaynağım var. Oradan da yararlanıyorum... Kafamda bir şablon oluşturuyorum. Sonra anlatacağım konuyu çocuklara günlük hayatta ne işe yarayacak diye güdülüyorum. Mesela yer şekillerini işliyorum, dağları, ovaları veya haritayı diyelim ki. Öncesinde bunun ne işe yarayacağını işte günlük hayatta yön bulmaya yarar kaybolduğumuz zaman veya diyelim ki bir ormanda kaybolduğumuzda. Daha sonra konu

başlıklarını söylüyorum, şunları ilk defa duyacağız, yeni öğreneceğiz diye. Önemli başlıkları tahtaya yazıyorum. Yazdıktan sonra güzelce anlatıyorum. Sonra anlamadığınız yer var mı diye soruyorum, kafanıza takılan var mı diye. Daha sonrasında da deftere not tutturuyorum. Sonra tekrar soruyorum anlamadığınız yer var mı diye. Sonra fotokopi yapıyorum. Boşluk doldurmaca, doğru-yanlış, cevaplı testler, puanlı testler yapıyorum. Sonra bunları cevaplıyoruz.

Araştırmacı, öğretmenin açıklamalarında eksiklik olmaması adına başka kullandığı bir tekniğin olup olmadığı sorusunu yöneltmiş ve şu cevabı almıştır:

Şöyle mesela yer şekillerini filan anlatırken haritadan yararlanıyorum. Sonra bir yeri anlatacağımda kitapta fotoğraf filan varsa görseli yorumlayınız diyorum. Bunu kullanıyorum.

Öğretmenin verdiği cevaplardan, ders öncesinde bir planlama ve ön hazırlık yaptığı, ders girişinde güdüleme yaptığı, dersini genellikle sunuş yoluyla işlediği ve iş birlikli öğretim tekniklerini kullanmadığı anlaşılmaktadır. Bunun üzerine araştırmacı, öğretmene iş birlikli öğretim yöntem ve teknikleri hakkında neler bildiği, bu tekniklerden hangilerini ne sıklıkta kullandığı üzerine bir soru yöneltmiştir. Bu soruyu öğretmen şu şekilde yanıtlamıştır:

Genelde grup çalışması yapılıyor. Mesela diyelim ki yönlerle ilgili bir çalışma yaptırarak, doğu-batı, kuzey-güney diye. Bunları iki üç öğrenci ile birlikte yaptırarak mesela. Biri çizimini yaptı, biri boyadı, biri yönleri yazdı. Bu gibi.

Bu cevabın üzerine araştırmacı iş birlikli öğretimin kümeyle aynı olup olmadığı sorusunu yöneltmiş ve şu cevabı almıştır.

Kümede şimdi öğrenciler kendileri de yapabilir ama karşı taraftan da yararlanabilirler ama iş birlikli öğrenmenin çok alt basamakları var. Kullanmıyorum bu teknikleri. Yalana gerek yok ama küme yaptığımız zaman işe yarıyor. Üçlü, dörtlü grup yapıyoruz filan. İş birlikli öğretimin çok basamakları var ama kullanmıyorum. İş birlikli öğrenmede köşeleme yöntemi yapmıştım birkaç defa.

Öğretmenin ifadelerinden iş birlikli öğretimi kullanmadığı çok nadir grup çalışması yaptırdığı anlaşılmaktadır. Ayrıca iş birlikli öğretim üzerine bazı eksik ve yanlış bilgilere sahip olduğu görülmektedir. Bunun üzerine öğretmene öğrenciler üzerindeki gözlemleri, öğrencilerin derse ilgileri, öğrenmeleri, dersteki davranışları üzerine düşünceleri sorulmuş ve şu yanıt alınmıştır:

Öğrenmede istekli öğrencilerimiz var. Mesela icatlar konusunda Müslüman olan icatçıları filan söyledim ama içlerinde Türk olan yok mu dediler, sorguladılar. Neden hep yabancılar var, gibi sorgulamalar yaptılar. Yani genel itibarıyla sembolik konularda çok fazla ilgilerini çekmiyor ama yönlerde ve coğrafi konularda çok ilgililerdi. Sosyal bilgiler dersinde ilgileri genel olarak orta düzeyde. Bir Matematikle karşılaştırdığım zaman matematik daha ağır basıyor. Dersleri genel olarak sakince, güzelce dinliyorlar. Bir sıkıntı olmuyor. Birbirlerine yardım ediyorlar. Konuya göre değişiyor bence. İcatlar konusu bunların çok fazla dikkatini çekmedi ama yer şekilleri konusu çok dikkatlerini çekti bunların. Doğu-batı, karıncadan nasıl yön bulabiliriz, güneşe göre konumumuz nasıl olabilir gibi bunlarla çok ilgilendiler.

Öğretmen öğrencilerin derse karşı ilgisinin konudan konuya değiştiğini düşünmektedir. Öğrencilerin birbirlerine yardım ettiklerini, derslerini güzelce dinlediklerini ifade etmiştir ancak araştırmacı gözlemlerinden ve notlarından yola çıkıldığında öğrencilerin aktif olacakları bir ortam oluşmadığı görülmektedir. Bu durumda öğrencilerin iş birliği, etkili iletişim, empati, problem çözme gibi becerilerini görmek çok mümkün

görünmemektedir. Son olarak öğretmene sosyal bilgiler dersinde iş birlikli öğretim tekniklerini kullanmanın avantajları ve sınırlıkları üzerine görüşleri sorulmuştur.

Kullanılırsa faydası olur. Etkili öğrenmeyi sağlar ama bence öğrencinin mutlaka bireysel çalışması lazım, öncesinden hazırlıklı olması lazım. Öğretmen açısından öğrencilere daha iyi öğretmesini sağlar. Öğrenci daha iyi öğrenir diye düşünüyorum. Ama her zaman kullanılmaması lazım. Sürekli bundan yaparsan zaman kaybına yol açar. Mesela bir konuyu hep iş birlikli öğrenmeyle yapsan bu sefer konular yetişmeyebilir yani. Bence sosyal bilgiler dersi bana göre çok önem verilmesi gereken bir ders. Sadece okutmayla olacak bir şey değil. Önemli yerlerin altını çizdiriyorum. Kitaptan okuturken buralar önemlidir diye çizdiriyorum.

Öğretmen, iş birlikli öğretim tekniklerinin kullanılmasının faydalı olacağını düşünmekte ancak konuların yetişmeyeceği düşüncesi ile zaman kaygısı yaşamaktadır. Bu kaygıda öğretmenin iş birlikli öğretim üzerine eksik ve yanlış bilgilerinin etkisinin olabileceği düşünülmektedir.

## Eylem Planlarının Uygulanması

Araştırma kapsamında uygulama öncesinde elde edilen verilerden, geçerlik komitesi ve sınıf öğretmeni ile yapılan görüşmelerden yola çıkarak eylem planları hazırlanmıştır. Araştırmacı notuna bu durum şöyle yansımıştır;

...Uygulama öncesi derslerde öğretmen öğrenci iletişimi çoğu zaman öğretmenin sorduğu sorulara öğrencilerin cevap vermesi şeklindeydi. Öğrenciler genelde söz hakkı almadan cevap veriyor. Ayrıca öğrenciler öğrenmekten çok birbirlerini geçmek için çabalıyor gibi. Planlamalarda öğrencilerin birlikte öğrenebilecekleri iş birlikçi ortam önemli. Planlardan önce tüm bu durumlar sınıf öğretmeni ve geçerlik komitesi ile görüşülmeli... (Araştırmacı Notu)

## Eylem planı-1

1. eylem planı doğrultusunda Takım Oyun Turnuva Tekniği (TOT) ile öğrencilerin "Üretim, Dağıtım ve Tüketim" ünitesine ait kazanımları edinmesini sağlamanın yanı sıra iletişim, bireysel sorumluluk, olumlu bağlılık gibi becerilerini geliştirmek amaçlanmıştır. Bu amaç doğrultusunda öğrenciler altışar kişilik dört gruba ayrılmıştır. Tekniğe göre öğretmen konuyu sunar ve gruplara çalışma materyallerini dağıtır. Öğrenciler konuları birbirlerine öğretir ve çalışma sonunda her takımdan eş seviyede öğrenciler aynı masada yarışır. Yarışma sonunda puanı en yüksek olan gruba ödül verilir (Slavin, 1991). Yukarıda belirtilen planlama doğrultusunda 1. eylem planı 12 ders saati süresince konuların işlenmesi hedeflenmiş ancak 4 ders saati sonunda görülen ihtiyaç üzerine geçerlik komitesi ve sınıf öğretmenin görüşleri alınarak yeni bir eylem planı hazırlanmıştır. Yeni bir eylem planı hazırlama gerekçeleri şunlardır:

- Altı kişilik öğrenci gruplarında klikler oluştuğu ve bu klikleşmenin de çok fazla gürültüye neden olduğu gözlenmiştir.
- Dört kişilik öğrenci gruplarında yüz yüze etkili iletişimin daha güçlü olacağı düşünülmektedir.

- Gruplarda akademik başarı açısından denkliğin sağlandığı ancak duyuşsal ve davranışsal açıdan bu denkliğin sağlanmadığı görülmüştür. Bazı gruplarda sessiz yapıdaki öğrenciler çoğunlukta iken bazı gruplarda aktif, grup dinamiğini artırıcı öğrenciler çoğunlukta olmuştur. Bu durum bazı grupları sönükleştirirken bazı grupları aktif tutmuştur.
- Araştırmacı, 6 kişilik öğrenci gruplarında grup takibini yaparken öğrencilerin bireysel takibini kaçırmıştır. Grup içinde sessiz kalıp pasifleşen öğrenciyi fark etmek daha az sayıdan oluşan gruplarda daha kolay olacaktır.
- Konuların birbirlerine öğretilmesi esnasında sürenin uzadığı ve konuların yetişmediği görülmüştür. Bunun bir sebebinin de gruplardaki öğrenci sayısının fazlalığı olduğu düşünülmektedir.

## Eylem planı-2

Yukarıda sayılan gerekçelerden sonra kalan konu ve kazanımlar aynı teknikle (TOT) dörder kişilik heterojen öğrenci grupları ile sekiz ders saatince işlenmiştir. Dersler sonrasında araştırmacının tespitleri kısaca şöyledir:

- 4 kişilik gruplarda öğrencilerin iletişimi daha güçlü olmuş ve öğrenciler daha kolay gözlenmiştir. Grupların akademik başarı yanında duyuşsal ve davranışsal özelliklere de dikkat edilerek oluşturulması ile grup dinamiğinin arttığı ve sorunların azaldığı gözlenmiştir.
- Grup çalışmaları esnasında öğrenciler daha rahat çalışıp etkili iletişim kurarlarken turnuva zamanı bu durum değişmektedir. Öğrenciler yarışma havasına girmekte ve bu, iş birliği duygusunu zedeleyebilmektedir.
- Çalışmanın bir bölümünde TOT tekniğinin turnuva oyunu kısmı sınıf dışında okul bahçesi içerisinde gerçekleştirilmiştir. Böylece iş birlikli çalışmaların sınıf dışı ortamlarda da etkili bir şekilde uygulanabilirliği görülmüştür.

Sınıf öğretmeni ise yapılan değerlendirme toplantısında görüşlerini şu şekilde belirtmiştir:

Gruplarda öğrenci sayısını azaltmanın yararlarını bu çalışmada gördük. Belki ilerleyen aşamalarda öğrenciler çalışma mantığını kavradıklarında gruplardaki öğrenci sayısı artırılabilir. Bu aşamada çok daha sağlıklı iletişim kuruldu ama yine yarışma mantığı hâkimdi sanki. Bu durumda daha önce söylediğim gibi önceki senelerden gelen bir alışkanlık söz konusu. Bunu aşmak da zamanla olur herhalde. Şimdi çalışmalarda bazı öğrenciler gruplarda baskın görünüyor ama bu baskınlık pasif öğrencileri de aktif hâle getirebiliyor. Tabi bu durum öğretmen kontrolünde olmalı. Aksi halde öğrencilerde kavgaya kadar varan davranışlar görülebilir. İlerleyen zamanlarda daha iyi olur, diye düşünüyorum.

Sınıf öğretmenin ifadelerinden de anlaşılacağı üzere öğrencilerdeki alışkanlıkları, davranışları değiştirmek bir anda olmamaktadır.

### Eylem planı-3

Bu eylem planında birlikte öğrenme tekniği ile öğrencilerin “Etkin Vatandaşlık Ünitesi” kazanımlarını edinmelerini sağlamanın yanı sıra iletişim, bireysel sorumluluk, olumlu bağlılık, grup çalışmasına herkesin katılımının sağlanması, diğer grup üyelerini dikkatlice dinleme, insanları değil düşünceleri eleştirme, grup içinde verilen görevi yapma gibi becerilerini geliştirme amaçlanmıştır.

Bu tekniğe göre öğretim materyalleri olumlu bağımlılık oluşturacak şekilde planlanır ve gruplara dağıtılır. İstendik davranışlar (grup çalışmasına herkesin katılımının sağlanması, diğer grup üyelerini dikkatlice dinleme, insanları değil düşünceleri eleştirme, grup içinde verilen görevi yapma) açıklanır. Öğrenciler yukarıda belirtilen istendik davranışlar doğrultusunda yönlendirilir ve onlara rehberlik edilir. Grup çalışmalarında nelerin iyi yapıldığı, hangilerinin geliştirilebileceği ne kadar etkili iş birliği yapıldığı gibi konular üzerinde konuşulur, geri bildirim ve değerlendirme yapılarak ders sonlandırılır (Kagan ve Kagan, 2009).

Yapılan planlama doğrultusunda “Birlikte Öğrenme” tekniği ile 10 ders saati süresince “Etkin Vatandaşlık” ünitesi işlenmiştir. Bu süreçte gerek sınıf öğretmeni gerek geçerlik komitesi ile yapılan görüşmeler neticesinde ortaya çıkan değerlendirmeler şöyledir:

1. Öğrenciler “Birlikte Öğrenme” tekniği ile daha sıkı ilişkiler kurmuş, daha çok etkileşimde bulunmuş ve öğrenmelerinde daha aktif olmuşlardır.
2. Ders süresince öğretmen rehberliği ve zaman yönetimi konularına dikkat edilmelidir. Grup içerisinde ortaya çıkan küçük sorunların büyümeden çözülmesi, görev dağılımlarında görevlerin değişmesi gibi noktalarda öğretmene büyük sorumluluklar düşmektedir.
3. Bu teknikte öğrenci gruplarında zaman zaman değişikliklere gidilmesi önem arz etmektedir. Aksi halde sürekli aynı grupta çalışmadan kaynaklı grup aidiyeti ve grup bütünlüğü hissini sınıf bütünlüğünün önüne geçme ihtimali söz konusudur. Öğrenciler ilk başta uyum sorunu yaşasa da bu durumun uzun sürmediği, öğrencilerin yeni gruplara çok çabuk alıştıkları gözlenmiştir.
4. Grup çalışmalarında öğrencilerin birbirlerinin öğrenmelerinden sorumlu olmaları, bu süreçte istedikleri yollarla öğrenmeyi gerçekleştirmelerinin öğrencilerde bağımsızlık, çalışkanlık, dayanışma, sorumluluk gibi değerleri güçlendirdiği düşünülmektedir.
5. Değerlendirme esnasında öğrencilere grup çalışmalarını, birlikte çalışma sürecinde güçlü ve zayıf yanlarını değerlendirme imkânının tanınmasının öğrencilerde gözlem, eleştirel düşünme, öz denetim gibi becerilere katkı sağladığı düşünülmektedir.

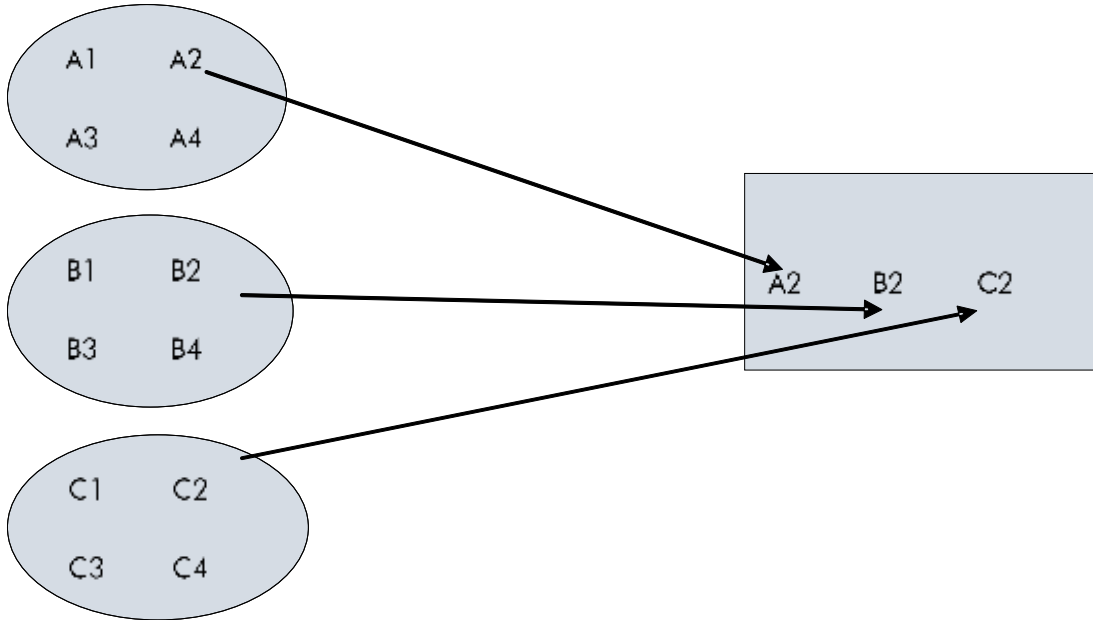
## Eylem planı-4

Jigsaw 2 tekniği ile öğrencilerin "Küresel Bağlantılar Ünitesi" kazanımlarını edinmesini sağlamanın yanı sıra iletişim, bireysel sorumluluk, olumlu bağlılık gibi becerilerini geliştirmek amaçlanmıştır. Ayrıca barış, dayanışma, eşitlik, sevgi, saygı, sorumluluk, yardımseverlik gibi değerleri içselleştirerek davranışa dönüştürmek hedeflenmiştir. Bu amaçlar doğrultusunda öğrenciler altışar kişilik dört heterojen gruba ayrılmıştır. Jigsaw-2 tekniğinde (Kagan, 1985) sırası ile;

- Gruplardaki öğrenci sayısına göre konular parçalara ayrılır, heterojen gruplar oluşturulur.
- Farklı gruplarda aynı konuyu alan öğrenciler bir araya gelir.
- Oluşturulan uzmanlık gruplarında konu çalışılır, derinlemesine tartışılır ve tam öğrenildikten sonra asıl gruba dönülür.
- Her bir konunun uzmanı, grup üyelerine konusunu öğretmeye çalışır.
- Öğrenciler konunun tüm bölümlerini birbirlerine öğrettikten sonra değerlendirmeye geçilir.
- Değerlendirme hem bireysel puanla hem de grup puanı ile yapılır.

### Şekil 4.

Jigsaw Grupları Oluşturma Süreci



Yapılan planlama doğrultusunda "Jigsaw-2" tekniği ile on ders saati boyunca "Küresel Bağlantılar" ünitesi işlenmiştir. Bu süreçte sınıf öğretmeni ve geçerlik komitesi ile yapılan görüşmeler neticesinde ortaya çıkan değerlendirmeler şöyledir:



- Jigsaw-2 tekniğinde öğrenciler ev gruplarında konulara çalışırken bir sorun yaşanmazken uzmanlık gruplarında arkadaşları ile aynı gruba düşmek istemeleri nedeni ile bazı sorunlar yaşandığı ve konuların seviyelere uygun paylaşılamadığı durumlar görülmüştür. Bunun üzerine küçük müdahalelerle sorun çözülmüştür. Bu noktada sınıf öğretmenin rehberliği büyük önem arz etmektedir.
- Öğrenci çalışmalarında öğrencilerin birbirleri ile daha sık iletişim kurdukları, birbirlerine daha çok soru sorabildikleri ve yardım etmeye çalıştıkları fark edilmiştir. Örneğin; akademik başarısı düşük öğrenci anlamadığı noktaları rahatlıkla ifade edebilirken başarılı öğrenci adeta bir öğretmen gibi daha farklı yollarla anlatmayı denemiştir.
- Günlük yaşama uzak olmayan, diğer derslerle ilintili olan konularda öğrenciler daha eğlenceli ve istekli çalışmışlardır. Öğrencilerin eğlenceli çalışma anlarında bazen diğer grupları rahatsız edecek şekilde gürültü oluşmuş, sınıf öğretmenin (araştırmacı) uyarıları ve hatırlatmaları ile sorun çözülmüştür.
- Grup çalışmalarında öğrenciler; konuları birbirlerine anlatırken ve soru sorarken verilen materyallerdeki koyu punto ile belirtilmiş, büyük harflerle yazılmış, altı çizili, italik belirtilmiş ifadeleri daha çok kullanmışlardır. Ancak burada öğrencilerin çalışma kâğıdındaki ifadeleri olduğu gibi ezberleyip aktardıkları fark edilmiştir. Bunun üzerine öğrendikleri konuları kendi cümleleri ile ifade etmeleri istenmiştir.
- Grup çalışmalarında birbirlerine anlatma, soru-cevap, kısa notlar alma, altı çizilen önemli yerleri birbirlerine gösterme, okuma, anlatma gibi yöntemler sıklıkla kullanılmıştır. Ayrıca soru-cevap tekniğinde bilgi ve kavrama düzeyinde sorular sorulduğu, analiz, sentez düzeyinde sorular sormakta zorlandıkları görülmüştür. Bunun üzerine verilen çalışma kâğıtlarına örnek sorular koyularak üst düzey düşünme becerilerinin geliştirilmesi amaçlanmıştır.
- Değerlendirme kısmında öğrencilere konu üzerine hazırlanmış değerlendirme etkinliği uygulanmış ve sonuçlar hem bireysel puanı belirlemiş hem de grup puanını oluşturmuştur. Grup ortalama puanlarının birbirine yakın olması grupların denk oluşturulduğunu göstermiştir.
- Ödüllendirme esnasında öğrencilerde daha önce görülen küsme, birbirlerine laf atma, aşırı hırslanma, gruplar arası ve grup içindeki arkadaşlara sitem etme gibi davranışlar gözlenmiştir. Bu nedenle yapılacak çalışmalarda ödüllendirme konusu üzerinde hassas olunması gerektiği, davranış değişikliğinin uzun soluklu bir süreç olduğu, bu tür çalışmaların her aşamasında çalışmalara sabırla ve ısrarla devam etmek gerektiği düşünülmektedir.

## Uygulama Sonrası Öğrenci Görüşmelerine Ait Bulgular

Araştırma süresince yapılan planlama doğrultusunda eylem planları uygulanmış, araştırmacı notları, gözlemleri, öğretmen görüşmesi, geçerlik komitesi ile yapılan toplantılar gibi yollarla çeşitli değerlendirmelerde bulunulmuş ve süreç sonunda öğrencilerle görüşmeler yapılmıştır. Bu sayede uygulama öncesi ve sonrasında sürecin

öğrenciler üzerindeki etkisi diğer verilerle de karşılaştırmalar yapılarak anlaşılmaya çalışılmıştır.

#### Tablo 4.

##### Uygulama Sonrası Sosyal Bilgiler Dersine Ait Düşünceler

|  |    |
|--|----|
| Seviyorum, güzel eğlenceli bir ders oldu.        | 23 |
| İlk başta sevmiyordum ama şimdi biraz seviyorum. | 1  |
| Normal, bazen sevdim bazen sevmedim.             | 1  |

Uygulama öncesinde öğrencilerden 18'i dersi sevdiğini, 5 öğrenci bazen sevip bazen sevmediğini, 2 öğrenci sevmediğini belirtmişken; uygulama sonrasında 23 öğrenci sevdiğini, 1 öğrenci önce sevmezken şimdi biraz sevdiğini ve 1 öğrenci de bazen sevip bazen sevmediğini belirtmiştir. Dersi sevdiğini belirten öğrencilerden bazıları görüşlerini şu şekilde dile getirmişlerdir:

Dersi seviyorum. Şimdi sosyal bilgilere daha çok alıştım, daha çok şey öğrendim bu yüzden de. (Ö1)

Seviyorum çünkü bilmediğimiz şeyleri eğlenceli öğrendik. Böyle olunca da hem mutlu olduk hem öğrendik. (Ö6)

Öğrencilerin tamamına yakını (23) çok benzer cevaplar vermişlerdir ve cevaplara genel olarak bakıldığında dersin eğlenceli ve zevkli geçmesinden dolayı dersi daha çok sevdiği görülmüştür. Eğlenceli kelimesi dersi sevdiğini belirten öğrencilerin en çok vurguladığı kelime olmuştur.

İlk başta sevmiyordum ama şimdi biraz seviyorum diyen öğrenci ise görüşlerini şu şekilde paylaşmıştır:

Kültürümüzü anlatıyor, ülkeleri anlatıyor; dünyamızla olan bağlantıyı anlatıyor. Güzel bir ders. Önceden ders sıkıcı geçerdi, pek düzgün olmazdı. Açıkçası çok güzel ders işledik. Şimdi biraz seviyorum o yüzden yani. (Ö25)

Dersi bazen sevip bazen sevmediğini belirten öğrenci düşüncesi ise:

Öğretmenim ben zor sorular olduğunda sevmiyorum, kolay sorular olduğunda seviyorum. Bu yüzden değişiyor yani, bazen sevdim bazen de sevmedim. (Ö17) şeklindedir.

Uygulama sürecinde sosyal bilgiler dersinde yapılan etkinlikler üzerine düşünceler incelendiğinde öğrencilerin tamamı yapılan etkinliklerin çok güzel olduğunu ve beğendiklerini ifade etmişlerdir. Yapılan uygulamalarda en çok turnuva oyunu ve yarışmaların beğenildiği görülmüştür. Öğrenci ifadelerinden bazıları şu şekildedir:

Güzeldi. Zamanımızı değerli harcadık. Oyunlarla filan eğlenceli geçti. (Ö3)

Yarışmalar filan yapıyoruz ya o mesela bizim daha iyi hatırlamamızı sağlıyor. (Ö16)

Öğretmenim toplu birlikte çalışıyoruz. Çok güzel oluyor. Grup olduğumuzda içimize bir his sınıyor. Yaptığımız etkinliklerle birlikte çalıştığımızda seviniyorum, yani mutlu oluyorum. (Ö8)

Grup çalışması yaptık. Grup çalışmasında birbirimize nasıl öğretebileceğimizi öğrendik. (Ö18)

Öğrenciler uygulama sürecinde daha çok yarışmaları ve turnuvaları sevdiğini vurgulamışlardır. Bu durumda sınıfta daha önceden gelen yarışmacı yapının da etkisi olduğu düşünülmektedir.

## Tablo 5.

### Uygulama Sürecinde Hoşlanılan ve Hoşlanılmayan Şeyler Üzerine Düşünceler

| Tema                                    | Kodlar  | F () |
|---|---|------|
| Uygulama Sürecinde Hoşlanılan Şeyler    | Yarışmalar  | 8    |
|   | Grupla beraber çalışmak, paylaşımında bulunmak, birlikte öğrenmek   | 9    |
|   | Etkinlik ve çalışma kâğıtları   | 5    |
|   | Birbirimizi değerlendirmek  | 3    |
|   | Sunum yapmak  | 2    |
| Uygulama Sürecinde Hoşlanılmayan Şeyler | Hoşlanılmayan yok, hepsi güzel  | 13   |
|   | Grup çalışmalarında yaşanan bazı sorunlar (arkadaşların ağlaması, grup içi tartışma, birbirini dinlememe vs.) | 9    |
|   | Uzun süre çalışma ve bazı ders konuları   | 3    |
|   | Sunum yapmak  | 1    |

Uygulama sürecinde öğrenciler en çok grupla beraber çalışıp birlikte öğrenme ve yarışmalardan hoşlandıklarını belirtmişlerdir. Bazıları etkinlik ve çalışma kâğıtlarından hoşlandıklarını belirtirken bazıları da grupta birbirlerini değerlendirebilme imkânlarından hoşlandıklarını ifade etmişlerdir. Öğrenci ifadelerinden bazıları şu şekildedir:

Yarışmalar ve etkinlikler güzeldi. Arkadaşlarımla beraber fikir üretiyorduk, birbirimize anlatıyorduk; o yüzden zevkliydi. (Ö22)

Birbirimize sorduğumuz soruları cevaplamak güzeldi. Arkadaşlarla çalışmak güzeldi. (Ö21)

En çok hoşlandığım yarışmalar tabii ki de. Yaptığımız etkinlikler çok güzeldi, çok zevk aldık. Daha iyi öğrenelim diye yaptınız. Teşekkür ederim. (Ö1)

Uygulama sürecinde hoşlanılmayan şeylere bakıldığında ise öğrencilerin yarısından fazlası (13) hoşlanmadığı bir şey olmadığını hepsini sevdiğini ifade ederken 9 öğrenci grup içinde yaşanan arkadaşlar arası anlaşmazlık, birbirini dinlememe, grup içi tartışma ve

ağlama gibi yaşanan durumlardan hoşlanmadıklarını belirtmişlerdir. Öğrenci ifadelerinden bazıları şöyledir:

Bazen grup arkadaşlarımız bize bağıyor. Sonra bir diğeri açlıyor. Mesela onlar kırk tane iş yapıyor, ben bir tane şey yapıyorum. Sonra tartışma çıkıyor. (Ö8)

Hoşlanmadığım şey pek olmadı ama bazen arkadaşlarım beni dinlemediler bazen onu sevmedim. (Ö16)

Çok zor sorular. Birilerinin ağlaması filan. Grupta birilerinin sözlerinin kesilmesi. (Ö17)

Beraber işlenen sosyal bilgiler dersleri ile diğer dersleri karşılaştırmaları istendiğinde öğrencilerin tamamı bu süreçte sosyal bilgiler derslerinin daha eğlenceli geçtiğini, diğer derslere nazaran daha iyi öğrendiklerini diğer derslerde de bu uygulamaların yapılabileceğini ifade etmişlerdir. Bundan sonraki sosyal bilgiler derslerinin de benzer şekilde bu tür grup çalışmalarıyla işlenmesini istediklerini belirten öğrencilerin yine en çok eğlenceli kelimesini vurguladıkları görülmüştür. Bu durum temel eğitim sürecinde somut işlemler döneminde olan çocukların daha çok eğlenerek öğrenmeye ihtiyaçları olduklarını gösterir niteliktedir. Öğrenci ifadelerinden bazıları aşağıda verilmiştir:

Sosyal bilgiler dersi daha iyi. Eğlenceliydi, komikti, yarışmalar oyunlar filan. Böyle olursa diğer dersler de iyi geçer. (Ö4)

Diğer dersler de güzel aslında. Konular güzel ama eğlenceli değil, pek klasik yani. Yine grup kurarak işlensin ama fazla kalabalık olmadan. O zaman sorun çıkıyor. Grup seviyeleri eşit olsun. (Ö3)

Sosyal bilgiler daha güzel. Grupla çalışmak iyi çünkü tek görüş olunca başka fikir üretilmiyor ama başka görüş olunca fikirler üretiliyor. Diğer dersler bu derse göre biraz sıkıcı geçiyor ama bunda hep sosyal işlemek istiyoruz. (Ö16)

Yukarıda verilen ifadeler incelendiğinde öğrencilerde birlikte çalışabilmeye dair bir farkındalık oluştuğu, iş birliği sayesinde başka fikirleri de görebildikleri ve birlikte bazı şeyleri başarabilme algısı oluştuğu anlaşılmaktadır.

## Uygulama Sonrası Öğretmen Görüşmesine Ait Bulgular

Araştırma süresince sınıf öğretmeni her aşamada bilgilendirilmiş, hazırlanan eylem planlarında görüşleri alınmıştır. Sınıf öğretmeni uygulama süresince sınıfta yer almış ve gözlem yapmıştır. Ayrıca ders sonlarında değerlendirmeler yapılmış ve araştırma sonucunda tekrar görüşlerine başvurulmuştur. Yapılan görüşmede ilk olarak uygulama sonrasında iş birlikli öğretim teknikleri ve bu teknikleri derste kullanıp kullanmak istemeyeceği üzerine görüşleri sorulmuştur. Öğretmenin cevabı şöyledir:

Sayın hocam şöyle belirteyim: İş birlikli öğretim teknikleri kesinlikle şart. Yani karşılıklı öğrenme iyi bir şeydir ama çocukların buna daha önceden hazır olması lazım. Mesela ilkokullarda çocukları önceden bu konuda bilgilendirmek lazım çünkü uygulamaya başladığımızda çocuklara ilk başta bu, bir oyun gibi geliyor, fark etmiyor. Çocukların öncesinde hazır olması lazım. Tabi burada bizlerin de eksikliği söz konusu. Daha önce hiç bu tür uygulamalar yapmadık. Hâlbuki tüm derslerde olmasa bile zaman zaman bu tür uygulamalar yapılabilir. Ki bu çalışma sayesinde de yapılabileceğini gördük. Kalabalık sınıflarda çok güç olacağını düşünüyorum. Sınıf mevcudunun az olduğu durumlarda başarı getireceğine inanıyorum. Ayrıca sadece düz anlatımla

ders işlenmemesi gerektiğini kesinlikle fark ettim. Çünkü belli bir süre sonra her şey sabit bir hal alıyor. Yani bu sadece öğrenciler için değil biz öğretmenler için de geçerli bir durum. Dersleri monoton hale getirmemek gerek. Bunun için de kendimizi yenileme cesareti göstermeliyiz diye düşünüyorum. Daha önceki görüşmelerimizde konuştuğumuz üzere bazı öğretmen arkadaşlarımız bu tür çalışmalarla karşılaştıklarında çalışmada yer almaktan kaçınıbiliyorlar. Oysa bu şeyleri daha önceden en azından teoride bilsek bile zamanla unutabiliyoruz. Bu açıdan aslında sadece öğrenciler açısından değil benim için de verimli bir çalışma oldu. Bu bakımdan aslında yeri gelmişken size de teşekkür etmek isterim. Bundan sonraki süreçte de derslerde her zaman olmasa bile bu tür uygulamalara yer vereceğimi ayrıca belirtmek isterim.

Öğretmenin bu ifadeleri üzerine bu yaklaşımından ve katkılarından dolayı kendisine teşekkür edilmiştir. Ardından sosyal bilgiler derslerinde iş birlikli öğretim tekniklerini kullanmanın, iş birliği anlayışı ile ders işlemenin hem öğretmen hem de öğrenciler açısından avantajları ve sınırlılıkları üzerine görüşleri sorulmuş ve alınan cevaplar aşağıda sunulmuştur:

Çocuklar en başta paylaşmayı öğreniyor, birbirlerine yardım etmeyi öğreniyor; kendilerini daha iyi ifade ediyorlar. Tamam, mesela öğrencinin başarısı iyi fakat arkadaşına yardım etmiyor. Bu istenen bir durum değil ki. Biz hem başarı yönünden hem de ahlaki yönden, davranış yönünden iyi olsun istiyoruz. Sonra öğrencilerin birbirlerine olan sert ifadeleri oldukça yumuşadı. Çocukların kullandığı cümlelerden bile fark ediliyor bu durum. En büyük avantajı bu bence. Öğrencilerin birbirlerine daha anlayışlı olmaları. Çocuklarda bir istek, arzu arttı sonra, ileride daha çok başarılı olacaklarını hissediyorum. Derse katılım arttı. Bu tekniklerin ara ara kullanılması ile dersin sıradan olmasının önüne geçilebilir. İyi planlanmazsa zaman kaybı çok olabilir, konu yetişmeyebilir bu teknikte ama konuya göre de kullanılabilir. Sürekli bu teknikle anlatmak konunun bitmemesine, uzamasına da neden olabilir. Bu açıdan bizlerin iyi planlama yapması lazım. Bu tekniği etkin kullanabilmek için çocukların hazır bulunuşlukları da çok önemli. Mesela Türkiye'nin sınır komşularını sorduğunuzda "Yozgat" diyor öğrenci. Daha Yozgat'ın il olduğunun farkında değil. Böyle bir durumda bu teknikleri çok da etkin kullanamayız diye düşünüyorum. Yani temel bilgiler oturduktan sonra iş birliği anlayışı ile akran desteği daha iyi olur. Bunun dışında öğretmenler açısından zaman sorunu olabilir belki. Sınıf yönetimi çok iyi olmayan öğretmenlerde çok fazla gürültü oluşabilir. Sonuçta bir hareketlilik söz konusu, bu da iyi bir sınıf yönetimi gerektirir. Sonra turnuva oyununda yaptığınız gibi sınıf dışı ortamlarda da uygulanabilir. Bu da öğrencilerin dikkatini çekmede ve güdülemede kullanılabilir. Yani genel itibari ile bu tekniklerle öğrencilerdeki iletişim, değişimler de daha iyi gözlenebilir. Mesela öğrencinin bir de grup çalışmalarındaki hali, başkaları ile çalışırken ki durumu değerlendirilebilir. Öğrenciyi daha iyi tanıma açısından da bir yol olabilir bu bence.

Sınıf öğretmeni ile uygulama öncesi yapılan görüşmelere bakıldığında iş birlikli öğretim teknikleri üzerine eksik bilgilere sahip olduğu ve bu teknikleri kullanmadığı anlaşılmıştır ancak uygulama sonrasında öğretilen bir farkındalık olduğu, öğretmenin iş birlikli öğretim üzerine bakış açısının değiştiği ve derslerinde kullanmak istediği görülmektedir. Uygulama sürecinde öğrencilerde bir değişim olup olmadığı ve sınıf iklimine dair gözlemleri üzerine bir değerlendirme yapması istenmiştir. Bunun üzerine öğretmen şu açıklamalarda bulunmuştur:

Kendi sınıfım adına kısmen başarıya ulaşıldı diyebilirim. Şöyle ki geçen sene daha çok hep yarışma yapılmış derslerde ve bunun sonucunda çocukların kişisel-bireysel hırsları daha ön plana çıkmış. Hep ben kazanayım, birinci olayım; ben yapayım gibi. Bundan dolayı paylaşma duygularında filan azalma vardı. Zaten çocuklar da bu durumu kendileri söylüyorlardı. Şöyle ki birbirlerine küstüklerini, sen birinci oldun ben olamadım gibi, bireysel bazlı yarışmalardan

kaynaklı sınıfta bir huzursuzluk ortamı vardı ama iş birlikli öğrenmenin temelinde karşılıklı paylaşmak var. İlk başlarda çocuklar bilgiyi kendine saklıyordu, o da neden, grupta birinci ben olayım, hediye ben alayım gibi nedenlerden dolayı. İlk başlarda çocuklar birbirlerini benimsememişti pek ama şu anda çocuklarda bir değişim görüyorum. Çocuklar son zamanlara doğru birbirlerine bilgi aktarmada, paylaşmada, yardımlaşmada daha aktif oldular ama grup birinciliği ve hırs gibi nedenlerle yine bireysel hırsa dönüşebildi. Buna rağmen çocukların birbirlerine olan davranışlarındaki keskinlik de azaldı. Bu anlamda çok güzel ve faydalı oldu. Bu zamana kadar da hep bireysel bazlı ön planda olma arzusuyla yetiştiklerini de göz önünde bulundurursak geldiğimiz nokta oldukça iyi bence. Tabi elbette öğrencilerdeki bahsettiğimiz olumsuz davranışlar tamamen bitmedi. Ama en azından o keskinliğin azaldığı bariz hissediliyor. Bunun yansımasını ben diğer derslerde de hissediyorum açıkçası. En azından başarılı öğrencilerde gördüğümüz 'hep ben' anlayışının kırıldığını düşünüyorum. Yalnızca kendilerinin olmadığını fark ettiler. Başarı yönünden zayıf öğrenciler için de iyi oldu. Şöyle ki bir amaç için ellerinden gelen katkıyı sağlamaya çalıştılar, bir şeye faydalı olduklarını gördüler. Zaten tüm meselede burada aslında. Kendilerini bir grubun parçaları olarak görebilmeleri ve değerli hissetmeleri. Konuları bir şekilde ileride de öğrenirler diye düşünüyorum. Ama tabi burada derse olan ilginin de arttığını belirtmeden geçmemek gerek.

Öğretmenin ifadelerinden iş birlikli öğretim teknikleri ile işlenen sosyal bilgiler dersinin olumlu bir sınıf iklimi oluşmasında etkili olduğu anlaşılmaktadır. Derse olan ilginin arttığı ve sınıftaki yarışmacı havanın kırıldığı ifade edilmiştir. Öğrencilerin birbirlerine daha anlayışlı davrandıkları ve bu durumun sadece sosyal bilgiler derslerinde değil diğer derslerde de hissedildiği belirtilmiş, çalışma üzerine genel olarak olumlu görüşler dile getirilmiştir.

## Sonuç, Tartışma ve Öneriler

İlk olarak, eylem planları (öğretim etkinlikleri) uygulanmadan önce uygulama hakkında öğrencilere bilgi verilmeli, yapılan uygulama ile ne amaçlandığı açıklanmalıdır. Eylem araştırmalarında araştırmanın sonuçlarından etkilenebileceklerle birlikte katılımcıların (hakkında veri toplananlar) de aktif katılımları önemlidir çünkü katılımcılar araştırma ekibinin bir parçası olarak araştırma sürecine doğrudan dâhil edilmektedir (Büyüköztürk vd., 2013, s. 20). Eylem araştırması, değişim gündemi olan dönüştürücü sosyal öğrenmedir. Başkalarıyla birlikte dünyayı daha istenen yönde şekillendirir. Eğitimdeki eylem araştırmacıları için çalışmanın merkezinde yer alan uygulama / sorgulama kombinasyonu, sürekli gelişim veya değişim ihtiyacına cevap vererek sınıf veya tüm okul sistemi gibi bir durumu daha iyi hâle getirmeyi amaçlamaktadır (Bradbury vd. 2019, s. 7). Bu doğrultuda araştırma sürecinden önce okul idaresi, sınıf öğretmeni, öğrenciler, veliler kısaca okuldaki tüm unsurlar bilgilendirilmiştir. Katılımcıların detaylı bilgilendirilmesi ile araştırma boyunca bilinçli hareket edildiği, istekli çalışıldığı görülmüştür.

İkinci olarak, gerekli görüldüğü zamanlarda eylem planlarında hiç çekinmeden değişikliğe gidilmeli, ihtiyaç doğrultusunda gerekli düzeltmeler yapılarak yeni eylem planları hazırlanabilmelidir çünkü eylem araştırmacıları içeriden araştırmacılarıdır. Kendilerini araştırdıkları durumun bir parçası olarak görürler ve "İşler istediğimiz gibi

gidiyor mu, gerektiğinde bunu nasıl geliştirebiliriz?” sorularını sorarlar. Eylem araştırmasını da farklı kılan budur (McNiff ve Whitehead, 2006, s. 8). Bu bağlamda araştırma kapsamında birinci eylem planında görülen eksiklikler üzerine yeni bir eylem planı geliştirilmiş ve uygulanmıştır. Yeni eylem planında öğrenci gruplarındaki sayının azaltılması ile araştırmacının öğrencileri bireysel takibi kolaylaşmış, grup içi klikleşmenin önüne geçilmiş ve öğrenci iletişimleri daha etkili hale gelmiştir.

Üçüncü önemli nokta, eğitim süreçlerinde başarı yalnızca akademik başarı olarak görülmemeli başarıya yüklenen anlam nicel veriler ötesine taşınmalıdır. Özellikle temel eğitimde başarı kavramı diğerlerinin başarısızlığı üzerinden oluşmamalı, bunun yerine hep birlikte ilkesi ile temellendirilmelidir. Yapılan bu çalışma ile iş birlikli öğretim teknikleri ile hep birlikte ilkesinin yansımaları yarışmacı sınıf ikliminin kırılması ile görülmüştür. Butera ve Swiatkowski (2020), eğitimde rekabeti inceledikleri çalışmada kopya çekme, zorbalık gibi bir dizi anti sosyal davranışların rekabetçi sınıf yapılarının ve rekabetçi değerlerin sonucu görüldüğünü belirtmişlerdir. Yalnızca akademik başarının öncelendiği durumların ileride telafisi mümkün olmayacak sonuçlara neden olabileceği unutulmamalıdır. Bu durumu 13 yaşındayken Theosophical Society tarafından “dünya öğretmeni” seçilen J. Krishnamurti (2012, s. 17) şöyle ifade etmektedir: “Atomu parçalamayı bildiği halde kalbinde sevgi olmayan bir adam canavara dönüşür.” Benzer şekilde Barskanmay (2020) başarı üzerine bir yazısında sosyolog yazar Elias Canetti’nin “Başarı insanlığın fare zehridir.” sözüne atıfta bulunarak başarının bir çeşit fetişizm haline geldiğini belirtmektedir. Yazar, aynı yazısında oluşturulan algı ile akademik başarısı düşük çocukların hem okul hem de toplum nezdinde bir vebalı gibi görüldüğünü, bu çocukların öz güvenlerinin yok edildiğini ifade etmektedir. Ayrıca çocukların başarılı olma uğruna, “Başarı için her yol mubahtır.” gibi insani olmayan yollara itildiğini vurgulamaktadır. Bu noktada öğrenciler gerek aileleri gerekse öğretmenleri tarafından akademik başarılarından dolayı değerli görüldükleri hissine kapılmamaları önem arz etmektedir. Tam burada Yavuz kitabında (2020, s. 88) bir lise öğrencisinin söylediği “testteki soruları ful yaptığım için annemin bana sarılışı bile değişiyor” ifadesinin kulaklarında hâlâ çınladığını belirterek günümüz insanının gerek okul gerekse ev ortamlarında çok fazla başarı odaklı yönlendirmelere maruz kaldığını ve başarısızlığa karşı insanların kendilerine bile toleransı olmadığını belirtmektedir.

Araştırmanın uygulama öncesinde yapılan gözlemlerde akademik başarısı yüksek olmasına rağmen bazı öğrencilerde yazdığı basit bir yazıyı sıra arkadaşı ile paylaşmama, birinci olan sınıf arkadaşına nefret duyma, hırsından ağlama gibi davranışlar görülmüştür. Bu durumun henüz yolun başında olan çocuklarda görüldüğü düşünüldüğünde, durumun vahameti daha iyi anlaşılacaktır. Özellikle MEB 2023 Eğitim Vizyonu’nda bu hususların üzerinde önemle durulmuş, akıl ve kalp birlikteliği vurgulanmıştır (MEB, 2018). Araştırma özellikle bu noktalar üzerine kurgulanmış olup, öğrenciler daha çok bu çerçevede incelenmiştir. Bu bağlamda yapılan çalışmalarda akademik başarı ile birlikte bu başarıyı sağlayan sevgi, saygı, dayanışma gibi değerler ve etkili iletişim, iş birliği, sosyal katılım becerileri vurgulanmıştır. Özellikle grup çalışmalarının değerlendirilmesi esnasında her öğrencinin katkısının önemli olduğu

vurgulanmıştır. Çalışmanın sonunda akademik başarı yönünden iyi olan öğrencilerde görülen bu olumsuz davranışlarda bir azalma olduğu öğretmen ifadelerinden ve gözlemlerden anlaşılmıştır.

Uygulama sonrasında öğrencilerle yapılan görüşmelerde öğrenciler derslerin eğlenceli geçmesini istediklerini belirtmişlerdir. Oluşan pozitif ortamlarda öğrencilerin derslerdeki etkinliklere daha istekli ve ilgi ile yaklaştıkları görülmüştür. Yapılan birçok araştırmadan yola çıkarak Yıldız (2019, s. 47), pozitif beynin %31 daha verimli çalıştığını, çocukların mutlu olursa başarılı olacaklarını ve başarılı olurlarsa da daha çok çalışacaklarını belirtmektedir. Bu bağlamda iş birlikli öğretim ile hem mutlu hem de başarılı bireylere ulaşılabileceği düşünülmektedir. Bolat (2012), yapılan bir araştırmada, başarılı ve başarısız öğrenciler arasında çalışma saati, zekâ seviyesi, dersi önemsemek veya derse katılım açısından hiçbir farkın çıkmadığını, farkın başarısız öğrencilerin hiçbirinin grup çalışması yapmaması olduğunu ifade etmektedir. Başarılı öğrenciler ilk önce bireysel çalışmış ve akşam da grup çalışması yapmışlardır. Aynı yazıda yazar, rekabet duygusunun çoğu zaman insana zarar verdiğini ve grup içinde çalışan öğrencilerin rekabeti değil iş birliğini öğrendiklerini vurgulamaktadır. İş birlikli bir sınıf ortamı üzerine Holt (2019, s. 71), şu ifadeleri kullanmıştır:

Sonra çocuklar iş birliği yapan bir sınıf oldular, sonra onlar bana nasıl birbirine yardım eden, birbirine öğreten ve birbirinden öğrenen bir sınıf oluşturulabileceğini öğrettiler. Burada benim tek yaptığım onların kendileri olmasına izin vermektir, olacakların olabilmesi için zaman ve yer ayırıp görmek ve memnun olmak, onlardan dolayı memnuniyetimi çocukların da görmesine izin vermekle bunları öğrendim.

Bu çalışma ile de öğrencilerin rekabet duygusunun kendilerinde yol açtığı olumsuz etkileri fark ettikleri ve bu öğrencilerin arkadaşlarına karşı daha anlayışlı davranmaya çalıştıkları öğretmen görüşlerinden ve gözlemlerden anlaşılmıştır.

Dördüncü önemli husus, yapılan birçok çalışmada aktif öğrenme ortamı oluşmayan sınıflarda öğrencilerin sıkıldığı, derse olan ilginin düştüğü gibi sonuçlar çıkmıştır (Fırat Durdukoca 2018, Demir ve Özden 2013, Ütkür 2016). Bu araştırmanın uygulama öncesinde iki öğrenci (Ö2 ve Ö8) ders esnasında sürekli tuvalete gitmek için izin isterken uygulamaya sürecinde hiçbir derste dışarı çıkmamışlardır. Diğer öğrencilerle de uygulama öncesi yapılan görüşmelerden öğrencilerin durağanlıktan ziyade hareketlilikten hoşlandıkları anlaşılmaktadır. Dolayısı ile sınıf öğretmenlerinin öğrencilerin bir arada çalışabilecekleri aktif öğrenme ortamı oluşturabildiklerinde öğrencilerdeki ders esnasında gereksiz yere tuvalete gitme gibi isteklerin son bulacağı düşünülmektedir.

Beşinci olarak, iş birlikli öğretim teknikleri daha sık işe koşulmalıdır. Yapılan bu çalışma ve iş birlikli öğretim teknikleri üzerine yapılan diğer birçok çalışma sonucuna göre;

- İş birlikli öğrenme ortamı ile öğrencilerin grup içinde birlikte çalışma, arkadaşlarının fikirlerini dikkate alma, arkadaşlarına değer verme (Karakuş, 2020; Yıldırım, 2010), eleştirel düşünme (Uysal, 2009), iletişim (Soysal, 2019), demokratik tutum (Yılar, 2015; Gömleksiz, 1993), problem çözme (Serin, 2014; Altınkök, 2012; Uysal, 2010; Genç, 2007) ve diğer sosyal beceriler (Araz, 2019; Palak, 2018)



gelişmektedir. Özellikle öğrencilerin birbirlerinden uzaklaşmak zorunda kaldığı Covid-19 sürecinden sonra iş birlikli öğrenmeyi işe koşmak bu becerilerin geliştirilmesinde yararlı olacaktır.

- İş birlikli öğrenme akademik başarıyı artırmasının yanı sıra kalıcı öğrenmeyi sağlamaktadır (Şentürk, 2020; Durna, 2019; Alıcı, 2019; Çelik, 2017; Koç, 2014; Akar, 2012). Araştırma boyunca iş birlikli gruplarda çalışan öğrenciler bütünün bir parçası olabilmişler, başarı ve başarısızlıkta sorumluluklarını fark edebilmişlerdir. Normal şartlarda çalışmaya istekli olmayan öğrencilerin grup başarısını düşürmemek adına çaba sarf ettikleri görülmüştür.
- Sorumluluk, yardımseverlik, hak ve özgürlüklere saygı gibi değerlerin kazanımında iş birlikli öğrenmenin büyük etkisi vardır (Küçükturgut, 2018; Tarlakazan, 2010). Alman eğitimci Froebel'in eğitim felsefelerinden birisi şöyle açıklanmaktadır: "Okulun ilk görevi çocukları iş birliği ve karşılıklı yardım hayatı dâhilinde yetiştirmektedir. Onlarda yardımlaşma ve dayanışma anlayışını geliştirmek, bu ruhun açık davranışlar haline gelmesi için gereken hareketlerin yapılması konusunda kendilerine yardım etmektir." (Dewey, 2019, s. 93).

Altıncı olarak, 1739 sayılı Millî Eğitim Temel Kanunu'nda özel bir ihtisas mesleği olarak ifade edilen öğretmenlik mesleği gereği öğretmenler, gelişen koşulları takip ederek kendilerini sürekli güncellemeli ve geliştirmelidir. Bu konular yalnızca Kamu Personeli Seçme Sınavı (KPSS) sürecinde atanma aracı olarak düşünülmemeli ve öğrenilenler kullanılmalıdır. Sınıf öğretmenliği öğretmenlik alan bilgisi sınavı üzerine yapılan bir çalışmada uzmanlar bu sınavların nitelikli sınıf öğretmeni ihtiyacını karşılamada, öğretmenlik mesleği genel ve sınıf öğretmenliği özel alan yeterliklerini ölçmede yetersiz kaldığını belirtmişlerdir (Arı ve Ünal, 2016). Eğitim başarısında örnek gösterilen ülkelerden Finlandiya'da öğretmen adaylarının seçim sürecinde kriter olarak akademik açıdan en iyi öğrenciler değil takım çalışması, meslek aşkı, karakter, iletişim becerisi gibi özellikler aranıyor (Bolat, 2018). Bu şekilde seçilen öğretmenler eksiklerini gidererek kendilerini güncellemekte, sürekli gelişim ve değişim içerisinde olmaktadır. Uygulama öncesinde sınıf öğretmeni ile yapılan görüşmelerden sosyal bilgiler derslerinde genelde düz anlatım öğretim yöntemi kullanıldığı, iş birlikli öğretim tekniklerinin kullanılmadığı anlaşılmaktadır. Bu durum sınıfa öğreten-öğrenen şekilde yansımaktadır. Oysa konu üzerine alanyazında öğretmenlerin artık öğrenmeye rehberlik eden, aktif öğrenme ortamı hazırlayan rolü üzerinde durulmaktadır (Açıkgöz, 2008, s. 34; Bilen, 2010, s. 247; Toffler, 1992 s. 76; Demirkan ve Saraçoğlu, 2016). Uygulama sonrasında sınıf öğretmeni ile yapılan görüşmede sınıf öğretmeni artık iş birlikli öğretim anlayışının olumlu yansımalarını gördüğünü, önemini kesinlikle fark ettiğini, kendisini yenileme cesaretini göstereceğini ve derslerde bu teknikleri kullanmak istediğini belirtmiştir. Mesleki olarak öğretmen profesyonelliği ölçütlerini aktaran Reagan (2019), bu ölçütlerin içeriğini şöyle belirtmektedir:

- Konu alanı ve pedagojik formasyon bilgisi temelli,
- Sınıf içi pratik esaslı uygulamalı ve deneysel bilgi temelli,

- Müfredat, değerlendirme ve karar verme sorunları gibi konularda kişisel ve ortaklaşa uzmanlık otoritesi,
- Mesleki etik kurallar sistemi,
- Devamlı kişisel ve mesleki gelişime bağlılık.

Yukarıda belirtilen hususlar neticesinde; başta öğrencilere olmak üzere uzun vadede tüm topluma yeni beceriler ve değerler kazandırmada sorumluluklar üstlenen öğretmenler, gelişen dünya şartlarına göre öğretim yöntem ve tekniklerini yeniden yapılandırarak kendilerini sürekli güncellemeleri gerektiğini söylemek mümkündür.

Yedinci önemli nokta, eğitim-öğretim sürecinde rekabetçi anlayış yerine iş birliği anlayışı hâkim kılınmalıdır. Birçok yazar rekabetçi ortamın, insanları sürekli bir yarışma ve kazanma odaklı bir anlayışa itebileceği kaygısını taşımaktadır. (Covey, 2019, s. 10; Gatto, 2016, s. 165; Krishnamurti, 2012, s. 68). Bu araştırma süresince yarışma ortamının hırslı yapıdaki öğrencilerde saldırgan, hırçın davranışlara yol açtığı, bu durumun ise sessiz, çekingen yapıdaki öğrencilere yansyarak o öğrencilerde bir çeşit ezilmeye neden olduğu görülmüştür. TOT tekniğinde bu tür sorunlar sıkça görülmüşken birlikte öğrenme ve jigsaw-2 tekniklerinde bu sorunlarla daha az karşılaşmıştır.

Rekabete dayalı eğitim anlayışı bağlamında bilgi yarışmalarının incelendiği bir araştırmada öğrencilerin çok büyük bir kısmının “öğrenmek” olgusu yerine “kazanma” ve “rekabet olgularına odaklandıkları, yarışma öncesinde yarışma üzerine olumlu görüşlere sahip olan öğrencilerin çoğu yarışma sonrasında olumsuz yönde fikir değiştirmişlerdir. Aynı araştırmada yarışmayı kaybeden öğrencilerin bir kısmında hır, intikam gibi duygularının oluştuğu; yarışma sonunda yarışmayı hem kazanan öğrencilerin hem de kaybedenlerin üzüldükleri tespit edilmiştir (Ökmen vd., 2019, s. 253).

İş birlikli öğretim tekniklerinin kullanıldığı çalışmalarda yapılan oyunların ve grup değerlendirmelerinin yarışma ve rekabet havasına sürüklenmemesine dikkat edilmelidir. Değerlendirmelerde kişiliklerin değil, davranışların üzerinde durulmasına özen gösterilmelidir. Özellikle akademik başarının kutsandığı ve yalnızca bu başarının takdir edildiği, diğer başarıların göz ardı edildiği ortamlarda çocuklar; sosyal çevrelerinin (ailelerinin, öğretmenlerin vb.) gözüne girebilmek adına hatalı davranışlar sergileyebilmektedir. Araştırmanın uygulama öncesinde yapılan gözlemlerinde bu durum sıklıkla görülmüştür. Ayrıca birlikte öğrenme tekniğine göre TOT tekniğinde bu tür sorunlar daha çok görülmüştür. Bunda TOT tekniğindeki turnuvanın yarışma gibi algılanması esas etkindir. Bu bakımdan öğrencilerin işbirlikli öğrenme ortamlarında birbirlerine rakip olarak görmeden birbirlerine olumlu bağlılık hissedecek şekilde yetişmeleri önem arz etmektedir.

Sekizinci önemli husus, eğitim-öğretim sürecinde sıklıkla başvurulan “ödüllendirme” çok dikkatli kullanılmalıdır. İyi niyetlerle kullanılan ödül doğru kullanılmadığı takdirde istenmeyen davranışların oluşmasına ve pekişmesine de neden olabilmektedir (Bolat, 2017). Araştırma sürecinde grupların ödüllendirilmesi esnasında gerek kazanan tarafta

gerekse kazanamayan tarafta duyuşsal ve davranışsal açılardan çeşitli sorunlar görülmüştür. Ödüllendirme esnasında öğrencilerin birlikte çalışma becerileri üzerine vurgu yapıp kazanan grubun ödülü nasıl hak ettiđi gibi hususlar diđer gruplara açıklanarak görülen bu sorunlar biraz hafifletilebilir. Bu bağlamda iş birlikli öğretim tekniklerinin uygulanmasında ödüllendirme konusu üzerinde hassasiyetle durulması gerektiđi düşünölmektedir.

Dokuzuncu olarak, yapılan bu çalışma ile sınıf öğretmeni kendisindeki eksikleri fark etmiş, uygulama sürecinde yeni şeyler öğrenmiş ve kendini geliştirme imkânı elde etmiştir. Bu noktada araştırma sonunda öğretmenlerin kendilerini, sınıf içindeki uygulamalarını geliştirmeye yönelik olarak araştırmanın parçası olacağı eylem araştırmalarının artırılması gerektiđi düşünölmektedir. Çünkü eylem araştırması, insanların günlük yaşamlarında karşılaştıkları sorunlara etkili çözümler bulmalarını sağlayan sistematik bir araştırma yaklaşımıdır. Tüm bağlamlara uygulanabilecek genelleştirilebilir açıklamalar arayan geleneksel deneysel / bilimsel araştırmalardan farklı olarak, eylem araştırması belirli durumlara ve yerel çözümlere odaklanır (Stringer, 2007, s. 1).

Moulin (2018, s. 229) "Tolstoy'un deneysel okulu; öğretmenlerin öğretmenlik bakışlarını değiştirmeye, araştırmaya ve etkilerini değerlendirmeye teşvik edildikleri, çocukların deneyimini ve "uygulayıcı" ya da "eylem araştırması" nı anlamaya çalışan eğitim araştırmalarındaki geleneklerin bir öncüsü gibi görülebilir" demektedir. Bu bağlamda eylem araştırmaları gibi bilimsel çalışmalarda yer alan öğretmenler öğretim sürecindeki uygulamalarda ve karşılaşılan güçlüklerde bu çalışmada olduğu gibi çözümün bir parçası olabilirler.

Araştırma boyunca edinilen deneyimler neticesinde uygulayıcılar ve araştırmacılar için şu öneriler yapılabilir:

1. Öğretim sürecinin en önemli faktörü olan öğretmenlerdeki yanlış bilgilerin düzeltilebilmesi, eksik bilgilerin tamamlanabilmesi için hizmet içi eğitimler düzenlenebilir.
2. Başarıya yüklenen anlam ailelerin, sınıf öğretmenlerinin, öğrencilerin gözünden incelenebilir ve bunların karşılaştırmalı bir analizi yapılabilir.
3. Rekabetçi ve iş birlikçi sınıf ortamları üzerine daha uzun süreli boylamsal çalışmalar yapılarak öğrencilere yansımaları daha ayrıntılı ortaya konulabilir.
4. Ödül üzerine yapılacak çalışmalar çeşitlendirilerek avantajları ve dezavantajları üzerine tartışılabilir.

**Etik Kurul Onayı:** Bu araştırmada, Necmettin Erbakan Üniversitesi Etik Kurulunun belirlediđi protokoller takip edilmiştir. Ancak araştırma, yazar S.A'nın 2020 yılına ait "İlkokul 4. Sınıf Sosyal Bilgiler Derslerinde İş Birlikli Öğretim Tekniklerinin Kullanımına Yönelik Bir Eylem Araştırması" başlıklı tezinden üretildiđi için

ve o yılda doktora tezleri iin etik kurul onayı ihtiyaı bulunmadığı iin bu arařtırmada etik kurul onayı bulunmamaktadır.

**Bilgilendirilmiř Onam:** Katılımcılardan bilgilendirilmiř onam alınmıřtır.

**Hakem deęerlendirmesi:** Dıř hakem deęerlendirmesi

**Yazarların Katkısı:** Fikir – S.A., S..; Tasarım – S.A.; Verilerin Toplanması ve İřlenmesi - S.A.; Danıřmanlık – S..; Verilerin Analizi ve Yorumu - S.A.; Alanyazın Taraması - S.A.; Yazma - S.A.; Eleřtirel Deęerlendirme -Tüm yazarlar.

**ıkar atıřması:** Yazarlar herhangi bir ıkar atıřması beyan etmemiřtir.

**Finansal Aıklama:** Yazarlar bu alıřmanın herhangi bir finansal destek almadığını beyan etmiřlerdir.

## Kaynaklar

- Açıkgöz, K. Ü. (1996). *Etkili öğrenme ve öğretme*. Kanyılmaz Matbaası.
- Açıkgöz, K. Ü. (2008). *Aktif öğrenme* (10. baskı). Biliş Yayıncılık.
- Akar, M.S. (2012). *Fen ve teknoloji öğretmenlerinin iş birlikli öğrenme modeli hakkında bilgilendirilmesi, bu modelin sınıfta uygulamaları ve elde edilen sonuçların değerlendirilmesi: Kars il örneği* (Yayımlanmamış doktora tezi). Atatürk Üniversitesi.
- Alıcı, B. (2019). *Jigsaw IV tekniğinin 4. sınıf Fen bilimleri dersinde öğrencilerin akademik başarısına ve kalıcılığına etkisi* (Yayımlanmamış yüksek lisans tezi). Fırat Üniversitesi.
- Altınkök, M. (2012). *İş birliği ile öğretim yöntemine dayalı beden eğitimi derslerinin 9-10 yaş grubu çocukların temel motor becerileri ile problem çözme becerilerinin gelişimine etkisinin araştırılması* (Yayımlanmamış doktora tezi). Marmara Üniversitesi.
- Araz, H. (2019). *Jigsaw ve birlikte sorulmuş sorularla öğrenim yöntemlerinin öğrencilerin akademik başarılarına ve duyuşsal gelişimlerine etkisi* (Yayımlanmamış yüksek lisans tezi). Atatürk Üniversitesi.
- Arı, S. ve Ünal, E. (2016). An examination of the content knowledge exam for classroom teaching in accordance with the opinions of the branch experts. *Collage Student Journal* 50 (4), 569-579.
- Babadoğan, C. (2005). Stil odaklı öğretim ve ders tasarımı. *Özel Okullar ve Eğitimde Yeni Yaklaşımlar Sempozyumu*. (ss. 99-112). Antalya.
- Barskanmay, A. (2020, Ağustos 27). Başarı bir şehvettir. *Karar*. <https://www.karar.com/basari-bir-sehvettir-1582286>
- Bilen, M. (Ed.). (2010). *Öğretim, öğretme yöntemleri. Eğitimde ilke ve yöntemler*. Betik Kitap.
- Bilgili, S. (2008) *İlköğretim 7. sınıf fen ve teknoloji dersinde çevre konularının öğretiminde, yapılandırma yaklaşımına dayalı iş birlikli öğrenmenin öğrencilerin erişimine etkisi* (Yayımlanmamış yüksek lisans tezi). Gazi Üniversitesi.
- Bilgin, T. ve Akbayır, K. (2002). İş birlikli öğrenmenin dizi ve serilerin öğretimindeki etkililiği. V. *Ulusal Fen Bilimleri ve Matematik Eğitimi Sempozyumu*. (s.s 933-938). Ankara.
- Bolat, Ö. (2012, Şubat 23). İş birliği öğrenmeyi ve başarıyı artırır mı? *Hürriyet*. <https://www.hurriyet.com.tr/isbirligi-ogrenmeyi-ve-basariyi-artirir-mi-19979341>
- Bolat, Ö. (2018, Temmuz 21). Finlandiya'dan eğitim adına ne öğrenebiliriz? *Hürriyet*. <https://www.hurriyet.com.tr/yazarlar/ozgur-bolat/finlandiyadan-egitim-adina-ne-ogrenebiliriz-40903821>
- Bradbury, H., Lewis, R. ve Embury, D.C. (2019). Education action research: with and for the next generation. C.A. Mertler (Ed.) *The wiley hand book of action research in education*. John Wiley&Sons Inc. Published.
- Butera, F., Swiatkowski, W., & Dompnier, B. (in press). Competition in education. In S. Garcia, A. Tor, & A. Elliot, (Eds.), *The Oxford handbook on the psychology of competition*. Oxford University Press.
- Büyüköztürk, Ş., Kılıç Çakmak, E., Akgün, Ö. E., Karadeniz, Ş., ve Demirel, F. (2013). *Bilimsel araştırma yöntemleri*. Pegem Akademi Yayıncılık.
- Christison, M.A. (1990). Cooperative learning in the EFL classroom. *English Language Teaching Forum*, 28, (4). 139-147.
- Covey, S. R. (2019). *Etkili insanların 7 alışkanlığı* (63. baskı.). (O. Deniztekin ve F. N. Deniztekin, Çev.). Varlık Yayınları.
- Çelik, V. (2002). *Sınıf yönetimi* (1. baskı). Nobel Yayın.

- Çelik, E. (2017). *Cebir öğrenme alanında probleme dayalı işbirlikli öğrenmenin akademik başarıya etkisinin incelenmesi* (Yayımlanmamış doktora tezi). Atatürk Üniversitesi.
- Demirel, Ö. (2003). *Öğretimde planlama ve değerlendirme öğretme sanatı* (6. baskı). Pegem A Yayıncılık.
- Demir, S. ve Özden, S. (2013). Sınıf öğretmenlerinin öğretimsel stratejilere yöntemlere ve tekniklere ilişkin görüşleri: Hayat bilgisi dersine yönelik tanılayıcı bir çalışma. *Pamukkale Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 14, 59-75.
- Demirkan, Ö. ve Saraçoğlu, G. (2016). Anadolu Lisesi öğretmenlerinin derslerde kullandıkları öğretim yöntem ve tekniklerine ilişkin görüşleri. *The Journal of International Lingual, Social and Educational Sciences*, 2(1), 1-11.
- Derince, Z. M. ve Özgen, B. (2015). Eylem araştırması. F. N. Seggie ve Y. Bayyurt (Ed.), *Nitel araştırma yöntem, teknik analiz ve yaklaşımları* (s.146-162). Anı Yayıncılık.
- Dewey, J. (2019). *Okul ve toplum* (6.baskı). (H.A. Başman, Çev.). Pegem Akademi Yayınevi.
- Durna, İ. H. (2019). *Sosyal bilgiler dersinde Jigsaw tekniği kullanımının öğrenci başarısına, bilgilerin kalıcılığına ve derse karşı tutuma etkisi* (Yayımlanmamış yüksek lisans tezi). Akdeniz Üniversitesi.
- Efe, R., Hevedanlı, M., Ketani, Ş., Çakmak, Ö. ve Aslan Efe, H. (2008). *İş birlikli öğrenme teori ve uygulama*. Eflatun Yayınevi.
- Engel, R. J. ve Schutt, R. K. (2005). *The Practice of Research in Social Work*. SAGE.
- Fırat Durdukoca, Ş. (2018). Sınıf öğretmenlerinin sosyal bilgiler dersi öğretim uygulamaları için öğretim tekniklerinin seçimine yönelik yeterlik algıları ve görüşleri. *Türkiye Sosyal Araştırmalar Dergisi*, 22 (1),212-242.
- Gatto, J.T. (2016). *Eğitim: Bir kitle imha silahı*. (M.A. Özkan, Çev.). Edam Yayıncılık.
- Genç, M. (2007). *İş birlikli öğrenmenin problem çözmeye ve başarıya etkisi* (Yayımlanmamış doktora tezi). Marmara Üniversitesi.
- Gömlüksiz, M. (1993). *Kubaşık öğrenme yöntemi ile geleneksel yöntemin demokratik tutumlar ve erişkiye etkisi* (Yayımlanmamış doktora tezi). Çukurova Üniversitesi.
- Güler, A., Halıcıoğlu, M. B. ve Taşşın, S. (2013). *Sosyal bilimlerde nitel araştırma*. Seçkin Yayıncılık.
- Gürgür, H. (2016). Eylem araştırması. A. Saban ve A. Ersoy (Ed.), *Eğitimde Nitel Araştırma Desenleri içinde* (1-48). Anı yayıncılık.
- Holt, J. (2019). *Çocuklar neden başarısız olur?* (F. Şafak, Çev.). Beyaz Yayınları.
- Ingram, A. L. ve Hathorn, L. G. (2004). *Methods for Analyzing Collaboration in Online Communications*. In T. S. Roberts (Ed.). *Online collaborative learning: Theory and practice* (pp. 215-241). Idea Group Publishing.
- İnce, M. ve Gül, H. (2006). Bilgi çağında rekabetin temel belirleyicisi: bireyin yaratıcılığı. *Selçuk Üniversitesi Karaman İ.İ.B.F. Dergisi*. Haziran, 220-234.
- Kagan, S. (1985). Dimensions of cooperative classroom structures. In R. Slavin, S. Sholomo, S. Kagan, R.H. Lazorowits, C. Webb ve R. Schmuck (Ed.) *Learning to cooperate, cooperating to learn*. Plenum Press.
- Kagan, S. ve Kagan, M. (2009). *Kagan cooperative learning*. Kagan Publishing.
- Karakuş, G. (2020). *İşbirlikli problem çözme öğretim programı tasarımının hazırlanması ve uygulanması* (Yayımlanmamış doktora tezi). Afyon Kocatepe Üniversitesi.

- Koç, Y. (2014). *Fen ve teknoloji öğretmenlerinin iş birlikli öğrenme modeli hakkında bilgilendirilmesi, bu modeli sınıfta uygulamaları ve elde edilen sonuçların değerlendirilmesi: Ağrı il örneği* (Yayımlanmamış doktora tezi). Atatürk Üniversitesi.
- Küçükurtu, B. (2018). *Sosyal bilgiler dersinde sorumluluk, yardımseverlik, hak ve özgürlüklere saygı değerlerinin kazanımında iş birlikli öğrenme modelinin etkisi* (Yayımlanmamış doktora tezi). Atatürk Üniversitesi.
- Krishnamurti, J. (2012). *Eğitim ve yaşamın anlamı* (A. Açıkgöz, Çev.). Omega Yayınları.
- Lazarowitz, R., Baird, J.H., Hertz-Lazarowitz, R. ve Jenkins, J. (1985). Learning to cooperate, cooperating to learn. In R. Slavin, S. Sharan, S. Kagan, R.H. Lazarowitz, C. Webb & R. Schmuck (Eds.), *The effects of modified Jigsaw on achievement, classroom social climate, and self-esteem in high-school science classes*. (pp. 231-253).
- Mc Niff, J. ve Whitehead, J. (2006). *All you need to know about action research*. Sage Publications.
- Millî Eğitim Bakanlığı [MEB]. (2017). *Müfredatta yenileme ve değişiklik çalışmalarımız üzerine*. MEB Yayınları.
- Millî Eğitim Bakanlığı [MEB]. (2018). *2023 eğitim vizyonu*. MEB Yayınları.
- Moskowitz, J. M., Malvin, J. H., Schaeffer, G. A. & Schaps, E. (1983). Evaluation of a cooperative learning strategy. *American Educational Research Journal*, 20(4), 687-696.
- Moulin, D. (2018). *Eğitici Tolstoy* (Ö. Akçay, Çev.). Hece Yayınları.
- Neuman, W.L. (2006). *Toplumsal araştırma yöntemleri, nitel ve nicel yaklaşımlar* (I.Cilt). (S. Özge, Çev.). Yayın Odası Yayıncılık.
- Ökmen, B., Şahin, Ş., Boyacı, Z. ve Kılıç, A. (2019). Rekabete dayalı eğitim anlayışı bağlamında bilgi yarışmalarına bakış. *Eğitimde Kuram ve Uygulama*, 15 (3), 253-266.
- Palak, T. (2018). *İlkokul 4. sınıf Sosyal bilgiler dersinde kullanılan işbirliğine dayalı öğrenme yöntemi birleştirme tekniğinin öğrencilerin sosyal becerilerine ve akran zorbalığına etkisi* (Yayımlanmamış yüksek lisans tezi). Marmara Üniversitesi.
- Philips, D. C. ve Soltis, J. F. (2005). *Öğrenme: perspektifler* (S. Durmuş, Çev.). Nobel Akademi Yayıncılık.
- Reagan, T. (2019). Öğretmenliğin mesleki satüsü (B. Söylemez, Çev.). H. Ünder (Ed.) *Eğitim felsefesi kılavuzu* (s. 205-219). Pegem Akademi Yayıncılık.
- Senemoğlu, N., Gömleksiz, M. Ve Üstündağ, T. (2001). *İlköğretimde etkili öğretme ve öğrenme öğretmen el kitabı öğrenmenin oluşumu modül 1*. MEB Yayınları.
- Serin, M. K. (2014). *İş birliğine dayalı ortamlarda gerçekleştirilen üstbilişsel sorgulama temelli öğretimin ilkokul 4. sınıf öğrencilerinin problem çözme becerilerine etkisi* (Yayımlanmamış doktora tezi). Necmettin Erbakan Üniversitesi.
- Siegel, C. (2005). Implementing a research-based model of cooperative learning. *The Journal of Educational Research*, 98(6).
- Slavin, R. E. (1987). Development and motivational perspectives on cooperative learning: A reconciliation. *Child Development*, 58(5), 1161-1167.
- Slavin, R. E. ve Karweit, N.L. (1981). Cognitive and affective outcomes of an intensive student team learning experience. *The Journal of Experimental Educational*, 50(1), 29-35.
- Slavin, R. E. (1991). *Student team learning: a practical guide to cooperative learning*. National Education Association.
- Soysal, T. (2019). *Türkçe derslerinde iş birlikli öğrenme etkinliklerinin 21. yüzyıl öğrenme ve yenilikçilik becerilerini geliştirmeye etkisi* (Yayımlanmamış doktora tezi). Bolu Abant İzzet Baysal Üniversitesi.

- Sönmez, V. (2008). *Program geliştirmede öğretmen el kitabı* (16. baskı.). Anı Yayıncılık.
- Stringer, E. T. (2007). *Action research*. (3th ed.). Sage Publications.
- Şentürk, Ü. (2020). *Fen eğitiminde 'jigsaw' tekniğinin öğrenci başarısı ve derse karşı tutuma etkisi* (Yayımlanmamış yüksek lisans tezi). Gazi Üniversitesi.
- Şimşek, Ü. (2007). *Çözümler ve kimyasal denge konularında uygulanan jigsaw ve birlikte öğrenme tekniklerinin öğrencilerin maddenin tanecikli yapıda öğrenmeleri ve akademik başarıları üzerine etkisi* (Yayımlanmamış doktora tezi). Atatürk Üniversitesi.
- Tarlakazan, E. (2010). *İlköğretim görsel sanatlar dersi 6. sınıf kazanımlarının iş birlikli öğrenme yöntemi etkinlikleri ile gerçekleştirilmesinin öğrenci erişimine etkisi* (Yayımlanmamış doktora tezi). Gazi Üniversitesi.
- Tauer, J. M. ve Harackiewicz, J. M. (2004). The effects of cooperation and competition on intrinsic motivation and performance. *Journal of Personality and Social Psychology*, 86(6), 849-861. <https://doi.org/10.1037/0022-3514.86.6.849>
- Taylor, M. (2002). *Action research in work place education: A handbook for literacy*. <https://files.eric.ed.gov/fulltext/ED462557.pdf>
- Toffler, A. (1992). *Yeni güçler yeni şoklar*. Altın Kitaplar.
- Uysal, G. (2010). *İlköğretim Sosyal bilgiler dersinde işbirlikli öğrenmenin erişime, problem çözme becerilerine, öğrenme stillerine etkisi ve öğrenci görüşleri* (Yayımlanmamış doktora tezi). Dokuz Eylül Üniversitesi.
- Uysal, M. E. (2009). *İlköğretim Türkçe dersinde işbirlikli öğrenmenin erişimi, eleştirel düşünce ve yaratıcılık becerilerine etkisi* (Yayımlanmamış doktora tezi). Dokuz Eylül Üniversitesi.
- Ütkür, N. (2016). Öğretmenlerin kullandıkları yöntem ve teknik farklılıkları: Hayat bilgisi dersi örneği. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi*, 16 (USBES Özel Sayı II), 1631-1651.
- Wessner, M. ve Pfister, H.-R. (2007). Points of cooperation: Integrating cooperative learning in to eeb-based courses. In H. U. Hoppe, H. Ogataand A. Soller (Eds.). *The Role of Technology in CSCL* (pp. 21-46). Springer Science Business Media.
- Yavuz, M. (2020). *Başımıza icat çıkaran çocuklar ve gençler*. Pegem Akademi Yayıncılık.
- Yeşilyurt, E. (2009). İş birliğine dayalı öğrenmenin öğrenci davranışları üzerindeki etkisine ilişkin öğrenci görüşleri. *Fırat Üniversitesi Sosyal Bilgiler Dergisi*, 19 (2), 161-178.
- Yılar, M.B. (2015). *Sosyal bilgiler dersinde iş birlikli öğrenme yöntemlerinin öğrencilerin akademik başarılarına, demokratik tutumlarına ve sosyal becerilerine etkileri* (Yayımlanmamış doktora tezi). Atatürk Üniversitesi.
- Yıldırım, A. ve Şimşek, H. (2006). *Sosyal bilimlerde nitel araştırma yöntemleri* (6.baskı). Seçkin Yayıncılık.
- Yıldırım, K. (2010). *İş birlikli öğrenme yönteminin okumaya ilişkin bazı değişkenler üzerindeki etkisi ve yönteme ilişkin öğrenci-veli görüşleri* (Yayımlanmamış doktora tezi). Gazi Üniversitesi.
- Yıldız, A. (2019). *Stresli bir dünyada mutlu çocuk yetiştirmek*. Alfa Yayıncılık.



**Yazarlar**

**İletiřim**

Sinan ARI  
Temel eđitim

Dr. Sinan ARI,  
MEB, Őehit Suat Akıncı Halk Eđitimi Merkezi,  
Sarıkaya / YOZGAT

E-mail: [dr.sinanari@gmail.com](mailto:dr.sinanari@gmail.com)

Sabahattin ŐİFTŐİ  
Temel eđitim,

Prof. Dr. Sabahattin ŐİFTŐİ  
Necmettin Erbakan Őniversitesi, Ahmet Keleřođlu  
Eđitim FakŐltesi, 42090 Meram / KONYA

E-mail: [sciftci@erbakan.edu.tr](mailto:sciftci@erbakan.edu.tr)

# Yedinci Sınıf Öğrencilerinin Orantısal Akıl Yürütme Problemlerinin Çözümüne Yönelik Geliştirdikleri Hatalı Stratejiler\*

Meltem Gülsüm KARLI\*\* Esra YILDIZ\*\*\*

## Atıf için:

Karlı, M. G. ve Yıldız, E. (2022). Yedinci sınıf öğrencilerinin orantısal akıl yürütme problemlerinin çözümüne yönelik geliştirdikleri hatalı stratejiler. *Journal of Qualitative Research in Education*, 29, 111-148, doi: 10.14689/enad.29.5

**Öz:** Bu çalışmanın amacı yedinci sınıf öğrencilerinin, orantısal akıl yürütme gerektiren problemlerin çözümünde yaptıkları hatalı stratejilerin belirlenmesi ve çözümlerinin SOLO Taksonomisine göre değerlendirilmesidir. Çalışma iki aşamalı bir durum çalışması olup Orta Karadeniz bölgesindeki bir devlet okulunda gerçekleştirilmiştir. Çalışmanın ilk aşamasında Orantısal Akıl Yürütme Becerisi Testi 33 yedinci sınıf öğrencisine uygulanmıştır. İkinci aşamada ise en sık hata yapılan 5 problem belirlenerek 10 öğrenci ile yarı yapılandırılmış görüşmeler yapılmıştır. Veri analizi sonucunda öğrencilerin orantısal akıl yürütme gerektiren problemleri çözerken toplamsal ilişki, veri ihmali, sayıları kullanma ve içerik yok, duygusal cevap verme ve orantısal olmayan durumları belirleyememe hatası olmak üzere toplam 5 farklı hatalı strateji geliştirdikleri tespit edilmiştir. Öğrencilerin orantısal olmayan durumları belirlemede zorlandıkları ve çarpımsal ilişki gerektiren problem durumlarında toplamsal ilişki kurdukları gözlenmiştir. Ayrıca katılımcıların seviyeleri orantısal akıl yürütme becerisine yönelik geliştirilen SOLO Taksonomisi Rubriği ile incelenmiştir. Orantısal akıl yürütme düzeyi yüksek olan öğrencilerin SOLO Taksonomisi rubriğine göre soyutlanmış yapı ve ilişkiyel yapı düzeyinde oldukları; orta puan düzeyinde olan öğrencilerin ise tek yönlü ve çok yönlü yapı seviyesinde oldukları görülmüştür.

**Anahtar Kelimeler:** Orantısal akıl yürütme, SOLO taksonomisi, oran, orantı, çözüm stratejisi

## Makale Hakkında

Gönderim Tarihi:  
19.03.2021  
Düzeltilme Tarihi:  
10.11.2021  
Kabul Tarihi:  
20.01.2022

## Makale Türü

Araştırma

© 2022 ANI Yayıncılık. Tüm hakları saklıdır

\* Bu araştırma sorumlu yazarın, "Ortaokul 7. Sınıf Öğrencilerinin Orantısal Düşünme Becerilerinin SOLO Taksonomisiyle İncelenmesi" başlıklı yüksek lisans tezinden üretilmiştir.

\*\* Sorumlu Yazar: Gazipaşa Ortaokulu, Tokat, Türkiye, [meltemgulsumkarli@gmail.com](mailto:meltemgulsumkarli@gmail.com)

\*\*\* İstanbul Medeniyet Üniversitesi, Türkiye, [esra.yildiz@medeniyet.edu.tr](mailto:esra.yildiz@medeniyet.edu.tr)

## Giriş

Matematiksel düşünme becerisi, bireyin ön öğrenmelerine dayanan matematiksel bilgi ve kavramları kullanarak, akıl yürütme, tahmin etme, genelleme yapma, soyut düşünebilme, hipotez kurma, test etme, muhakeme etme ve ispatlama ile yeni bir bilgiye ya da kavrama ulaşması için gerekli bir özellik olarak tanımlanmaktadır (Bukova, 2006, 2008). Mantıksal düşünme süreci, keşfetme, bilgiyi etkili kullanabilme, formül oluşturabilme ve alışılmadık dışında yollar keşfetme gibi boyutlar içeren karmaşık bir süreçtir (Ersoy & Başer, 2013; Langrall & Swafford, 2000). Matematiksel düşünme becerisi, sayı hissi geliştirme ve soyut matematiksel kavramları ustalıkla kullanma gibi direkt matematik içerikli beceriler yanında (Yeşildere, 2006) günlük hayat problemlerine pratik çözümler üretme ve neden sonuç ilişkisi kurma gibi daha yaşamsal becerilerle ilgili düşünme süreçlerini de içermektedir (Aslan & İlkörücü, 2017). Matematiksel düşünme becerisinin, günlük yaşam ihtiyaçlarının karşılanması için gerekli olan problem çözme becerisi ve bilgiye erişme, bilgiyi analiz etme ve üretme yöntemlerinin etkili kullanılması için gerekli bir beceri olarak erken yaşlardan itibaren geliştirilmeye başlanması gereklidir (Yıldırım, 2015). Probleme yönelik çözüm önerisi geliştirmenin de ötesinde, problemin farklı boyutları üzerinde durularak, problemin kaynağı, ortaya çıkmasını etkileyen etmenler, çözüme katkı sağlayacak unsurlar ve yardımcı becerilerin kullanımını da matematiksel düşünme gerektiren durumlar olarak değerlendirmek mümkündür (Karakoca, 2011).

Matematiksel düşünme kapsamında değerlendirilebilecek bir beceri olarak orantısal düşünme becerisi (Akkuş ve Duatepe-Paksu, 2006) öğrencilerin, orantı ve oran konusuna ilişkin kavramları doğru kullanma, çarpıma dayalı orantı problemlerindeki matematiksel ilişkileri anlayabilme ve özellikle orantısal ve orantısal olmayan durumları ayırt edebilmeleri için gerekli olan bir beceri olarak tanımlanmaktadır (Cramer vd., 1993; Lesh vd., 1988; Pittalis vd., 2003). Ulusal Matematik Öğretmenleri Konseyi [National Council of Teachers of Mathematics (NCTM)] (2020) tarafından belirlenen İlkeler ve Standartlara göre oran ve orantı, eğitim, yüzde, benzerlik, lineer denklemler, histogram ve olasılık başta olmak üzere matematiksel kavramların bütüncül yaklaşımla öğrenilebilmesi için öğrencilerin orantısal düşünme becerilerinin geliştirilmesi gerektiği üzerinde durulmaktadır.

Bu nedenle matematik eğitimi içerisinde özellikle matematiksel düşünme gerektiren karmaşık süreçlerin incelenmesi açısından orantısal akıl yürütme becerisine yönelik çalışmalar yapmanın gerekli önemli olduğu düşünülmektedir. Literatürde orantısal akıl yürütme becerisini inceleyen birçok çalışma bulunmaktadır. Bu çalışmalarda ortaokul öğrencilerinin orantısal düşünme beceri seviyelerinin belirlenmesi (Akkuş Çıkla ve Duatepe, 2002; Akkuş ve Duatepe-Paksu, 2006; Ben-Chaim vd., 1998; Duatepe vd., 2005; Musan, 2012; Umay, 2003), orantısal akıl yürütme becerisi gerektiren problemlere verdikleri cevapların nitelik ve nicelik olarak analizleri (Aladağ, 2009; Aladağ ve Artut, 2012; Altaylı, 2012; Atabaş, 2014; Bayazit ve Dönmez, 2017; Çelik, 2010; Çelik ve Özdemir, 2011; Debrel, 2011; H. Çetin, 2009; Küpçü, 2008; Küpçü ve Özdemir, 2011; Ünsal, 2009; Wells vd., 2014) ve oran ve orantı problemleri

çözerken kullandıkları stratejiler ve yaptıkları hatalarının incelendiği görülmektedir (Avcu, 2010; Cramer ve Post, 1993; İ. Çetin, 2009; Kayhan, 2005; Kaplan vd., 2011; Pakmak, 2014; Pelen, 2014; Şen ve Güler, 2017; Umay ve Kaf, 2005).

Orantısal akıl yürütme becerisinin gelişimi için öncelikle nicelikler arasındaki çarpımsal ilişkinin öğrenciler tarafından fark edilmesi gereklidir (Pelen, 2014; Toluk-Uçar & Bozkuş, 2016). Nesnelere arasındaki çarpımsal ilişkileri ayırt edebilen bir öğrencinin problem durumunun orantısal olup olmadığını kolaylıkla fark edebileceği düşünülmektedir. Örneğin; öğrenciden kenar uzunlukları 4 cm ve 8 cm olan bir dikdörtgeni, fotokopi ile belirli bir oranda büyütürken kısa kenarını 6 cm yapması istendiğinde; öğrencinin 4 ve 6 arasındaki oransal yani çarpımsal ilişkiden yola çıkarak 8 cm'nin 1,5 katı olan 12 cm'yi hesaplaması beklenmektedir. Bunun yerine öğrenci, kısa kenarlar arasındaki 2 cm farkı göz önüne alarak, uzun kenarlar arasındaki farkın da 2 olması gerektiğini düşünürse bu durum onun toplamsal ilişki kurduğu şeklinde yorumlanabilir.

Orantısal akıl yürütme becerisinin, matematikte hemen her konunun içeriğine entegre olduğunu söylemek mümkündür. Örneğin: üçgende benzerlik, eğim, olasılık, denklemler, kesirler, logaritma ve trigonometri gibi konular orantısal akıl yürütme becerisi ile ilişkili olan konulardır (Van de Walle vd., 2013). Ayrıca geometrik şekillerin kenarları arasındaki oranların sembolik olarak ifade edilmesi sürecinin hem geometrik hem de cebirsel düşünmenin gelişmesine katkı sağlayacağı düşünülmektedir (Langrall ve Swafford, 2000). Bu nedenle orantısal akıl yürütme becerisinin gelişmesi ilişkili birçok konuda matematiksel becerilerin gelişmesine destek olacağı için bu beceri ile ilgili yapılan çalışmalar önem kazanmaktadır (Musun, 2012).

## Orantısal Akıl Yürütme Problemlerinin Çözümünde Kullanılan Stratejiler

Öğrenciler orantısal düşünme becerisi gerektiren problemleri çözerken doğru stratejilerin yanında hatalı stratejiler geliştirdikleri bilinmektedir. Orantısal akıl yürütme ile ilgili problem durumlarının çözümünde kullanılan çözüm stratejileri birim oran, değişim çarpanı, içler-dışlar çarpımı algoritması ve denk kesir stratejisi (Cramer ve Post, 1993) ve denklik sınıfı stratejisi olarak sınıflandırılmaktadır (Bart vd., 1994). Hatalı çözüm stratejileri ise duygusal cevap verme, toplamsal ilişki, veri ihmal, sayıları kullanma ve içerik yok stratejisi olarak sınıflandırılmaktadır (Ben-Chaim vd., 1998; Kayhan, 2005).

Hatalı çözüm stratejilerden "toplamsal ilişki" stratejisinde öğrencilerin çarpımsal ilişkiyi fark edemedikleri ve değişkenler arasında toplamsal ilişki kurarak orana belli bir değeri ekleyerek orantıdaki diğer oranı bulmaya çalıştıkları görülmektedir. Örneğin "sekiz kişilik kurabiye yapmak için iki bardak şeker kullanılıyorsa beş bardak şeker ile kaç kişilik kurabiye yapılır?" şeklindeki bilinmeyen değeri bulma probleminde öğrenci şu şekilde hata yapmaktadır:

5 bardak şeker – 2 bardak şeker = 3 bardak şeker

8 kişi + 3 kişi = 11 kişilik kurabiye

Burada öğrenci şeker bardağı sayıları arasında oransal ilişkiyi kullanmak yerine bardak sayıları arasındaki farkı göz önüne almış ve 11 kişilik kurabiye yapılacağını söylemiştir. Bu hesaplaması öğrencinin veriler arasında toplamsal ilişki kurduğu şeklinde açıklanabilir.

“Duygusal cevap verme” stratejisinde öğrenciler problemdeki verileri gerçek hayat durumlarıyla ilişkilendirmeye çalışırken öznel cevaplar vererek hata yaparlar. Örneğin; “Bakkala giden çocuk 6 şişe sodanın 12 lira, 4 şişe gazozun ise 10 lira olduğunu görüyor. Hangi ürünün fiyatı daha ekonomiktir?” şeklindeki karşılaştırma sorusuna “Gazoz her zaman daha pahalıdır, bu yüzden soda daha ucuza gelir.” Ya da “Ben sodayı hiç sevmem tatsız olur. Gazoz daha güzel olduğu için gazozu seçerim” gibi matematiksel çözümden uzak öznel cevaplar verirler. Bu durumda öğrencilerin duygusal cevap verme hatası yaptıkları söylenebilir.

“Veri ihmali stratejisinde” öğrenciler sadece bir duruma ya da değişkene odaklanırlar. Örneğin; yukarıdaki bakkal sorusuna “Soda 12 TL olduğu için fiyatı daha fazla dolayısı ile soda daha pahalıdır.” Ya da “4 şişe 6 şişeden daha azdır. Daha az ürün için daha az para öderiz.” yanıtını veren bir öğrenci sadece fiyata ya da sadece şişe sayısına odaklanmış ve diğer veriyi ihmal etmiştir denilebilir.

Son hatalı strateji “sayıları kullanma ve içerik yok” stratejisinde ise öğrencilerin problemde yer alan sayılar ile toplama, çıkarma, çarpma ve bölme işlemlerinin kullanılması gerektiğinin farkında oldukları halde problemin çözümünde problemle ilgili olmayan işlemleri kullanmaları söz konusudur.

Literatür incelendiğinde orantısal akıl yürütme becerisinin, temel eğitim seviyesinden itibaren geliştirilebilen, aritmetikten cebire geçiş aşamasını destekleyen bir konu olarak ihmal edilmemesi gereken önemli bir konu olduğu görülmektedir (Akkuş-Çıçla ve Duatepe, 2002; Akkuş ve Duatepe-Paksu, 2006; Aladağ, 2009; Aladağ ve Artut, 2012; Altaylı, 2012; Atabaş, 2014; Avcu, 2010; Bayazit ve Dönmez, 2017; Ben-Chaim vd., 1998; Cramer ve Post, 1993; Çelik, 2010; Çelik ve Özdemir, 2011; Fielding-Wells vd., 2014; H. Çetin, 2009; İ. Çetin, 2009; Debrel, 2011; Duatepe vd., 2005; Kaplan vd., 2011; Kayhan, 2005; Küpçü, 2008; Küpçü ve Özdemir, 2012; Martinez Ortiz, 2015; Özdemir ve Çelik, 2011; Pakmak, 2014; Pelen, 2014; Şen ve Güler, 2017; Umay, 2003; Umay ve Kaf, 2005; Ünsal, 2009). Bu bağlamda orantısal akıl yürütmenin oran ve orantı konusundan itibaren onunla ilgili olan rasyonel sayı, kesir, yüzde hesapları, ondalık gösterimler, üçgenlerde benzerlik gibi oranla ilgili olan temel konuların öğretiminde birbirleriyle ilişki kurdurulmasının önemli olduğu düşünülmektedir. Mevcut çalışmada katılımcıların orantısal düşünceleri gereken durumlarda ne tür düşünceler içerisinde oldukları ve nasıl hatalar yaptıkları (ör. toplamsal ilişki kurma, çarpımsal ilişki kurma, orantısal olmayan durumları belirleyememe) ortaya konulmaya çalışılarak, bu hataların nereden kaynaklandığı üzerinde duurulmuştur. Çalışmanın bu konu hakkında öğretmenlere fikir vermesi ve

matematiğin en temel konusu olan oran ve orantı konusunun öneminin fark edilmesi açısından önemli olduğu düşünülmektedir.

Mevcut çalışmada öğrencilerin orantısal düşünme becerisi gerektiren problemlere verdikleri yanıtlar SOLO Taksonomisi yardımıyla değerlendirilmiştir. Literatürde Bloom, Anderson, MATH, Fink ve Dettmer Taksonomisi (Arı, 2013; Koçyiğit ve Morali, 2020) gibi birçok taksonomi bulunmaktadır. Bu çalışmada katılımcıların çözüm seviyelerinin belirlenmesinde ve gösterge fillerine göre kategorize edilebilmesinde en kullanışlı taksonomi olduğu düşünülen SOLO taksonomisi kullanılmıştır.

## SOLO Taksonomisi

SOLO Taksonomisi her sınıf seviyesine uygun olarak öğrenci çözümlerini analiz etmek amacıyla Biggs ve Collis (1982) tarafından geliştirilen ve 5 farklı hiyerarşik düzeyden oluşan bir taksonomidir (Wadhwa, 2008). SOLO Taksonomisi, öğrencinin hiç öğrenme belirtisi göstermediği "yapı öncesi" konunun tek bir yönüne odaklanarak öğrenmeye çalıştığı "tek yönlü yapı" bir konuya ait birden fazla parçayı kavradığı ancak parçalar arasında bağ kuramadığı "çok yönlü yapı" öğrendiği birden fazla parça arasında mantıklı bir ilişki kurduğu "ilişkisel yapı" ve tüm öğrenmelerinin üzerinde bir akıl yürütme yaparak genellemelere ulaştığı "soyutlanmış yapı" seviyeleri olmak üzere beş hiyerarşik seviyeden oluşmaktadır. SOLO Taksonomisinin hiyerarşik yapısı nedeniyle üst seviyelere doğru ilerledikçe öğrencilerin cevapları ilişkilendirme, tutarlılık ve üst düzey düşünme becerileri yönünden gelişme göstermektedir (Biggs ve Collis, 1982).

Taksonomi seviyelerinden ilk üçü olan yapı öncesi, tek yönlü yapı ve çok yönlü yapı seviyesinde öğrencilerin çözümlerinde niceliksel olarak ilerledikleri ve yüzeysel öğrenmeler gerçekleştirdikleri görülmektedir (Özdemir ve Göktepe-Yıldız, 2015). Daha ileri düzeyleri temsil eden ilişkisel yapı ve soyutlanmış yapı seviyelerinde öğrencilerin niceliğin yanı sıra soruyu niteliksel olarak da kavradıkları ve daha derin bir öğrenmeye sahip oldukları görülmektedir. Gözlenebilir öğrenme çıktılarını açıklamayı hedefleyen SOLO Taksonomisi Matematik, Tarih, Coğrafya, İngilizce ve modern dilleri vb. alanlarda kullanılmaktadır. SOLO Taksonomisi kullanılarak yapılan çalışmalarda, genellikle öğrenci cevaplarının detaylı analizi, farklı sınıf düzeyindeki öğrencilerin SOLO Taksonomisinin hangi düşünce seviyelerinde buldukları, üniversite düzeyindeki öğrencilerle yürütülen çalışmalarda ise ileri matematiksel yapıların öğrenci zihninde nasıl algılandığı belirlemek ve bu çözümler hakkında detaylarının öğrenilmesi amacıyla kullanıldığı görülmektedir.

Matematik eğitimi literatüründe SOLO Taksonomisi ile öğrenci bilgi düzeylerinin incelendiği birçok çalışma bulunmaktadır (Akbaş, 2016; Akbaş, 2009; Ardıç vd., 2012; Arı, 2013; Bağdat, 2013; Bağdat ve Anapa Saban, 2014; Çelik, 2007; Göktepe ve Özdemir, 2013; Groth ve Bergner, 2006; Kıranı, 2004; Konyalıhatipoğlu, 2016; Lian ve Idris, 2006; Rider, 2004; Sarıhan-Musan, 2012; Tuna, 2011). Literatür genel olarak değerlendirildiğinde yapılan çalışmaların çoğunlukla nitel veya karma

desenle tasarlanmış olduğu ve katılımcıların ortaokuldan yükseköğretime kadar her sınıf seviyesinde öğrenciden oluştuğu görülmektedir. SOLO Taksonomisi kullanılarak yapılan çalışmalar incelendiğinde cebirsel ifadeler(Akbaş, 2016; Bağdat, 2013; Bağdat ve Anapa-Saban, 2014; Çelik, 2007; Rider, 2004), istatistiksel düşünme süreçleri(Akkaş, 2009; Groth ve Bergner, 2006), veri analizi (Ardıç vd., 2012; Kiani, 2014), çokgenler (Konyalıhatipoğlu, 2016), denklemler (Lian ve Idris, 2006; Sarıhan-Musan, 2012) gibi farklı matematik konularında öğrenci çözümlerinin doğruluk derecelerinin belirlenmesinde ve sınıflandırılmasında bir araç olarak kullanıldığı görülmüştür. Mevcut çalışmada da benzer şekilde yedinci sınıf öğrencilerinin, orantısal akıl yürütme becerisi gerektiren problem durumlarının çözümü sürecinde yaptıkları hataların incelenmesi ve çözümlerinin kategorize edilerek değerlendirilmesi amacıyla SOLO Taksonomisi kullanılmıştır.

## Yöntem

### Araştırma Deseni

Bu çalışma nitel araştırma desenlerinden durum çalışması niteliğindedir. Creswell (2007)'e göre durum çalışması; araştırmacının zaman içerisinde sınırlandırdığı bir ya da daha fazla durumu gözlem, görüşme, doküman ve raporlar yardımıyla derinlemesine incelediği nitel bir araştırma türüdür. Bu desen bir olay veya durumun boylamsal olarak incelendiği ve sistematik bir veri toplama sürecinin olduğu bir desendir (Büyüköztürk vd., 2010; Subaşı ve Okumuş, 2017). Mevcut çalışmada özel bir durum birden fazla veri toplama yöntemi kullanılarak, derinlemesine analiz edilmeye çalışılmıştır.

### Çalışma Grubu

Araştırma 2016-2017 eğitim öğretim yılında Orta Karadeniz bölgesinde bulunan bir il merkezine bağlı devlet okulunda gerçekleştirilmiştir. Araştırmanın katılımcılarını yedinci sınıfa devam etmekte olan 33 öğrenci içerisinden çalışmanın amacına uygun olarak seçilen 10 öğrenci oluşturmaktadır. Çalışma grubunun belirlenmesi için amaçlı örnekleme yöntemlerinden biri olan ölçüt örnekleme yöntemi kullanılmıştır. Ölçüt örneklemede verinin zenginleştirilmesi için örneklemin önceden belirlenen ölçütlere bağlı kişi, durum ya da olayların seçilmesi ve problem durumunun derinlemesine araştırılması amaçlanmaktadır (Patton, 2014). Çalışma kapsamında örnekleme dahil edilecek öğrencilerin seçiminde dikkate alınan ölçüt öğrenci test puanının orta veya yüksek düzeyde olmasıdır. Orantısal düşünme beceri testine katılan 33 öğrenci içerisinden en yüksek puan alan 10 öğrenci çalışmanın örneklemini oluşturmaktadır.

## Verilerin Toplanması ve Çözümlemesi

Çalışmada veri toplama aracı olarak Orantısal akıl yürütme becerisi testi ve yarı yapılandırılmış görüşme formu kullanılmıştır. Katılımcıların orantısal düşünme becerisi gerektiren sorularda yaptıkları hataları ortaya koymak için toplanan veriler veri analizi yöntemleri ile analiz edilmiş ve öğrenci seviyeleri araştırmacılar tarafından uyarlanan SOLO Taksonomisi rubriği ile seviye gruplarına ayrılmıştır. Öğrencilerin verdikleri yanıtların, geliştirdikleri çözümlerin daha detaylı analiz edilebilmesi için katılımcılar ile bireysel görüşmeler yapılmıştır. Bir sonraki bölümde veri toplama araçları ve analiz yöntemleri ile ilgili daha ayrıntılı bilgi verilmiştir.

## Orantısal akıl yürütme becerisi testi ve analizi

Verilerin toplanmasında öğrencilerin orantısal akıl yürütme becerilerini ölçmek amacıyla Akkuş ve Duatepe-Paksu (2006) tarafından geliştirilen Orantısal Akıl Yürütme Becerisi Testi kullanılmıştır. 15 maddeden oluşan testin iç tutarlık katsayısı olan Cronbach Alpha değeri 0,86 olarak hesaplanmıştır. Testin maddelerinin ayırt edicilik gücü indeksleri ise 0,50 ile 0,71 değerleri arasında değişmektedir (Akkuş ve Duatepe-Paksu, 2006).

Çalışma kapsamında test 33 öğrenciye uygulanmıştır. Daha sonra öğrencilerin çözümleri araştırmacı tarafından puanlandırılarak öğrenciler tarafından doğru çözümler yüzdesi en düşük olan 2, 7, 9, 10 ve 15 numaralı 5 problem öğrenci hatalarını ortaya koymak amacıyla analiz edilmek üzere seçilmiştir. Uygulanan test sonucunda 2. problemin %33,33 oranında, 7. problemin %12,12 oranında, 9. problemin %24,24 oranında, 10. problemin %18,18 oranında ve 15. problemin %6,6 oranında çözümler yüzdesine sahip olduğu görülmüştür. Testin puanlama anahtarına göre öğrenciler bu 5 problemde en düşük 0 ve en yüksek 15 puan alabilmektedirler. Çalışma grubunda yer alan öğrenciler düşük, orta ve yüksek puan olarak 3 gruba ayrılmıştır. Buna göre 0-4 puan aralığında öğrenciler (Ö2, Ö4, Ö5, Ö10) düşük, 5-9 puan aralığındaki öğrenciler (Ö1, Ö3, Ö6, Ö7) orta ve 10-15 puan aralığındaki öğrenciler (Ö8, Ö9) yüksek puan düzeyinde olarak değerlendirilmiştir.

10 öğrencinin çözümlerindeki hatalar, benzerlikleri dikkate alınarak literatürde yer alan hatalı çözüm stratejilerine göre gruplandırılarak kategorize edilmiştir. Belirlenen hatalı stratejilerin doğruluğu öğrencilerle yapılan birebir görüşmelerde sorgulanmıştır. Görüşmelerin ardından öğrencilerin çözümleri ile eşleştirilen stratejiler alanda uzman 3 akademisyenin onayına sunulmuştur. Örneğin, Ö10 kodlu öğrencinin 9. problem için yaptığı çözümü sınıflandırmada zorluk yaşanmıştır. Başlangıçta araştırmacılar tarafından bu çözümün hem sayıları kullanma ve içerik yok hem de veri ihmal stratejisine uygun olduğu düşünülmüştür. Uzman görüşü alınan bu çözümde öğrencinin ses kayıtları ve görüşme süreci de göz önünde bulundurularak hatasının sayıları kullanma ve içerik yok stratejisi olarak kodlanmasına karar verilmiştir. Başka bir örnekte ise araştırmacılar tarafından yapılan veri analizi sırasında öğrencilerin orantı içermeyen durumlarda orantı kurarak yaptıkları hatalı çözümler 'çarpımsal ilişki



stratejisi' olarak adlandırılmıştır. Ancak ilgili literatürde hatanın bu isimle yer almaması nedeniyle ve uzmanların önerileri doğrultusunda bu stratejinin ismi 'orantısız olmayan durumları belirleyememe' olarak değiştirilmiştir. Uzman kontrolünde yapılan veri analizi sonucunda belirlenen hatalı çözüm stratejileri toplamsal ilişki, veri ihmali, sayıları kullanma ve içerik yok stratejisi, duygusal cevap verme ve orantısız olmayan durumları belirleyememe stratejisi olmak üzere beş kategoriden oluşmaktadır.

### Yarı yapılandırılmış görüşme formu ve analizi

Görüşme formları, bir konu hakkında detaylı bilgi edinebilmek amacıyla farklı katılımcıların bulunduğu örneklem içerisinden benzer türde bilgileri toplamak için kullanılan bir araçtır (Yıldırım ve Şimşek, 2008). Testten elde edilen verilerin detaylı olarak analiz edilebilmesi için ve öğrencilerin çözümlerinin daha açık hale getirilmesi amacıyla araştırmacı tarafından geliştirilen "Yarı Yapılandırılmış Görüşme Formu" kullanılmıştır.

Geliştirilen görüşme formunun geçerliğini yükseltmek ve orantısız akıl yürütme sürecinin alt beceri uygunluğunun belirlenmesi amacıyla 1 eğitimde ölçme değerlendirme anabilim dalı öğretim üyesinden, 1 matematik eğitimi anabilim dalı öğretim üyesinden, 1 matematik öğretmeninden, kullanılan dilin uygun ve anlaşılır olduğunun belirlenmesi için 1 Türkçe öğretmeninden uzman görüşü alınmıştır.

Görüşme formunda çalışma için seçilen 2, 7, 9, 10 ve 15 numaralı problemleri detaylı olarak anlatmalarına yardımcı olacak 8 adet soru bulunmaktadır. Formdaki ilk 3 soruyla uygulanan testle ilgili genel fikirlerini edinmek ve görüşme esnasında öğrencilerin heyecanlarını azaltmak amaçlanmıştır. Sonraki 5 soruda ise öğrencilerin mevcut 5 problemi özetlemeleri ve çözümlerini açıklamalarını istenmektedir. Görüşmelerden elde edilen ses kayıtları deşifre edilerek önceden belirlenen hatalı stratejilere göre gruplandırılarak betimsel olarak analiz edilmiştir.

### SOLO Taksonomisi rubriği ve analizi

Taksonomi, bir öğrencinin kendisine sorulan soruya verdiği cevabı derinlemesine incelemeye ve öğrencilerin düşünme seviyelerinin sınıflandırılmasına yardımcı olan bir araçtır (Lung, 2000). Mevcut çalışmada öğrenci çözümlerinin seviyelere göre sınıflandırılması amacıyla SOLO Taksonomisi kullanılmıştır. SOLO taksonomisinin öğrencilerin orantısız akıl yürütme becerileri seviyelerini belirlemek amacıyla kullanılabilmesi için araştırmacı tarafından uyarılma çalışması yapılmış ve çalışmada rubrik olarak kullanılmıştır.

SOLO Taksonomisinin seviyeleri, yapı öncesi (YÖ), tek yönlü yapı (TYY), çok yönlü yapı (ÇYY), ilişkilendirilmiş yapı (İY), soyutlanmış yapı (SY) olarak adlandırılmaktadır. SOLO seviyeleri, öğrencinin bir soruya verdiği cevapların beş ayrı seviyede ele alınmasını sağlayarak, araştırmacıya öğrenmelerin derinliği hakkında bilgi vermektedir. Taksonomi seviyelerine ait özellikler aşağıda verilmiştir.

**Yapı Öncesi:** SOLO Taksonomisinin en alt basamağıdır. Bu seviyede bulunan öğrenciler üzerinde çalıştıkları konuyu genellikle anlamamakta ya da çok az bir bilgiye sahip olmaktadır (Biggs, 1995). Öğrencinin soruya vermiş olduğu cevapla problem durumu uyumlu değildir. Öğrencinin dikkati sorunun çözümüyle ilgisiz durumlar tarafından kolayca dağılmaktadır (Çetin & İlhan, 2016). Bu nedenle öğrenci beklenen görevi uygun şekilde yerine getirememektedir.

**Tek Yönlü Yapı:** Bu seviyede öğrenciler problem durumunu dar bir bakış açısı ile ele almaktadır. Öğrenci çözüm için gerekli teorik bilgiye sahip olmasına rağmen bilgisini başarılı şekilde çözüm üzerine uygulayamamaktadır (Biggs ve Collis, 1991). Öğrenciler bu seviyede konuyu açıklayabilir ve basit işlemler yapabilirler. Ancak çözüm için odaklandıkları parçanın diğer parçalarla olan ilişkisini kuramazlar. Bu yüzden cevaplarında tutarsızlıklar görülmektedir.

**Çok Yönlü Yapı:** Bu seviyede öğrenciler problem durumlarındaki konunun birden fazla yönünü fark edebilirler ancak bu farklı yönler arasında bağ kuramazlar (Biggs ve Collis, 1991). Öğrencilerin çözüme yönelik yaptıkları planlarda birçok teorik bilgi bulunmaktadır. Ancak öğrenci farklı fikirlerini bir araya getirerek mantıklı ve tutarlı bir çözüm ortaya koyamamaktadır. Bu seviyede öğrencilerin sonuçlarını açıklamaya çalıştıkları ancak neden sonuç ilişkisini kurmada başarısız oldukları görülmektedir.

**İlişkisel Yapı:** Bu seviyede öğrenciler üzerinde çalıştıkları konu ya da problem durumunu mantıklı ve tutarlı bir bütün oluşturacak şekilde ele alabilirler (McGill, 2013). Öğrenciler ulaştıkları sonuçları benzer bir problem durumuna genellebilirler. Ancak öğrenci sahip oldukları bilgilerle sınırlandığından bu bilgiler dışında bir sonuca ulaşamaz ve genelleme yapamaz.

**Soyutlanmış Yapı:** SOLO Taksonomisinin zirvesi olan bu seviyede öğrenci sahip olduğu bilgiden çok daha fazlasına akıl yürütebilir ve ilişkiler arasında bağ kurarak genellemelere ulaşabilir. Öğrenci soyut düşünme örnekleri gösterir. Konu ile ilgili sahip olduğu bilgiyi yorum gücü ve mantığı ile birleştirerek bilgisini sistematik şekilde yeniden yapılandırır (Biggs ve Collis, 1991). Öğrenci yeni ve farklı fikirler sunabilir, atıflarda bulunarak hipotez ve teoriler üretebilir, genellemelere ulaşmak için daha tümdengelim yollarını izleyebilmektedir.

SOLO Taksonomisi Rubriği' nin mevcut çalışmanın veri analizi amacıyla kullanılabilmesi için SOLO taksonomisi seviyeleri ve Tablo 1.'de yer alan Çetin ve İlhan (2006) tarafından hazırlanan gösterge fiillerinden yararlanılarak güncellenmiştir.

Uyarlama çalışmasını yapmak için öncelikle öğrencilerin 2, 7, 9, 10 ve 15 numaralı problemler için yaptıkları çözümler en düşük seviye olan yapı öncesi seviyeden başlayarak en yüksek seviye olan soyutlanmış yapıya kadar sıralanmış, daha sonra her seviyeye uygun gösterge fiilleri seçilmiştir. Böylece hem fiillerle uyumlu hem de uygulanan testin puanlama anahtarındaki bilgilerle uyumlu bir rubrik geliştirilmiştir. Öğrencilerin yaptıkları çözümlerin bu beş seviyeden hangisine uygun olduğu çözümün doğruluk seviyesi ve Tablo 1'de yer alan fiilleri içermesi dikkate alınarak belirlenmiştir. Örneğin; öğrenci çözümünde "anlamadım, boş" gibi ibareler varsa bu çözümün yapı

öncesi seviyesi olarak değerlendirilmesine, öğrencinin sorudaki sadece bir veriden yola çıkarak çözüme ulaşmaya çalışmışsa tek yönlü yapı seviyesinde değerlendirilmesine ya da alışılmışın dışında bir çözüm veya akıl yürütme yaparak doğru sonuca ulaşmışsa bu çözümün de soyutlanmış yapı seviyesinde değerlendirilmesine karar verilmiştir. Rubriği çalışmada kullanmadan önce bir pilot çalışma yapılmış ve gerekli düzeltmeler yapıldıktan sonra öğrencilerin orantısal akıl yürütme seviyelerinin belirlenmesi amacıyla esas çalışmada kullanılmıştır.

**Tablo 1.**

*SOLO Taksonomisi Seviyeleri ve Gösterge Fiilleri*

|                          | Niceliksel Artış ve Yüzeysel Öğrenme   |   |  | Niteliksel Artış ve Derin Öğrenme   |  |
|--------------------------|--|---|--|---|--|
|                          | Yapı Öncesi  | Tek Yönlü Yapı  | Çok Yönlü Yapı   | İlişkisel Yapı  | Soyutlanmış Yapı   |
| <b>Temel Özellikleri</b> | Çalışılan konuyla ilgili öğrenilenler yanlıştır, öğrenme olmamıştır.   | Üzerinde çalışılan konunun tek bir yönüne odaklanılır.  | Üzerinde çalışılan konunun iki ya da daha fazla yönü anlaşılır. Fakat parçalar arasında ilişki kurulamaz.  | Üzerinde çalışılan konunun farklı yönleri birbirleri ile ilişkilendirilir.  | Mevcut bilgilerin ötesinde akıl yürütülebilir ve genellemelere ulaşılabilir.   |
| <b>Gösterge Fiilleri</b> | <ul style="list-style-type: none"> <li>- Problemden verilenleri tekrar etmek</li> <li>- "Bilmiyorum" demek</li> <li>- Cevap verememek</li> </ul> | <ul style="list-style-type: none"> <li>- Açıklamak</li> <li>- Tanımlamak</li> <li>- Ezberlemek</li> <li>- Basit bir işlemi uygulamak</li> <li>- Adlandırmak</li> <li>- Sıralamak</li> <li>- Saymak</li> </ul> | <ul style="list-style-type: none"> <li>- Birleştirmek</li> <li>- Listelemek</li> <li>- Tanımlamak</li> <li>- Metaforik konuşmak</li> <li>- Planlamak</li> <li>- Algoritma ve yöntemleri uygulamak</li> </ul> | <ul style="list-style-type: none"> <li>- Analiz etmek</li> <li>- Karşılaştırmak</li> <li>- Birleştirmek</li> <li>- İlişkilendirmek</li> <li>- Bilinmeyenler arasındaki ilişkileri kurmak</li> <li>- Sebep ve sonuçları açıklamak</li> <li>- Verilen bir teoriyi ilgili alana uygulamak</li> </ul> | <ul style="list-style-type: none"> <li>- Kuram oluşturmak</li> <li>- Genellemeler yapmak</li> <li>- Tahmin etmek</li> <li>- Hipotez kurmak</li> <li>- Yansıtmak</li> <li>- Teoriyi yeni bir alana uygulamak</li> <li>- Tartışmak</li> <li>- Derinlemesine incelemek</li> </ul> |

## İnanırlık ve Etik

Güvenirlilik ve Geçerlik nitel bir araştırmanın inandırıcılığının en önemli iki ölçütüdür. Bir çalışmada elde edilen ölçme sonuçlarının tesadüfi hatalardan arınmışlık derecesi araştırmanın güvenirliliği olarak tanımlanmaktadır. Araştırma yapılan özelliğin doğru ölçülebilirlik oranının artışına bağlı olarak araştırma güvenirliliği artış gösterir (Büyüköztürk vd., 2010, Tanrıoğen vd., 2012). Öğrencilere uygulanan orantısal akıl yürütme

becerisi testinin puanlanmasında nesnel ve güvenilir bir yaklaşımla ilerlenebilmesi için teste ait olan dereceli puanlama anahtarı ve araştırma için geliştirilen SOLO Taksonomisi rubriği kullanılmıştır. Puanlama güvenilirliğini sağlamak için veri analizi aşamasında puanlayıcılar arası tutarlık (inter-rater reliability) hesaplanmıştır. Bu yöntemde aynı veri için iki ya da daha fazla gözlemciye ait puanlamanın güvenilirliği, puan grupları arasında oluşan uyum ile ölçülmektedir. Gözlemcilerin mevcut veriler ve çözümler için verdikleri puanlar birbirine yaklaştıkça güvenilirliğin artacağı ilgili literatürde belirtilmektedir (Bilgen & Doğan, 2017). Güvenirliğin belirlenebilmesi için SOLO Taksonomisi ve geliştirilen rubrik hakkında bilgilendirilen ilköğretim matematik eğitimin alanında uzman bir araştırmacı ikinci puanlayıcı olarak seçilmiştir. Puanlayıcı uygulanan testte yer alan 2, 7, 9, 10 ve 15 numaralı problemlere ait çalışma grubunda yer alan 10 öğrencinin çözümlerini yalıtılmış bir ortamda puanlamıştır. Puanlamada ölçüt olarak önceden belirlenen kategoriler ve SOLO Taksonomisi rubriği kullanılmıştır. Araştırmacı ve uzman puanlayıcı, öğrencilerin hatalı stratejilerini kategorize ederek rubrikte uygun seviyelere yerleştirmişlerdir. 10 öğrencinin belirlenen 5 soruda yaptıkları çözümler puanlanmış ve tabloya işlenmiştir. Rubrikte bulunan en düşük 0 ve en yüksek 5 puan almayı gerektiren seviyeler ve açıklamalarından yola çıkılarak puanlama yapılmıştır. İşlem sonunda puanlayıcı tablosu ile araştırmacı tablosu karşılaştırıldığında 7 sorunun farklı kodlandığı görülmüştür. 2. Probleme Ö2 (araştırmacı:2, puanlayıcı:3) ve Ö7(araştırmacı:3, puanlayıcı:4) kodlu öğrencilerin, 7. Probleme Ö6 (araştırmacı: 3, puanlayıcı:2) ve Ö4(araştırmacı:4, puanlayıcı:3) kodlu öğrencinin, 9. Probleme Ö5 (araştırmacı:3, puanlayıcı:4) kodlu öğrencinin ve 10. Probleme Ö1 (araştırmacı:3, puanlayıcı:4) ve Ö3 (araştırmacı:3, puanlayıcı:2) kodlu öğrencilerin farklı kodlara sahip oldukları görülmüştür. 15. Probleme ait puanlamada her iki puanlayıcının da uyumlu kodlama yaptığı görülmüştür. Puanlar arasındaki farkların tüm öğrencilerde 1 puan olduğu görülmüştür. Puanlayıcıların öğrencileri seviyeleri konusunda fikir ayrılığına düştüğü durumlarda öğrencinin cevabı hakkında ayrıntılı bir şekilde tartışılarak ortak bir görüş oluşturulmuştur. Puanlama işleminin ardından son halini alan rubriğin puanlayıcılar arası güvenilirliği Miles ve Huberman (1994)' a göre puanlanmıştır.

$$\text{Güvenirlik} = \frac{\text{Görüş Birliğine Varılan Durumlar}}{\text{Görüş Birliğine Varılan Durumlar} + \text{Görüş Birliğine Varılmayan Durumlar}}$$

Miles ve Huberman (1994)' a göre puanlamada güvenilirlik hesaplamasının %70 ve üzerinde olması puanlayıcılar arası güvenilirlik için yeterli sayılmaktadır. Mevcut çalışmada güvenilirlik formülü kullanılarak %86 güvenilirlik hesaplanmıştır. Bu hesaplama dayanarak geliştirilen rubriğin öğrencilerin orantısal akıl yürütme becerilerine ait seviyelerini SOLO Taksonomisinin uygun seviyesine yerleştirme konusunda güvenilir bir araç olduğunu söylemek mümkündür.

Bir araştırmada ölçülmesi hedeflenen özelliğin ölçme sürecine farklı etkenler karışmaksızın ölçülebilir derecesi geçerlik olarak tanımlanmaktadır (Merriam, 2015). Mevcut araştırmada elde edilen veriler kullanılarak çalışma grubundaki öğrencilerle görüşmeler gerçekleştirilmiştir. Yarı yapılandırılmış görüşmeler boyunca veriler araştırmacı tarafından ilk elden toplanmıştır. Tüm görüşmelerin ses kaydı alınmıştır.

Araştırmacı veri toplama aşamasını tamamlayana kadar önyargılı davranmadan ilerlemeye çalışmış, ses kayıtlarına ait verileri, uygulanan teste ait dereceli puanlama anahtarını ve geliştirilen rubriği kullanarak çözümlerinde objektif olmaya çalışmıştır. Ses kayıtları bulgulara dönüştürüldükten sonra katılımcı teyidi (member-check) yapılmıştır. Görüşme yapılan 10 öğrenciye, görüşme sürecinde yaptıkları açıklamaların yazılı hali sunularak, öğrencilerin ifadelerinin yazıya doğru olarak aktarıldığını ve verilerin uygunluğu onayladıktan sonra veri analizi yapılmıştır. Araştırmanın uygulama aşamasında katılımcıları her türlü zarardan koruma ve gizlilik gibi etik ile ilgili tüm görevler hassasiyetle yerine getirilmeye çalışılmıştır. Uygulama öncesinde İl Milli Eğitim Müdürlüğü'nden (Tarih: 31/05/2017, Sayı: 27001677-44-E.7951860) yazılı izin alınmış, öğrencilerin çalışmaya gönüllü katılımı yazılı onam formu ile sağlanmıştır. Katılımcılara istedikleri zaman çalışmadan ayrılacakları bildirilmiş ve kişisel verilerin araştırma ekibi dışında kimse ile paylaşılmayacağı teyit edilmiştir. Ayrıca araştırma sonuçlarını raporlanırken gerçek isimler yerine kodlar kullanılmıştır.

## Bulgular

Bu bölümde, öğrencilerin seçilen problemlere verdikleri cevaplar ve geliştirdikleri çözüm stratejilerine ilişkin görüşme çözümleri yer almaktadır. Analizler için öğrencilerin en fazla hata yaptıkları 2, 7, 9, 10 ve 15 numaralı problemlerin çözümleri kullanılmıştır. Bulgular, çalışma grubundaki 10 öğrencinin çözümlerinde kullandıkları 5 farklı hatalı çözüm stratejisi ayrı başlıklar halinde incelenmiştir. Bölüm içerisinde alt başlıklar halinde sunulan bu hatalı stratejiler toplamsal ilişki kurma, veri ihmali, duygusal cevap verme, sayıları kullanma ve içerik yok ve orantısız olmayan durumları belirleyememe stratejisidir.

### Toplamsal İlişki Stratejisine Yönelik Bulgular

Oranların karşılaştırılması gereken durumlarda öğrencilerle tarafından kullanılan bu hatalı strateji, bir orantıda yer alan oranlardan birine belirli bir değer eklenerek diğer oranı bulmayı hedeflemektedir. Öğrencilerin orantının doğası gereği kullanılması gereken çarpımsal ilişki yerine hatalı düşünerek toplamsal ilişki kurdukları görülmektedir.

Çalışma grubundaki 10 öğrencinin toplamsal ilişki stratejisini kullanarak hata yaptıkları problemler ve bu problemlerin SOLO Taksonomisi Rubriğine göre değerlendirmesi Tablo 2.'de yer almaktadır.

Tablo 2.'ye göre çalışma grubundaki 10 öğrenciden 9'u çözümünde toplamsal ilişki hatalı stratejisini kullanmıştır. Ö8 kodlu öğrenci hiçbir problemin çözümünde bu hatalı stratejiyi kullanmamıştır. Bu yönüyle toplamsal ilişki stratejisinin öğrencilerin en fazla sahip olduğu hatalı strateji olduğunu söylemek mümkündür. Örneğin, aşağıda verilen

10. Problemin çözümünde toplamsal ilişki stratejisini kullanan Ö<sub>2</sub> kodlu öğrencinin 10 numaralı probleme ait çözümü Şekil 1’de verilmiştir.

**Tablo 2.**

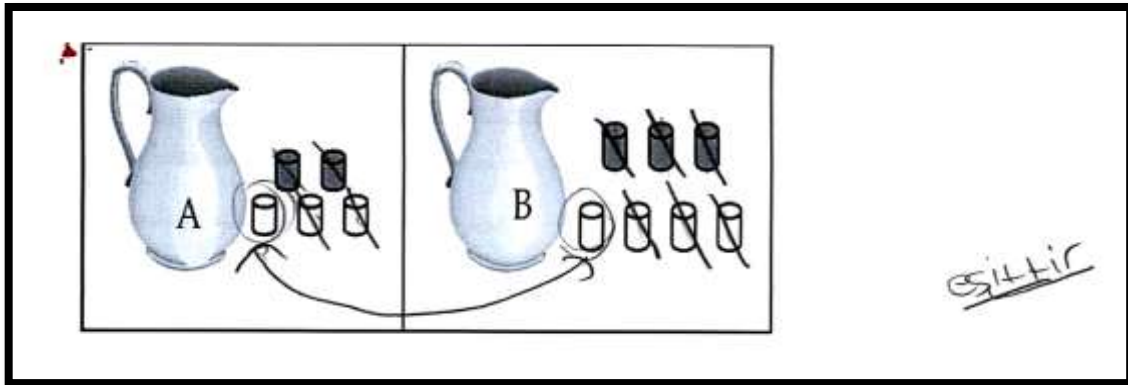
*Toplamsal İlişki Stratejisi Katılımcı Tablosu*

| Kullanılan Strateji         | Öğrenci Kodu | Problem Numarası | SOLO Seviyesi  |
|-----------------------------|--------------|------------------|----------------|
| Toplamsal İlişki Stratejisi | Ö1           | 10               | Çok Yönlü Yapı |
|                             | Ö2           | 2, 10            | Tek Yönlü Yapı |
|                             | Ö3           | 10               | Tek Yönlü Yapı |
|                             | Ö4           | 10               | Tek Yönlü Yapı |
|                             | Ö5           | 2                | Tek Yönlü Yapı |
|                             | Ö6           | 2                | Tek Yönlü Yapı |
|                             | Ö7           | 10               | Çok Yönlü Yapı |
|                             | Ö8           | -                | -              |
|                             | Ö9           | 2                | Çok Yönlü Yapı |
|                             | Ö10          | 7                | Tek Yönlü Yapı |

**Problem 10:** “Şekilde görülen A ve B sürahilerinde portakal suyu yapılmaktadır. Koyu renkli bardaklarda portakal suyu konsantresi, açık renkli bardaklarda ise su vardır. Şekilde görüldüğü gibi A sürahisine 2 bardak portakal suyu konsantresi, 3 bardak su; B sürahisine ise 3 bardak portakal suyu konsantresi ve 4 bardak su konulmuştur. Buna göre hangi sürahideki portakal suyu daha tatlıdır? Açıklayınız.” Niceliksel karşılaştırma içeren bu problemde öğrencilerden bardaklar arasındaki  $2/5$  ve  $3/7$  oranlarından ya da  $2/3$  ve  $3/5$  oranlarından büyük orana sahip B sürahisinin daha tatlı olduğu sonucuna ulaşmaları beklenmektedir.

**Şekil 1.**

*Ö2’nin 10. Problem İçin Yaptığı Çözüm*



Şekil 1'deki çözüm için yapılan görüşmeden alınan kesitler aşağıda verilmiştir.

A : Hangi sürahi daha tatlıdır sence?

Ö2 : Hocam bence ikisi de eşit olur.

A : Neden ikisi de eşit olur?

Ö2: Hocam sürahilerin zaten boyu aynı. Mesela bununla bu giderse bununla bu gider su kalır. (A sürahisindeki 1 bardak su ile 1 bardak portakal suyunu eşleştirdiğini anlatmak istiyor. Bu eşleştirmesine göre A sürahisinde geriye sadece 1 bardak su kalıyor.) Bununla bu, bununla bu, bununla da bu giderse yine su kalır. (Öğrenci portakal konsantresi ve su eşleştirme işlemini B sürahi için de yapıyor.) Ancak tadı değişmez. Oranlarda değişiklik olmamış. Sadece 1 tanesinde daha fazla. Miktar (sıvı) daha fazla.

A : Peki az önce eşittir dedin, oranlar aynı oluyor dedin. Nasıl bir orandan bahsediyorsun?

Ö2 : Hocam burada (A sürahi) 1 fark var, burada (B sürahi) da 1. Aynı oranda işte.

A : Oranı nasıl kullandın burada?

Ö2 : Az önce yaptım ya hocam. Portakal ile suları birebir eşledim yani oranladım. Geriye sadece 1'er bardak su kaldı. Tatları eşit demek ki.

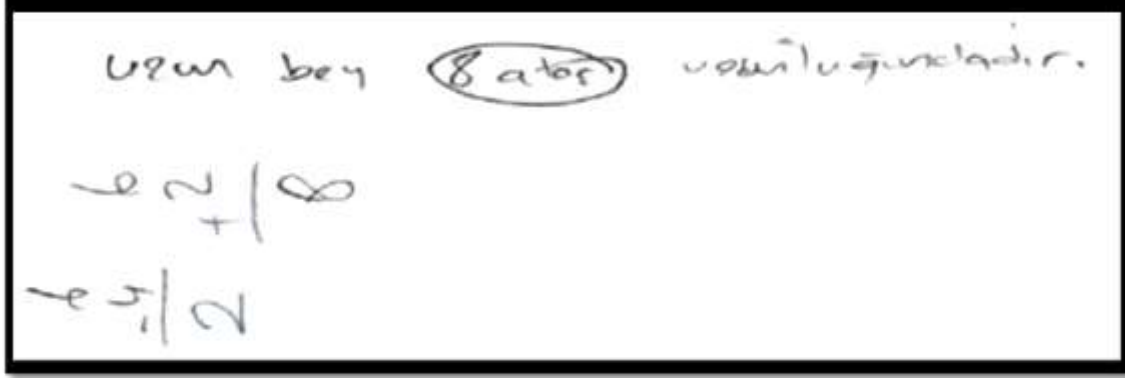
Öğrencinin "... birebir eşledim yani oranladım. Tatları eşit demek ki." yorumuna dayanarak çözüm yaparken bardak sayıları arasındaki farka odaklandığı, her sürahi için bardak sayıları arasındaki çarpımsal ilişkiyi ihmal ettiği ve toplamsal ilişki stratejisini kullanarak hata yaptığı düşünülmektedir. Öğrenci birebir eşleme yaparak oranladığını düşünmektedir. Taksonomi açısından Ö2 kodlu öğrenci problemdeki bardak sayılarını yanlış yorumlamış ve hangi sürahinin daha tatlı olduğunu belirleyememiştir. Bardak sayılarını orantılamak yerine onlar arasında toplamsal bir ilişki kurmaya çalışmıştır. Her iki sürahide de bardak sayıları arasındaki fark 1 olduğu için tatlarının aynı olduğunu düşünerek hatalı bir cevap vermiştir. Bu hatalı çözüm rubriğe göre 'tek yönlü yapı' seviyesine karşılık gelmektedir.

Benzer şekilde Ö2 kodlu öğrencinin 2. probleme ait çözümü Şekil 2.'deki gibidir.

Problem 2: "Kısa Bey' in Uzun Bey adında bir arkadaşı vardır. Kısa Bey' in ataş ile uzunluğu ölçüldüğünde 6 ataş boyunda olduğu görülmüştür. Uzun Bey ve Kısa Bey' in boyu düğme ile ölçüldüğünde Uzun Bey' in 6, Kısa Bey' in 4 düğme uzunluğunda olduğu bulunmuştur. Buna göre Uzun Bey' in uzunluğu kaç ataş uzunluğundadır?" Verilmeyen değeri bulmayı gerektiren bu problemde öğrencilerin ataş ve düğme boyları arasındaki orantıyı bulmaları beklenmektedir. 1 düğme = 1,5 ataş eşitliğini fark eden öğrencinin 6 düğme =  $6 \times 1,5 = 9$  ataş sonucuna ulaşması gerekmektedir.

## Şekil 2.

Ö2'nin 2. Problem İçin Yaptığı Çözüm



Şekil 2'deki çözüm için yapılan görüşmeden kesitler aşağıdadır.

- A : Çözümünü nasıl gerçekleştirdin?
- Ö2 : Hocam düğmelerde bir tane oran var. Uzun Bey 6 tane, kısa ise 4 tane (Uzun ve Kısa Bey'in düğme uzunluklarını söylüyor).
- A : Nasıl bir orandan bahsediyorsun?
- Ö2 : Hocam burada düğmeler belli bir oranda artmış.
- A : Nasıl bir artış bu?
- Ö2 : 4 düğme kısa olan, 6 düğme de uzun olanı. Yani burada 2 artış var.
- A : Buradaki oranı nasıl belirledin peki?
- Ö2 : Oran 2 işte hocam. Düğmeler arasında 2 fark varsa ataşlar arasında da olacak.
- A : Oran ne demek? Bana düşündüğün gibi açıklar mısın?
- Ö2 : İki şeyin birbirine bölümü.
- A : Bulduğun 2 sayısı ne anlama geliyor o halde?
- Ö2 : Farkını aldım. Oran olmaz mı işte bu? Çünkü aynı durum ataş için de olacak.

Bu hatalı çözümde öğrencinin toplamsal ilişki kurma hatasına düştüğünü söylemek mümkündür. Öğrencinin "oran 2 işte hocam. Düğmeler arasında 2 fark varsa ataşlar arasında da olacak." açıklaması çözümünde toplamsal ilişki kurduğu bulgusunu desteklemektedir. Görüşmede öğrenciden oranın ne olduğunu açıklaması istendiğinde "iki şeyin birbirine bölümü." Tanımlamasını yapmıştır. Açıklaması çarpımsal bir anlam taşımasına rağmen öğrenci çözümünde düğme boyları arasındaki farkı kullanmış ve bu bilgiler arasında toplamaya dayalı bir ilişki kurmaya çalışmıştır. Oranı 2 olarak ifade ettiği yorumuna dayanarak öğrenciye bulunduğu 2'nin ne anlama geldiği sorulduğunda 'farkını aldım. Oran olmaz mı işte bu?' açıklamasını yapmıştır. Öğrenci oran kavramını çarpma ve bölme işlemi ile özdeşleştirmiş ancak problemi çözerken



değişkenlerin farkını alarak bir oran elde edeceğini düşünerek çözümünde hataya düşmüştür. Taksonomi açısından Ö2 kodlu öğrenci problemde verilen bilgileri kullanarak bir oran elde etmesi gerektiğini fark etmiştir. Ancak Kısa Bey'in ölçüleri için geçerli olan farktan faydalanarak Uzun Bey'in ölçülerini bulmaya çalışmıştır. Bu yaptığı işlemi oran olarak tanımlayan öğrencinin çözüme yönelik yeterli açıklama yapamadığı söylenebilir. Bu gösterge fiilleri rubrikte 'tek yönlü yapı' seviyesine karşılık gelmektedir. Toplamsal ilişki stratejisini kullandığı düşünülen diğer öğrenci ise Ö1 kodlu öğrencidir. 10. probleme (Bkz. Ek 1-Soru 10) dair yaptığı çözüm Şekil 3.'de yer almaktadır.

### Şekil 3.

#### Ö1'in 10. Problem İçin Yaptığı Çözüm

| görülen A ve B         | A  | B  |
|------------------------|----|----|
| suyu yapılmaktadır.    | 2P | 3P |
| larda portakal suyu    | 3S | 4S |
| li bardaklarda ise su  |    |    |
| ğü gibi A sürahisine 2 |    |    |
| onsantresi ve 3 bardak |    |    |
| 3 barda portakal suyu  |    |    |
| su konulmuştur. Buna   |    |    |
| portakal suyu daha     |    |    |

esttir

Cürsü 2 bardak portakal suyu 3 bardak su bulunur 3 bardak portakal suyu 4 bardak su bulunur A'da her bardak B'de ise 4 bardak su bulunur 3 bardak portakal suyu bulunur

Şekil 3'de çözüm için yapılan görüşmeden kesitler aşağıdadır:

A : Hangisinin tatlı olduğuna nasıl karar veririz?

Ö1 : Hocam burada hepsi eşittir ki.

A : Neden eşittir?

Ö1: Çünkü mesela burada (A sürahisinden bahsediyor) 2 bardak portakal suyu var burada 3 su var. Aralarında 1 fark var. Burada da (B sürahisinden bahsediyor) 3 bardak portakal suyu var 4 bardak normal su var. Yani burada aralarında 1 fark olduğu için eşittir dedim.

Görüşmeye dayanarak öğrencinin çözümünde toplamsal ilişki" stratejisini kullandığı düşünülmektedir. Öğrenciye, sürahilerin tatlılarının eşit olduğuna nasıl karar verdiği sorulduğunda "1 fark olduğu için eşittir dedim." cevabını vermiştir. Bu cevap göre öğrencinin sadece bardakların niceliklerine odaklandığı ve bardaklar arasında kurması çarpımsal ilişkiyi göremediği, bu nedenle toplamsal ilişki kurarak hatalı çözüm

yaptığı bulgusunu destekler niteliktedir. Taksonomi açısından Ö1 kodlu öğrenci aralarında çarpımsal ilişki bulunan bardak sayılarının durumunu ihmal etmiş ve bu sayılar arasında toplamsal bir ilişki kurmaya çalışarak problemi hatalı çözmüştür. Bu gösterge fiilleri rubrikte 'çok yönlü yapı' seviyesine karşılık gelmektedir.

### Veri İhmali Stratejisine Yönelik Bulgular

İki oran durumunun ya da orantılı ilişkilerden sadece bir tanesinin dikkate alınıp diğerinin ihmal edildiği hata türü 'veri ihmali stratejisi' olarak tanımlanmaktadır. Bu hataya düşen öğrencilerin tek bir duruma, ilişkiye ya da değişkene odaklandıkları görülmektedir. Çalışma grubundaki 10 öğrencinin veri ihmali stratejisini kullanarak hata yaptıkları problemler ve bu problemlerin SOLO Taksonomisi Rubriğine göre değerlendirmesi Tablo 3.'de yer almaktadır.

**Tablo 3.**

*Veri İhmali Stratejisi Katılımcı Tablosu*

| Kullanılan Strateji    | Öğrenci Kodu | Problem Numarası | SOLO Seviyesi             |
|------------------------|--------------|------------------|---------------------------|
| Veri İhmali Stratejisi | Ö1           | 9                | Yapı Öncesi               |
|                        | Ö2           | -                | -                         |
|                        | Ö3           | -                | -                         |
|                        | Ö4           | 10               | Tek Yönlü Yapı            |
|                        | Ö5           | 9, 10            | Çok Yönlü Yapı, Yapı      |
|                        | Ö6           | -                | -                         |
|                        | Ö7           | 2, 7             | İlişkisel Yapı, Tek Yönlü |
|                        | Ö8           | -                | -                         |
|                        | Ö9           | 7                | İlişkisel Yapı            |
|                        | Ö10          | -                | -                         |

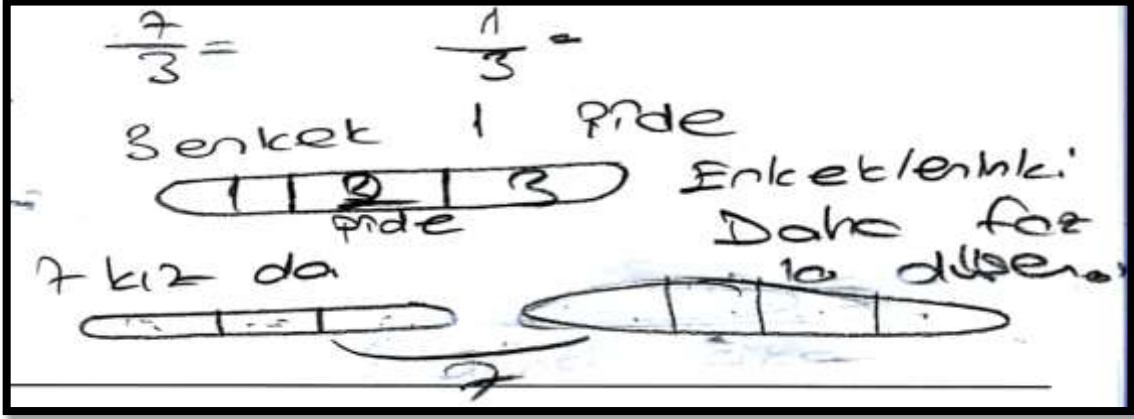
Tablo 3 incelendiğinde Ö1, Ö4, Ö5, Ö7 ve Ö9 kodlu öğrencilerin bu hatalı stratejiyi çözümlerinde kullandığı görülmüştür. Çalışma içerisinde yer alan 5 hatalı strateji arasından toplamsal ilişki stratejisinden sonra öğrencilerin en çok kullandıkları hatalı strateji türü veri ihmali stratejisi olarak belirlenmiştir.

Çözümünde veri ihmali stratejisini kullandığı düşünülen Ö5 kodlu öğrencinin 9 numaralı probleme ait çözümü Şekil 4.'dedir.

**Problem 9:** "Bir lokantada aynı boyda pideler üretilmektedir. Bu lokantada yemek yiyen 7 kız 3 pideyi paylaşırken, 3 erkek ise 1 pideyi paylaşmaktadırlar. Bu lokantada kız başına düşen pide miktarı mı, erkek başına düşen pide miktarı mı daha fazladır? Açıklayınız.". Niceliksel karşılaştırma gerektiren bu problemde öğrencilerin pideler arasındaki oranları karşılaştırmaları gerekmektedir. Kızlar için  $3/7$  olan oran erkeklerde  $1/3$  olmaktadır. Öğrencilerden oranın büyük olduğu kız grubunun daha fazla pide yediğini bulmaları beklenmektedir.

## Şekil 4.

Ö5'in 9. Problem için Yaptığı Çözüm



Şekil 4'deki çözüm için yapılan görüşmeden kesitler aşağıdadır.

Ö5 : Hocam kızlar yarım yarım yemişler.

A : Kızlar yarım yemiştir diyorsun. Erkekler ne kadar yemiştir peki?

Ö5 : Erkekler de  $\frac{1}{3}$  çeyrek sanırım.

A : Senin yaptığın çizim kızların yarım, erkeklerin ise çeyrek yediğini mi gösteriyor?

Ö5 : 3 erkek 1 pide diyor. Adam başı düşeni bulmam gerekiyor mu?

A : Peki erkekler için  $\frac{1}{3}$  pide yiyorlar dedin. Kızların yarım pide yediğini nasıl buldun?

Ö5 : 7 kız zaten 3 tane pide yiyormuş. O pidenin yarısını böldüm herkese 1 parça paylaştırdım.

A : Eğer yaptığın çizime göre çözümünü anlatıyorsan kızların pidelerini yarım olarak bölmemişsin ki.

Ö5 : 7'yi 3'e bölersem yarısına yakın yer işte.

A :  $\frac{1}{2}$ 'yi yani yarım yer cevabını 7'yi 3'e bölerek mi buldun?

Ö5: Hocam 6 olsaydı tam yarım olacaktı ama 7 olduğu için yarıma çok yakın işte.

Ö5'in başlangıçta problemi çizim yaparak çözmeye çalıştığı görülmüştür. Öğrenci çizimine bakılarak çözümünde 'veri ihmal stratejisini' kullandığı söylenebilir. Şekil 4.'de görülen çizimde öğrencinin kızlar için problemde verilen bilgiden farklı olarak 1 pideyi eksik çizmiş olması ve sadece kişi sayısına odaklanması veri ihmal stratejisini kullandığı bulgusunu destekler niteliktedir. Öğrenci kızların neden yarım pide yediklerini açıklarken "7'yi 3'e bölersen yarım eder. 7 yerine 6 olsaydı yarım olacaktı. Çok yakın" yorumunda bulunmuştur. Bu açıklamaya bakılarak öğrencinin oran kavramı hakkında yüzeysel de olsa akıl yürütme yapabildiği söylenebilir. Ancak öğrencinin sahip olduğu sınırlı bilgiyi problem çözümüne uygulamakta zorlandığı

gözlenmiştir. Öğrencinin 6'yı 3'e böldüğünde yarım elde edeceğini düşünmesi de uygulama yaparken zorlandığı bulgusunu destekler niteliktedir. Taksonomi açısından Ö5 kodlu öğrenci problemde verilen bilgileri kullanarak şekil çizmiş, 3 pideyi rastgele 7 parçaya ve 1 pideyi yine rastgele 3 parçaya ayırmıştır. Ö5 yaptığı bu çiziminin durumuna göre fazla pide yiyen grubu belirlemeye çalışmıştır. Öğrencinin birim oran kavramını anlamakta ve problem üzerinde uygulamakta zorlandığı, bu nedenle yanlış oranlama yaparak (ve şeklinde oranlama) cevabı hatalı bulduğu görülmüştür. Bu gösterge fiilleri rubrikte 'çok yönlü yapı' seviyesine karşılık gelmektedir.

Veri ihmali stratejisini kullandığı düşünülen Ö9 kodlu öğrencinin 7 numaralı problem için yaptığı çözüm Şekil 5'deki gibi olmuştur.

**Problem 7:** "Mert ve Mine aynı hızla çalışarak bir duvarı 10 günde boyamaktadır. Aralarına aynı hızda çalışan 3 kişi daha katıldığında aynı duvar kaç günde boyanır?". Verilmeyen değeri bulma tipindeki bu problemde öğrenciden ters orantı kurarak problemi çözmesi beklenmektedir.

### Şekil 5.

Ö9'un 7. Problem İçin Yaptığı Çözüm

The image shows a handwritten student solution for Problem 7. At the top, there is a large 'X' over the numbers '2', '5', '10', and 'x'. Below this, the student has written the equation  $2x = \frac{50}{2}$  and  $x = 25$ .

Şekil 5'deki çözüm için yapılan görüşmeden kesitler aşağıdadır.

Ö9 : 2 kişi 1 duvarı 10 günde boyamaktaymış. Yine aynı hızda boyayan 3 kişi daha aralarına katılacak. Doğru orantıyla 2 kişi 10 günde çözüyorsa 3 kişi daha katılınca 5 kişi oluyor. 5 kişide oradan doğru orantı ile bulabiliriz. Şöyle 2 kişi 10 günde yapıyor. 3 kişi daha geldiğinde 5 kişi oluyor. Buna da x desek (orantıdaki 5 kişinin boyayacağı gün sayısından bahsediyor).  $2x = 50$  oluyor. 2'ye böldüğümüzde x eşittir 25.

A : Neden doğru orantı ile bulabiliriz?

Ö9 : Çünkü hocam kişi sayısı artıyor burada. Kişi arttıkça mecburen gün de artacak. Mesela bir masada ne kadar çok kişi yemek yerse o masada o kadar ekmek sayısı da artmalı.

A : Ama bizim sorumuzda ekmek sayımız sabit.

Ö9 : Yanlış...(düşünüyor). Peki o zaman, doğru orantı yerine ters orantı kullanarak yapsak doğru olurdu. Karıştı.

Ö : Peki neden ters orantı kullanman gerektiğini düşündün?

Ö9 : Orantıyı karıştırmışım. Ben sanki kişi artarsa gün sayısı da artmalı gibi düşündüm. Ama burada iş yapıldığı için ne kadar çok insan o kadar çabuk iş biter.

Öğrencinin çözümünde veri ihmali stratejisini kullandığı için hatalı çözüm yaptığı düşünülmektedir. Yapılan çözüme bakılarak öğrencinin sadece kişi sayısındaki artışa odaklandığı, zamanın kişi sayısına göre nasıl değişeceğini ihmal ettiği düşünülmektedir. Öğrencinin "Çünkü hocam kişi sayısı artıyor burada. Kişi arttıkça mecburen gün de artacak." yorumu sadece kişi artışına odaklandığı bulgusunu destekler niteliktedir. Öğrencinin ek olarak problem için uygun olan orantı türünü seçmekte de zorlandığı görülmüştür. Öğrenciye çözümünde neden doğru orantıyı tercih ettiği sorulduğunda kendisi de hatalı orantı türünü kullandığını kabul etmiştir. Buna dayanarak öğrencinin doğru orantılı çoklukların eş oranlı artış gerektirdiğini bildiği ancak bu bilgisini problem durumuna aktarırken hata yaptığı düşünülmektedir. Taksonomi açısından Ö9 kodlu öğrenci problemdeki kişi bilgisini doğru belirlemiş ancak orantı türünü yanlış seçmiştir. problemde kişi sayısının artması öğrenci tarafından işin yapılması için daha çok zaman gerekmesi olarak yorumlanmıştır. Öğrencinin hatalı çözüm yapma nedeninin doğru orantı kullanması gerektiğini düşünmesinden kaynaklandığı gözlenmiştir. Bu gösterge fiilleri rubrikte "ilişkisel yapı" seviyesine karşılık gelmektedir.

## Duygusal Cevap Verme Stratejisine Yönelik Bulgular

Öğrencilerin kişisel deneyimleri ve gerçek yaşam tecrübelerinden yola çıkarak, matematiksel bilgi ve çözüm süreçlerden yoksun bir şekilde gerçekleştirdikleri çözümler 'duygusal cevap verme' stratejisi olarak sınıflandırılmaktadır. Bu hata türünde öğrencilerin kişisel düşüncelerinin problem durumuna ait gerekliliklerin önüne geçtiği görülmektedir.

Çalışma grubundaki 10 öğrencinin duygusal cevap verme stratejisini kullanarak hata yaptıkları problemler ve bu problemlerin SOLO Taksonomisi Rubriğine göre değerlendirmesi Tablo 4.'dedir.

Tablo 4'e göre sadece Ö4, Ö8 ve Ö9 kodlu öğrencilerin bu hatalı stratejiyi çözümlerinde kullandığı görülmüştür. Duygusal cevap verme stratejisinin çalışma içerisinde az kullanılan stratejilerden biri olduğu gözlenmiştir.

Tablo 4.

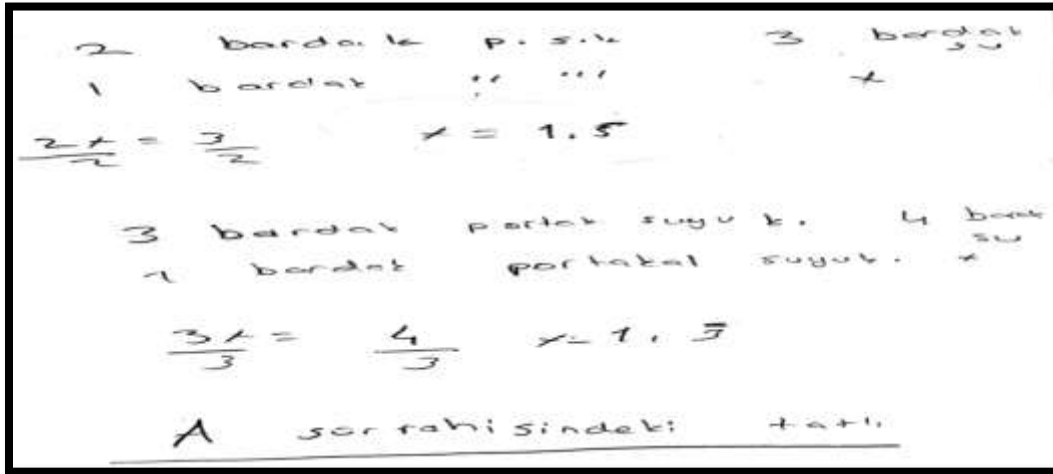
Duygusal Cevap Verme Stratejisi Katılımcı Tablosu

| Kullanılan Strateji             | Öğrenci Kodu | Problem Numarası | SOLO Seviyesi  |
|---------------------------------|--------------|------------------|----------------|
| Duygusal Cevap Verme Stratejisi | Ö1           | -                | -              |
|                                 | Ö2           | -                | -              |
|                                 | Ö3           | -                | -              |
|                                 | Ö4           | 10               | Tek Yönlü Yapı |
|                                 | Ö5           | -                | -              |
|                                 | Ö6           | -                | -              |
|                                 | Ö7           | -                | -              |
|                                 | Ö8           | 10               | İlişkisel Yapı |
|                                 | Ö9           | 10               | İlişkisel Yapı |
|                                 | Ö10          | -                | -              |

Ö8 kodlu öğrencinin 10. probleme (Bkz. Ek-1, Soru 10) ait çözümü Şekil 6.'dadır.

Şekil 6.

Ö8'in 10. Problem için Yaptığı Çözüm



Şekil 6'daki çözüm için yapılan görüşmeden kesitler aşağıdadır:

A : Hangi sürahinin daha tatlı olacağına nasıl karar verdin?

Ö8 : Hocam burada (A sürahisini anlatıyor) 2 bardak portakal suyu konsantresine 3 bardak su konuluyor. 3 bardak portakal suyu konsantresine de 4 bardak su konuluyor. Buradan orantı kurmuştum ben. Hocam bu soruda 2 farklı sürahi var. Bu sürahilerin içerisinde de bardak sayıları farklı iki ayrı karışım var. Ben bu karışımları kıyaslamam gerektiğini biliyorum. Ama kıyaslamak için bir bardak portakal suyu karşılık gelen su bardaklarının sayısını bulmaya karar verdim. Bu işlemi yaparken orantı kurmam gerekti. Çünkü çok sayıda bardaktan 1 bardak için hesaplama yapmam lazımdı. Bu azalış tadın bozulmaması için aynı oranda olmalıydı. Bardakların aynı oranda azalması için doğru orantı kullanmam gerekir.

A : Devam et.

Ö8 : 2 portakala 3 bardak su (A sürahisi), 3 bardak portakala da 4 bardak su(B sürahisini anlatıyor). 4 bardak konulmuş. Hocam buradan 1 bardağını buldum.

A : Neyin 1 bardağı bu?

Ö8 : Suyun. 2 portakala 3 ise 1 portakala x dedim.  $2x=3$  oldu. Ben 2'ye böldüm.  $\frac{3}{2}$  oldu (A sürahisinde 1 bardak portakal suyu konsantresine karşılık gelen su miktarını buldu). Sonra 3 portakala 4 bardaksa (suyu anlatıyor) 1 portakala x dedim. Doğru orantı.  $3x=4$  ise x' de  $\frac{4}{3}$  oldu. Hayır,  $\frac{4}{3}$  oldu.

A : Peki bu işlemlerden sonra sen hangi sürahide oluşan karışımın daha tatlı olacağını düşünüyorsun?

Ö8 : Hocam bunların eşitleyelim paydalarını. Şunu (A için) 3 ile şunu da (B için) 2 ile.  $\frac{9}{6}$  A sürahisi) yani 1,5 ve  $\frac{8}{6}$  (B sürahisi) bu da 1,3 devirli oluyor. Bu (A sürahisi) daha tatlı oluyor.

A : Peki burada sürahilere tatlı yani şekerli tadı veren hangisi?

Ö8 : Portakal.

A : Peki biz burada 1 bardak portakalın üzerine ne kadar su eklendiğini bulduk. Daha çok su eklenen mi daha tatlı olur yoksa daha az su eklenen mi?

Ö8 : B olacak tabi ki. Evet ya... Ben bunu fark edemedim hocam. Sayısı büyük olunca A sürahisinin, ben onun daha tatlı olacağını sandım. Daha az eklenen olacak. B hocam cevap.

Öğrencinin çözümünde duygusal cevap verme stratejisini kullandığı için hatalı çözüm yaptığı düşünülmektedir. Öğrencinin görüşme süresince başarılı bir şekilde akıl yürüterek gerekli işlemleri yaptığı görülmektedir. Ancak elindeki sayısal verileri yorumlayarak doğru seçimi yapacağı aşamada hesapladığı bardağın su olduğunu düşünmeden sadece sayının büyük olmasını göz önünde bulundurmuş ve büyük sayı daha tatlı olur şeklinde duygusal bir cevaba yönelmiştir. Öğrencinin yaptığı "Sayısı büyük olunca A sürahisinin, ben onun daha tatlı olacağını sandım." yorumu duygusal cevap verme stratejisini kullandığına dair bulguyu desteklemektedir. Taksonomi açısından Ö8 kodlu öğrencinin sonucu hatalı olmasına rağmen çözüm sürecinde orantısal akıl yürütmeyi gerektiren becerilere sahip olduğu gözlenmiştir. Orantı kavramını doğru şekilde kavrayan ve çözümünde neden doğru orantı tercih ettiğini başarılı bir şekilde açıklayan öğrenci son karar aşamasında duygusal cevap verme hatasına düşmüş ve bu nedenle probleme hatalı cevap vermiştir. Bu gösterge fiilleri rubrikte 'ilişkisel yapı' seviyesine karşılık gelmektedir.

Duygusal cevap verme stratejisini kullandığı düşünülen Ö4 kodlu öğrencinin 9 numaralı problem (Bkz. Ek-1, Soru 9) için yaptığı çözüm Şekil 7'dedir.

## Şekil 7.

### Ö4'ün 9. Problem İçin Yaptığı Çözüm



Şekil 7'deki çözüm için yapılan görüşmeden kesitler aşağıdadır.

A : Bu problemin çözümü için nasıl bir yol izlemek gerekir?

Ö4 : Hocam bir lokantada aynı boyda pidele tüketilmektedir. 7 kız 3 pideyi paylaşıırken 3 erkek de 1 pideyi paylaşmış. Hocam gözüme daha fazla geldi. Erkeklere daha çok düşer.

A : Neden erkeklere daha fazla düşer?

Ö4 : Hocam kızların sayısı fazla. 7 kişiler. Ama erkekler daha az olduğu için ekmeğe daha az sayıya bölünecek.

Öğrencinin çözümünde duygusal cevap verme stratejisini kullanarak hatalı çözüm yaptığı düşünülmektedir. Öğrencinin matematiksel bir çözüm sürecine girmeden sadece kişi sayılarını kıyasladığı ve kişisel tecrübelerinden yola çıkarak kişi sayısındaki azalışın kişi başı düşen pide miktarını artıracacağı yönünde bir inanca sahip olduğu gözlenmiştir. Öğrenci kızların sahip olduğu pide sayısının daha fazla olmasıyla ilgilenmemiş ve erkek sayısının az olmasını göz önünde bulundurarak erkeklerin daha fazla pide yiyeceğini ifade etmiştir. Öğrencinin "Hocam gözüme daha fazla geldi. Erkeklere daha çok düşer." yorumu duygusal cevap verme stratejisini kullandığı bulgusunu destekler niteliktedir. Taksonomi açısından Ö4 kodlu öğrenci işlem yapmaya çalışmadan öznel değerlendirmesini yazmıştır. Orantı kurması gerektiğini fark edemeyen ve kurmakta zorlanan öğrenci çözümünde hata yapmıştır. Bu gösterge filleri rubrikte 'tek yönlü yapı' seviyesine karşılık gelmektedir.

## Sayıları Kullanma ve İçerik Yok Stratejisine Yönelik Bulgular

Sayıları kullanma ve içerik yok stratejisi öğrencilerin problem durumunda yer alan sayıları kullanmaları gerektiğini fark ettikleri ancak bu sayılar arasında bir mantıksal bir ilişki kuramadıkları durumlarda tercih ettikleri bir yöntemdir. Bu stratejiyi kullanan öğrencilerin özellikle orantısal ilişki durumlarda yapılan çarpma ve bölme işlemi yerine rastgele farklı işlemler yaptığı görülmektedir.

Çalışma grubundaki 10 öğrencinin sayıları kullanma ve içerik yok stratejisini kullanarak hata yaptıkları problemler ve bu problemlerin SOLO Taksonomisi Rubriğine göre değerlendirmesi Tablo 5.'dedir.



Tablo 5.

Sayıları Kullanma ve İçerik Yok Stratejisi Katılımcı Tablosu

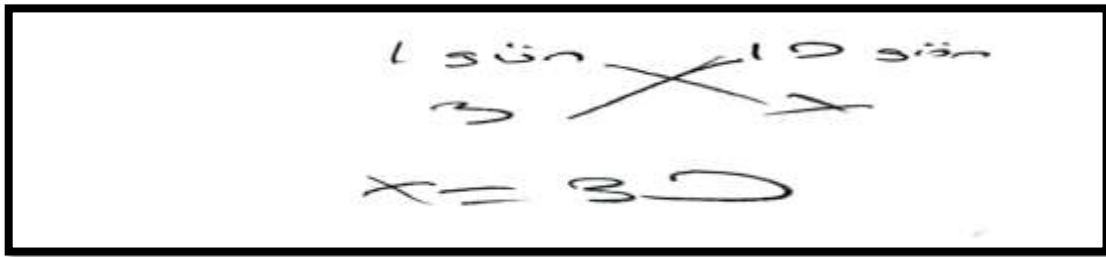
| Kullanılan Strateji                        | Öğrenci Kodu | Problem Numarası | SOLO Seviyesi  |
|--|--------------|------------------|----------------|
| Sayıları Kullanma ve İçerik Yok Stratejisi | Ö1           |                  |                |
|  | Ö2           | -                | -              |
|  | Ö3           | 7                | Tek Yönlü Yapı |
|  | Ö4           | 7                | Tek Yönlü Yapı |
|  | Ö5           | 15               | Tek Yönlü Yapı |
|  | Ö6           | -                | -              |
|  | Ö7           |                  |                |
|  | Ö8           | -                | -              |
|  | Ö9           |                  |                |
|  | Ö10          | 9                | Tek Yönlü Yapı |

Tablo 5 incelendiğinde sadece Ö3, Ö4, Ö5 ve Ö10 kodlu öğrencilerin bu stratejiyi kullandığı görülmüştür. Sayıları kullanma ve içerik yok stratejisinin 4 öğrenci tarafından kullanıldığı gözlenmiştir.

Sayıları kullanma ve içerik yok stratejisini kullandığı düşünülen Ö3 kodlu öğrencinin 7 numaralı probleme (Bkz. Ek-1, Soru 7) ait çözümü Şekil 8.'dedir.

### Şekil 8.

Ö3'ün 7. Problem İçin Yaptığı Çözüm



Şekil 8'deki çözüm için yapılan görüşmeden kesitler aşağıdadır:

A : Çözümü nasıl yaptığını anlatabilir misin?

Ö3 : Mert ile Mine 10 günde bitiriyormuş, buna 3 kişi daha katılıyor. 3 kişi olunca da çok bir günde bitiriyorlar. Mesela 3, 5 o günlerde bitiriyorlar.

A : Sen bu bilgileri nasıl yorumladın?

Ö3 : Yani kişi sayısı arttığı için gün sayısı da artmalıdır. 10 günde 2 kişi, x günde ise 3 kişi. Böyle mi?

A : Sen nasıl düşünüyorsan o şekilde göster bana.

Ö3 : Kaç kişi boyuyor duvarı? 2 mi? Hayır 3 kişi oldular.

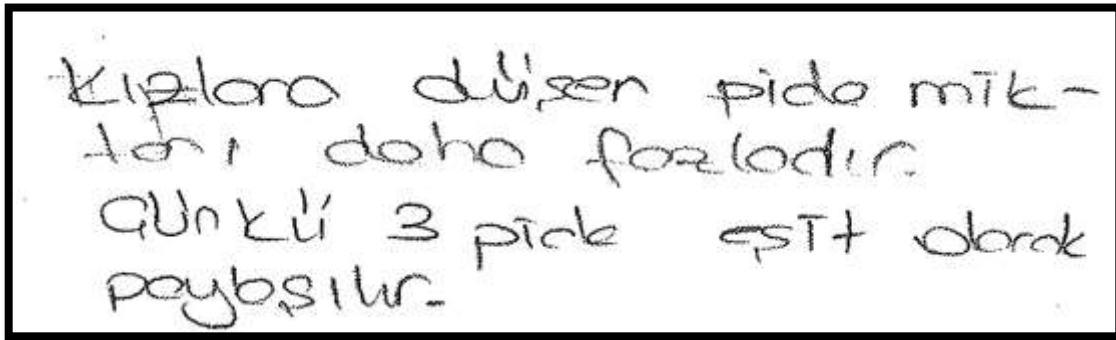
A : Soruda verilmiş mi kişi sayısı ile ilgili bilgi?

Ö3 : Evet hocam. 3 kişi boyuyor, bu da doğru orantı oluyor. O da eşittir 30 oluyor.

Öğrencinin çözümünde sayıları kullanma ve içerik yok stratejisini kullandığı düşünülmektedir. Öğrencinin yorumları incelendiğinde problemdeki sayıları açıkça fark ettiği görülmektedir. Ancak kişi sayısındaki değişimi doğru olarak kavrayamamıştır. Mert ve Mine'ye 3 kişinin daha katılmasıyla toplam kişi sayısının 5 olması gerekirken öğrenci "Kaç kişi boyuyor duvarı?2 mi? Hayır 3 kişi oldular." yorumuyla toplam kişi sayısını 3 olarak bulduğunu belirtmiştir. Öğrencinin bu yorumu problemdeki sayısal verileri nasıl kullanması gerektiğini anlayamadığı görüşünü desteklemektedir. Öğrencinin "...doğru orantı oluyor. O da eşittir 30 oluyor." yorumuna bakılarak problemde ters orantı kullanması gereken bir durumda doğru orantı kullandığı görülmektedir. Problemi sayısal olarak doğru kavrayamaması ve yanlış işlemler yapması çözümünde sayıları kullanma ve içerik yok stratejisini kullandığına dair bulguyu desteklemektedir. Taksonomi açısından Ö3 kodlu öğrenci problemde verilen kişi bilgisini yanlış olarak yorumlamış ve toplam kişi sayısını 3 kişi olacak şekilde değerlendirmiştir. Problemde verilen gün ve kişi sayısı bilgilerini aralarında ilişkiyi dikkate almadan işlem yapmak için kullanan öğrenci çözümünde hata yapmıştır. Bu gösterge filleri rubrikte 'tek yönlü yapı' seviyesine karşılık gelmektedir.

### Şekil 9.

Ö10'un 9. Problem İçin Yaptığı Çözüm



Çözümünde sayıları kullanma ve içerik yok stratejisini kullandığı düşünülen diğer bir öğrenci de Ö10 kodlu öğrenci olmuştur. Bu öğrencinin 9 numaralı probleme (Bkz. Ek-1, Soru 9) ait çözümü Şekil 9.'dadır.

Şekil 9'daki çözüm için yapılan görüşmeden kesitler aşağıdadır:

A : Cevabını çözüme de yazmışsın ama yeterli bir açıklama yapmamışsın. Bu sorunun çözümü için nasıl bir yol izlemek gerekir?

Ö10 : Hocam bu soruda kızlara daha fazla pide düşer. Eşit paylaşılınca. Erkekler daha az yerler.

A : Nasıl buldun?

Ö10 : Şimdi 3 erkek, 7 kız var. Erkekleri 7'ye arttırsak 4 ekleriz. Şunları (erkeklerin yediği pideyi anlatmak istiyor) da 4 artırırız 5 olur.

A : Peki bu işlemleri neye göre yaptın?

Ö10 : Aynı oranda artırdım erkekleri hocam. Şimdi kızlar ve erkekler 7 kişi oldular.

A : Peki erkekleri 4 artırdın 7 kişi oldular. Pideleri neden 4 artırdın?

Ö10 : Aynı oranda artırmam lazım ya hocam onun için.

Öğrencinin çözümünde sayıları kullanma ve içerik yok stratejisini kullandığı düşünülmektedir. Ö10'un cevap kâğıdına doğru cevabı yazmasına rağmen yeterli açıklamayı yapamadığı görülmüştür. Öğrenci problemde yer alan kişi ve pide sayılarını kullanması gerektiğini anlamış ama çözümünde bu sayıların doğru olarak nasıl kullanılacağını fark edememiştir. Problemde verilen kişi sayılarını eşitleyerek çözüme ulaşmaya çalışan öğrencini bu işlemi yaparken oran kullanacağını "Aynı oranda artırdım erkekleri hocam. Şimdi kızlar ve erkekler 7 kişi oldular" yorumu ile belirtmiştir. Öğrencinin oran kavramını anlayamadığı ve sayılarla dört işlem yaparak oran hesapladığını düşündüğü gözlenmiştir. Bu veriler öğrencinin çözümünde sayıları kullanma ve içerik yok stratejisini kullandığı bulgusunu destekler niteliktedir. Taksonomi açısından Ö10 kodlu öğrenci doğru sonucu çözüme yazan öğrenci, yeterli ve uygun açıklamayı yapamamıştır. Öğrencinin artırma ile oranlamanın aynı şey olduğunu düşündüğü gözlenmiştir. Öğrenci görüşme esnasında pide sayısı az olan grubunun daha az pide yemiş olabileceğini düşünmüştür. Çünkü verilen değerleri sayısal olarak büyüklük ya da küçüklüklerini göz önünde bulundurarak değerlendirmiştir. Bu gösterge fiilleri rubrikte 'tek yönlü yapı' seviyesine karşılık gelmektedir.

## Orantısız Olmayan Durumları Belirleyememe Hatasına Yönelik Bulgular

Katılımcılara uygulanan orantısız akıl yürütme testinde yer alan 15 numaralı problemde orantısız ilişki kurmayı gerektiren bir durum bulunmamasına hata yapan öğrencilerin çözümlerinde doğru veya ters orantı kullandıkları belirlenmiştir. Öğrencilerin orantısız ilişkinin var olup olmadığını incelemeyen orantı varmış gibi yaptıkları çözümler bu başlık altında değerlendirilmiştir.

Çalışma grubundaki 10 öğrencinin orantısız olmayan durumları belirleyememe hatasına düştükleri 15. problem durumu ve bu problemin SOLO Taksonomisi Rubriğine göre değerlendirmesi Tablo 6.'dadır.

Tablo 6.

Orantısız Olmayan Durumları Belirleyememe Hatası Katılımcı Tablosu

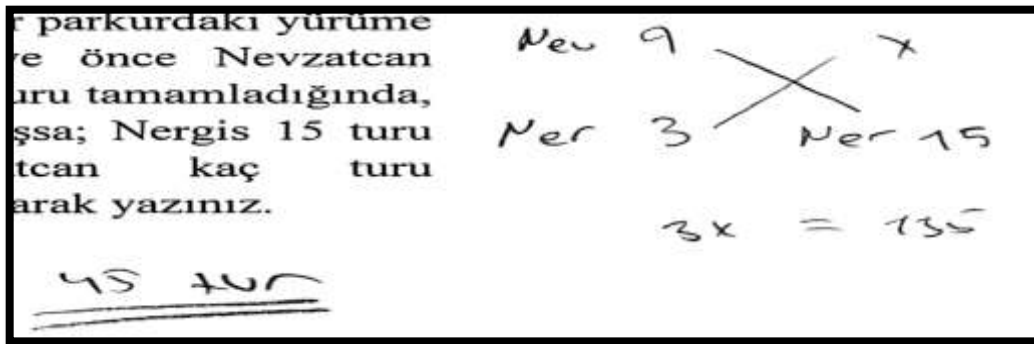
| Kullanılan Yöntem                         | Öğrenci Kodu | Problem Numarası | SOLO Seviyesi  |
|---|--------------|------------------|----------------|
| Orantısız Olmayan Durumları Belirleyememe | Ö1           | -                | -              |
|   | Ö2           | 15               | Tek Yönlü Yapı |
|   | Ö3           | 15               | Tek Yönlü Yapı |
|   | Ö4           | 15               | Tek Yönlü Yapı |
|   | Ö5           | -                | -              |
|   | Ö6           | 15               | Çok Yönlü Yapı |
|   | Ö7           | 15               | Çok Yönlü Yapı |
|   | Ö8           | -                | -              |
|   | Ö9           | 15               | Tek Yönlü Yapı |
|   | Ö10          | 15               | Çok Yönlü Yapı |

Tablo 6 incelendiğinde Ö1, Ö5 ve Ö8 kodlu öğrencilerin bu stratejiyi çözümlerinde kullanmadıkları görülmüştür. Sayıları kullanma ve içerik yok stratejisinin özellikle 15. problem durumunda 7 öğrenci tarafından kullanıldığı ve toplamsal ilişki stratejisiyle birlikte çalışma içerisinde en çok kullanılan hatalı çözüm stratejilerden biri olduğu gözlenmiştir.

Çözümünde orantısız olmayan durumu belirleyemediği düşünülen Ö6 kodlu öğrencinin 15 numaralı probleme ait çözümü Şekil 10.'dadır.

Şekil 10.

Ö6'nın 15. Problem İçin Yaptığı Çözüm



**Problem 15:** "Nevzatcan ile Nergis' in bir parkurdaki yürüme hızları aynıdır. Yürümeye önce Nevzatcan başlamıştır. Nevzatcan 9 turu tamamladığında Nergis 3 turu tamamlamışsa Nergis 15 turu tamamladığında Nevzatcan kaç turu tamamlamış olur? Açıklayarak yazınız." Niteliksel karşılaştırma gerektiren bu problemde öğrencilerin tur sayıları arasında orantısız olmayan ilişkiyi fark etmeleri beklenmektedir. Öğrencinin iki kişi arasında 6 tur mesafe olduğunu fark ederek cevabı  $15+6=21$  bulması beklenmektedir.

Şekil 10'daki çözüm için yapılan görüşmeden kesitler aşağıdadır.

A : Bu sorunun ne anlattığını sözel olarak ifade eder misin? 45 tur cevabını nasıl buldun?

Ö6 : Hocam burada şöyle olacak 3'den 15 tura 5 kat artmış. 9 turdan da 5 kat artacak.

A : Nasıl buldun 5 kat artacağını?

Ö6 : Doğru orantı. Biri artıyorsa öbürü de artacak. Öbür türlü olup azalsalar doğru orantı olmaz ters orantı olurdu.

Öğrencinin çözümünde orantısal olmayan durumları belirleyemediği düşünülmektedir. Öğrenciden 45 tur cevabını nasıl bulduğunu açıklaması istendiğinde "...5 kat artacak." yorumunda bulunmuştur. Bu yorum öğrencinin problem durumu toplamsal bir ilişki gerektirmesine rağmen çözümünde orantı kullanması gerektiğine inandığına yönelik araştırma bulgusunu desteklemektedir. Öğrencinin "Doğru orantı. Biri artıyorsa öbürü de artacak. Öbür türlü olup azalsalar doğru orantı olmaz ters orantı olurdu." yorumuna bakılarak doğru ve ters orantıyı tanımlama konusunda güçlük çekmediği söylenebilir. Ancak çözüm için gerekli olan toplamsal ilişkiyi fark edemeyen öğrencinin orantısal olmayan durumu belirleyememe hatasına düştüğü söylenebilir. Taksonomi açısından Ö6 kodlu öğrenci tur sayılarını kıyaslamaya çalışmıştır. Ancak tur sayılarının arasındaki farkı bulmak yerine onlar arasında doğru orantı olduğunu düşünmüş ve tur sayılarını oranlamaya çalışmıştır. Bu gösterge fiilleri rubrikte 'çok yönlü yapı' seviyesine karşılık gelmektedir.

Çözümünde benzer hata yaptığı düşünülen diğer bir öğrenci de Ö7 kodlu öğrenci olmuştur. Bu öğrencinin 15 numaralı probleme (Bkz. Ek-1, Soru 15) ait çözümü Şekil 11.'dedir.

### Şekil 11.

Ö7'nin 15. Problem İçin Yaptığı Çözüm

Handwritten solution for problem 15:

$$\begin{array}{l} 9 \text{ — } 15 \\ 3 \text{ — } x \\ 135 = 3x \\ x = 45 \end{array} \quad \begin{array}{l} \text{Nevzat 45} \\ \text{tur tamam lamış} \\ \text{Olur.} \end{array} \quad 4$$

Şekil 11'deki çözüm için yapılan görüşmeden kesitler aşağıdadır.

A : Bu sorunun ne anlattığını sözel olarak ifade eder misin?

Ö7 : Nevzatcan 9 tur yapmış, Nergis 15 tur yapmış. Ama Nevzatcan en son ne yapmış onu soruyor. Ben ters orantı kullandım burada.

A : Neden ters orantı kullandın?

- Ö7 :  $x'$  i bulmak için yaptım.  
A : Neden  $x'$  i bulmak için ters orantı kullandın?  
Ö7 : Daha küçük çıkar çünkü. Tur sayısı. Çok küçük çıkardı.  
A : Cevabın küçük ya da büyük olması neden önemli senin için?  
Ö7 : Eğer  $x$  küçük çıkarsa Nevzat zaten başlangıçta 9 tur atmıştı. Doğru orantı yapsam 5 tur çıkacaktı sonuç. Bu çocuk zaten 9 tur yapmış daha da yürüyünce nasıl 5 tur gelsin cevap?

Öğrencinin çözümünde toplamsal ilişki yerine çarpımsal (orantısal) ilişki kurarak hatalı akıl yürüttüğü düşünülmektedir. Öğrenci görüşme esnasında çözümünde ters orantı kullandığını belirtmiştir. Bu açıklama öğrencinin orantısal olmayan durumu fark edemediğini açıkça göstermektedir. Öğrenciye 45 tur cevabına nasıl ulaştığı sorulduğunda "Ters orantı yaptım." yorumunu yapmıştır. Yorumu bakıldığında öğrencinin orantı gerekip gerekmediğini düşünmeden işlem yaptığı ve matematiksel bir çelişkidenden kaçınmak için ters orantı seçtiği görülmektedir. Orantı kurmaya odaklanan öğrencinin tur sayıları arasındaki toplamsal ilişkiyi fark edememesi nedeniyle hatalı çözüm yaptığı düşünülmektedir. Taksonomi açısından Ö7 kodlu öğrencinin hatalı çözüm yapma nedeninin tur sayıları arasında doğru veya ters orantı olması gerektiğine inanması olduğu düşünülmektedir. Bu gösterge fiilleri rubrikte 'çok yönlü yapı' seviyesine karşılık gelmektedir.

Çalışma sonunda 10 öğrenci tarafından kullanılan stratejilere ait frekans tablosu Tablo 7'deki gibi olmuştur.

**Tablo 7.**

*Strateji Kullanımı Frekans Tablosu*

| Kullanılan Strateji                       | Öğrenci Sayısı (10 kişi içerisinde) |
|---|-------------------------------------|
| Toplamsal İlişki                          | 9                                   |
| Orantısal Olmayan Durumları Belirleyememe | 7                                   |
| Veri İhmali                               | 5                                   |
| Sayıları Kullanma ve İçerik Yok           | 4                                   |
| Duygusal Cevap Verme                      | 3                                   |

Tablo 7 incelendiğinde tüm çalışma boyunca en çok toplamsal ilişki stratejisinin kullanıldığı ve onu yakın bir sayı ile orantısal olmayan durumları belirleyememe hatasının izlediği görülmüştür. Öğrencilerin yaklaşık olarak yarısının veri ihmali ile sayıları kullanma içerik yok hatasına düştükleri görülmüştür. En az karşılaşılan hatalı çözüm stratejisinin ise duygusal cevap verme olduğu belirlenmiştir.

## Sonuç ve Tartışma

Bu araştırma öğrencilerin orantısal akıl yürütme becerisi gerektiren problemleri çözerken yaptıkları hatalı çözüm stratejilerini belirlemek ve bu hatalı çözümleri kategorize ederek SOLO Taksonomisine uygun olarak sınıflandırmayı amaçlamıştır. Çalışmadan elde edilen sonuçlar öğrencilerin orantı kurmada zorluk yaşadıkları ve yaptıkları çözümlerde hataya düştüklerini göstermektedir. Çalışmada öğrencilerin 5 farklı hatalı strateji kullandıkları görülmüştür. Bu stratejiler içerisinde en çok kullanılan hatalı çözüm stratejisi toplamsal ilişki olarak belirlenmiştir. Bu strateji literatürde de öğrencilerin sıklıkla kullandıkları hatalı stratejilerden biri olarak görülmektedir (Atabaş, 2014; Bart vd., 1994; Ben-Chaim vd., 1998; Duatepe vd., 2005; Misailidou ve Williams, 2003; Pakmak, 2014; Pelen, 2014; Wells vd., 2014).

Öğrencilere uygulanan testte yer alan verilmeyen değeri bulma ve ters orantı kullanılmasını gerektiren 2. ve 7. problem durumlarında öğrencilerin orantısal düşünebilme becerisi bakımından 1 veya 2 puan aldıkları görülmüştür. Öğrencilerin orantı kullanarak verilmeyen değeri bulması gereken bu soru tiplerinde oldukça düşük puan aldıkları ve orantı kurma sürecinde zorluklar yaşadıkları görülmüştür. Görüşmelere dayanarak öğrencilerin hangi değişkenler arasında orantı kuracaklarını karıştırmalarının, sorunun matematiksel gerekliliklerini anlayamamış olmalarının, özellikle 7. soruda yer alan bilgilerin ters orantı gerektirdiği fark edememiş olmalarının bu puanı almalarında önemli olduğu düşünülmektedir. Benzer şekilde testin 9 ve 10. sorularında yer alan ve niceliksel karşılaştırma gerektiren problem durumlarında da benzer şekilde öğrencilerin 1 veya 2 puan aldıkları görülmüştür. İçerik olarak oldukça yakın matematiksel çözüm süreci içeren bu problemlerde öğrencilerin birim oran kavramını algılamakta zorluk yaşadıkları düşünülmektedir. Örneğin pidelerin kızlar ve erkekler arasında kıyaslanması gereken 9. Soruda öğrenciler sıklıkla toplam kişi sayısı üzerinden işlem yapmaya çalışmışlardır. Ancak öğrencilerin birim kişi sayısı için bu hesaplamayı yapmadıkları veya yapan öğrencilerin de oranları karşılaştırma sürecinde hataya düşmeleri sebebiyle başarısız oldukları görülmüştür. Benzer hatalar portakal suyu hazırlanan 10. soruda da geçerlidir. Öğrencilerin çok büyük bir kısmı bardakların niceliksel özelliklerine odaklanarak bardaklar arasındaki ilişkiyi göz ardı etmiştir. Testin 15. sorusunda yer alan ve öğrencilerin toplamsal karşılaştırma yapmasını gerektiren problemde ise öğrencilerin ağırlıklı olarak 0 puan düzeyinde kaldıkları belirlenmiştir. Soru içerik olarak orantısal bir karşılaştırma içermemesine rağmen öğrencilerin çok büyük bir kısmı soruyu doğru orantı kurarak çözmeye çalışmışlardır. Bunun sebebi olarak soruda yer alan sayısal verilerin artması düşünülebilir. Ortaokul müfredatında doğru orantı kavramı "değişkenlerden birinin artması durumunda diğeri de aynı oranda artmalıdır" olarak açıklanmaktadır. Nergis'in tur sayısının artıyor olması ve yürümeye devam etmeleri sebebiyle Nevzatcan'ın da tur sayısının artıyor olması öğrencileri dolaylı olarak doğru orantı tanımına yönlendirmiş olabilir. Bu nedenle çalışmaya katılan çok büyük bir kısmı doğru orantı kullanarak bu soruyu çözmeye çalışmışlar ancak orantılı olmayan bu durum için yanlış çözüm yapmışlardır. Bu sonuçlar en genel haliyle öğrencilerin orantıyı kavrama ve orantılı bir durumun olup olmadığını fark etme konusunda zorluk yaşayabildiklerini göstermektedir.

Öğrencilerin orantısal akıl yürütme puanları ve seviyeleri SOLO Taksonomisi seviyeleriyle karşılaştırıldığında uyumlu sonuçlar elde edildiği görülmektedir. Akıl yürütme puanı yüksek olarak kabul edilen öğrencilerin (Ö8 ve Ö9) taksonomi ölçütlerinde en yüksek iki seviye olan ilişkiyel yapı ve soyutlanmış yapı seviyelerinde buldukları gözlenmiştir. Bu seviyede bulunan iki öğrencinin cevapları incelendiğinde bu öğrencilerin çoğunlukla orantısal olmayan durumları ayırt etmede zorlandıkları ve cevabı doğru bulmalarına rağmen sorunun gerektirdiği gerçek yaşam durumuna uygun yorum yapamadıkları için hataya düştükleri belirlenmiştir. Orantı çeşitlerini belirlemede sorun yaşamayan bu öğrencilerin orantı kurmada diğer öğrencilere kıyasla daha başarılı oldukları görülmüştür.

Akıl yürütme puanı orta olan öğrencilerin (Ö1, Ö3, Ö6, Ö7) taksonominin de orta düzeyine denk gelen tek yönlü yapı ve çok yönlü yapı seviyelerinde yer aldıkları belirlenmiştir. Bu 4 öğrencinin en düşük puanı aldıkları problem durumları ise 9, 10 ve 15. soruların içerdiği niceliksel-niteliksel karşılaştırma gerektiren, problemler olmuştur. Öğrencilerin karşılaştırma yapmaları gereken bu problem durumlarında sadece tek bir değişkene odaklandıkları gözlenmiştir. Bu değişkenler büyük olan sayıya odaklanmak ya da sadece tek bir kişinin tur sayısına dikkat etmek olarak çözümde kendini göstermiştir.

Akıl yürütme puanı düşük olarak kabul edilen öğrencilerin (Ö2, Ö4, Ö5, Ö10) taksonomi ölçütlerinde de düşük seviyelerde yer aldıkları görülmüştür. Bu dört öğrencinin tamamı 15. problemdeki niteliksel karşılaştırma yapma işleminde düşünme puanında 0 puan ve taksonomi seviyesinde de tek yönlü yapı yani 1 puan seviyesinde yer almışlardır. Genel puan durumlarına ve yapılmış görüşmelere dayanarak bu öğrencilerin doğru ve ters orantılı durumları fark edemedikleri, orantısal olmayan durumları fark edemedikleri ve soruyu iyi anlayamadıkları söylenebilir. Puan düzeyi düştükçe öğrencilerin orantısal akıl yürütme eksikliğinden kaynaklanan hatalarının arttığı gözlenmiştir. Açıklanan bu bulgular Akkuş ve Duatepe' nin (2002), Langrall ve Swafford' un (2000) ve Pittalis, Christou ve Papageorgiou' nun (2003) tanımladıkları orantısal akıl yürütme seviyeleriyle benzerlikler göstermektedir. Şen ve Güler (2017) de çalışmanın bulgularına benzer şekilde, düşük orantısal akıl yürütme düzeyine sahip öğrencilerin, orantılı durumları genel olarak algılayabildiklerini ancak sıklıkla hesaplama hatalarını yaptıklarını ve doğru cevabı veren öğrencilerin nedenlerini açıklamak için uygun ifadeler kullanamadıklarını belirtmişlerdir. SOLO taksonomisi kullanılan ve matematiğin farklı konularında yapılan çalışmalardan elde edilen sonuçlar katılımcıların çoğunluğunun ilişkiyel yapı seviyesinin altında kaldığını göstermektedir (Akkaş, 2009; Ardıç vd., 2012; Bağdat, 2013; Çelik, 2007; Göktepe, 2013; Groth ve Bergner, 2006; Lian ve Idris, 2006). Bu yönüyle mevcut çalışmanın bulgularının literatür ile paralellik gösterdiğini söylemek mümkündür.

Bu çalışmanın sonuçlarına göre öğrenciler oran, orantı, doğru orantı ve ters orantı gibi terim ve kavramları anlamakta ve problem çözme sürecinde uygun şekilde kullanmakta zorlanmaktadırlar. Oran ve orantı öğretimi sürecinde öğrencinin hata yapma sebebinin orantısal ilişki gerektiren durumları sorgulamada ve gerekli matematiksel muhakemeleri yapmada zorlanmalarından kaynaklandığı



düşünülmektedir. Literatürde benzer bulgulara sahip çalışmalar görülmüştür (Altaylı, 2012; Debreli, 2011; Gözkaya, 2015; İ. Çetin, 2009; Kurdal, 2016; Koçyiğit-Gürbüz, 2018; Öztürk, 2011).

Mevcut çalışmada öğrencilerin değişkenler arasında orantısal ilişki kurarken çarpımsal ilişki yerine toplamsal ilişkiye eğilim gösterdikleri görülmüştür. Bu nedenle doğru orantı ve ters orantı kavramlarının öğretiminde algoritmik işlemler yerine kavramsal açıklamalara odaklanılmasının gerekli olduğu düşünülmektedir. Orantısal düşünme becerisinin gelişimi için, öğrencinin akıl yürütebileceği, muhakeme içeren ve doğrulama yapabileceği günlük yaşam problemlerinin kullanılması önerilmektedir. Öğrencilerin sorulara verdikleri cevapların yanında düşünme süreçleri de öğretimde oldukça önemlidir. Özellikle ders esnasında öğrencilerden konu veya sorularla ilgili görüşlerini sesli olarak açıklamalarını istemek öğrencilerin nasıl bir düşünme süreci içerisinde olduğunun tespit edilmesi ve olası öğrenme hatalarının önüne geçilebilmesi açısından gerekli olduğu düşünülmektedir. Bu süreçte sorulacak ek sorularla öğrencinin niçin öyle düşündüğünü ve sonuca nasıl ulaştığını ortaya çıkaracak sorular sorulması ve verilen cevapların hep birlikte sorgulanmasının yararlı olacağı düşünülmektedir. Ayrıca problem çözme süreçleri günlük hayat etkinlikleri ile zenginleştirilebilir. Örneğin çalışmada yer alan 15. problemde Nevzatcan' ın tur sayısını 45 bulan bir öğrenciden arkadaşları ile birlikte okul bahçesine çıkararak cevabını soruya uygun olacak şekilde kontrol etmesi istenebilir. Böylece öğrenciler cevabının neden yanlış olduğunu matematiksel olarak anlamasının yanı sıra günlük yaşam problemlerinde yaşamsal gerçekliğe uygun cevap verip vermediğini de kontrol etme olanağı sunulabileceği düşünülmektedir. Çalışmada oran ve orantı problemlerine ait düşünme süreçlerini detaylı olarak analiz edebilmek için SOLO Taksonomisi ve gösterge fiillerinden yararlanılmıştır. Cebirsel düşünme, istatistiksel düşünme, geometrik düşünme gibi farklı matematiksel beceriler için SOLO Taksonomisi kullanılarak da çalışmalar yapılabilir. SOLO Taksonomisi yerine yenilenmiş Bloom Taksonomisi, Fink ve Dettmer Taksonomileri kullanılarak da farklı çalışmalar planlanabilir. Çalışmada SOLO Taksonomisinin özellikle ilişkisel yapı ve çok yönlü yapı gibi yüksek seviyelerinde öğrenci çözümlerinin çok az olduğu görülmüştür. Bu nedenle SOLO Taksonomisi kullanılarak gelecekte yürütülecek çalışmalarda belirtilen taksonomi seviyelerine ait detaylı analizlerin görülebilmesi için daha yüksek sınıf seviyeleri ile çalışmalar yürütülmesi önerilmektedir.

**Etik Kurul Onayı:** Bu araştırmanın izni alınırken, Tokat Gaziosmanpaşa Üniversitesinin 2017 yılına ait protokolleri takip edilmiştir. Makale birinci yazarın ikinci yazar danışmanlığında tamamladığı yüksek lisans tezinden üretilmiştir. Üniversite protokolü gereği araştırma için gerekli izin Tokat İl Millî Eğitim Müdürlüğü'nden alınmıştır. İlgili yazının sayı numarası 27001677-44-E. 7951860 olup ekte sunulmuştur.

**Bilgilendirilmiş Onam:** Katılımcılardan bilgilendirilmiş onam alınmıştır.

**Hakem değerlendirmesi:** Dış hakem değerlendirmesi.

**Yazarların Katkısı:** Fikir - E.Y.; Tasarım E.Y.; Verilerin Toplanması ve İřlenmesi – M.G.K.; Danıřmanlık – E.Y.; Verilerin Analizi ve Yorumu – M.G.K., E.Y.; Alanyazın Taraması – M.G.K.; Yazma – M.G.K., E.Y.; Eleřtirel Deęerlendirme -Tüm yazarlar.

**Çıkar Çatıřması:** Yazarlar herhangi bir çıkar çatıřması beyan etmemiřtir.

**Finansal Açıklama:** Yazarlar bu çalıřmanın herhangi bir finansal destek almadıęını beyan etmiřlerdir.

## Kaynaklar

- Akbaş, E. E. (2016). Meslek yüksekokulu öğrencilerinin bilgisayar destekli ortamda "limit-süreklilik" konusundaki öğrenmelerinin SOLO Taksonomisine göre değerlendirilmesi. [Yayımlanmamış doktora tezi]. Karadeniz Teknik Üniversitesi.
- Akkaş, E. N. (2009). 6- 8. sınıf öğrencilerinin istatistiksel düşüncelerinin incelenmesi. [Yayımlanmamış yüksek lisans tezi]. Abant İzzet Baysal Üniversitesi.
- Akkuş, O. & Duatepe, P. A. (2006). Orantısız akıl yürütme becerisi testi ve teste yönelik dereceli puanlama anahtarının geliştirilmesi. *Eurasian Journal of Educational Research*, 25(6), 1-10. [https://ejer.com.tr/wp-content/uploads/2021/01/ejer\\_2006\\_issue\\_25.pdf](https://ejer.com.tr/wp-content/uploads/2021/01/ejer_2006_issue_25.pdf).
- Aladağ, A. (2009). İlköğretim öğrencilerinin orantısız akıl yürütmeye dayalı sözel problemler ile gerçekçi cevap gerektiren problemleri çözme becerilerinin incelenmesi. [Yayımlanmamış yüksek lisans tezi]. Çukurova Üniversitesi.
- Aladağ, A. & Artut, P. D. (2012). Öğrencilerin orantısız akıl yürütme ve gerçekçi problem çözme becerilerinin incelenmesi. *İlköğretim Online*, 11(4), 995-1009. <http://www.ilkogretim-online.org/fulltext/218-1596968152.pdf?1633023246>.
- Alkan, H. & Güzel, E.B. (2005). Öğretmen adaylarında matematiksel düşünmenin gelişimi. *Gazi Üniversitesi Gazi Eğitim Fakültesi Dergisi*, 25(3), 221-236. <http://www.gefad.gazi.edu.tr/tr/download/article-file/77238>.
- Altaylı, D. (2012). Gerçekçi matematik eğitiminin oran orantı konusunun öğretimi ve orantısız akıl yürütme becerilerinin geliştirilmesine etkisi. [Yayımlanmamış yüksek lisans tezi]. Atatürk Üniversitesi.
- Ardıç, E. Ö., Yılmaz, B. & Demir, E. (2012). İlköğretim 8. sınıf öğrencilerinin merkezi eğilim ve yayılım ölçüleri hakkındaki istatistiksel okuryazarlık düzeylerinin SOLO taksonomisine göre incelenmesi. X. Fen Bilimleri ve Matematik Eğitimi Kongresinde sunulan bildiri. Niğde Üniversitesi, Niğde.
- Arı, A. (2013). Bilişsel alan sınıflamasında yenilenmiş Bloom, SOLO, Fink, Dettmer Taksonomileri ve uluslararası alanda tanınma durumları. *Uşak Üniversitesi Sosyal Bilimler Dergisi*, 6(2), 259-290. <https://doi.org/10.12780/UUSBD164>.
- Arslan, Ç. & İlkörücü, Ş. (2017). İlköğretim matematik ve fen bilgisi öğretmen adaylarının matematiksel düşünme düzeyleri. *Erzincan Üniversitesi Eğitim Fakültesi Dergisi*, 20(1), 156-166. <https://doi.org/10.17556/erziefd.310384>.
- Atabaş, Ş. (2014). *An examination of fifth and sixth grade students' proportional reasoning*. [Unpublished Master's Thesis]. Boğaziçi University.
- Avcu, R. (2010). İlköğretim 7. sınıf öğrencilerinin oran ve orantı problemlerindeki çözüm stratejileri üzerine bir araştırma. [Yayımlanmamış yüksek lisans tezi]. Selçuk Üniversitesi.
- Bağdat, O. (2013). İlköğretim 8. sınıf öğrencilerinin cebirsel düşünme becerilerinin SOLO Taksonomisi ile incelenmesi. [Yayımlanmamış yüksek lisans tezi]. Eskişehir Osmangazi Üniversitesi.
- Bağdat, O. & Anapa-Saban, P. (2014). İlköğretim 8. sınıf öğrencilerinin cebirsel düşünme becerilerinin SOLO taksonomisi ile incelenmesi. *The Journal of Academic Social Science Studies*, 26(2), 473-496. <http://dx.doi.org/10.9761/JASSS2364>.
- Bart, W., Post, T., Behr, M., & Lesh, R. (1994). A diagnostic analysis of a proportional reasoning test item: An introduction to the properties of a semi-dense item. *Focus on Learning Problems in Mathematics*, 16(3), 1-11. <https://eric.ed.gov/?id=EJ364133>.
- Bayazit, İ. & Kırnap-Dönmez, S. M. (2017). Öğretmen adaylarının problem kurma becerilerinin orantısız akıl yürütme gerektiren durumlar bağlamında incelenmesi. *Turkish Journal of Computer and Mathematics Education*, 8(1), 130-160. <https://doi.org/10.16949/turkbilmat.303759>.
- Baykul, Y. (2014). *Ortaokulda matematik öğretimi (5-8. sınıflar)*. Geliştirilmiş İkinci Baskı. Pegem Akademi.
- Ben-Chaim, D., Fey, J., Fitzgerald, W., Benedetto, C., & Miller, J. (1998). Proportional reasoning among 7th grade students with different curricular experiences. *Educational Studies in Mathematics*, 36(3), 247-273. <https://link.springer.com/article/10.1023/A:1003235712092>.
- Biggs, J., & Collis, K. (1991). Multimodal learning and the quality of intelligent behaviour. Rowe, H. A. H. (Editör). *Intelligence, reconceptualization and measurement* içinde 57-76, New Jersey: Laurence Erlbaum Associates.
- Biggs, J.B. (1995). *Assumptions underlying new approaches to educational assessment: Implications for Hong Kong*. *Curriculum Forum*, 4(2), 1-22.

- Biggs, J.B., & Collis, K. F. (1982). *Evaluating the quality of learning: the SOLO Taxonomy (structure of the observed learning outcome)*. New York, NY: Academic Press.
- Bilgen, Ö. B. & Doğan, N. (2017). Puanlayıcılar arası güvenilirlik belirleme tekniklerinin karşılaştırılması. *Eğitimde ve Psikolojide Ölçme ve Değerlendirme Dergisi*, 8(1), 63-78. <https://doi.org/10.21031/epod.294847>.
- Bukova, E. (2006). *Öğrencilerin limit kavramını algılamasında ve diğer kavramlarla ilişkilendirilmesinde karşılaştıkları güçlükleri ortadan kaldıracak yeni bir program geliştirme*. [Yayımlanmamış doktora tezi]. Dokuz Eylül Üniversitesi.
- Bukova-Güzel, E. (2008). Yapılandırmacılık ve matematiksel düşünme süreçleri. *Education Sciences*, 3(4), 678-688. <https://dergipark.org.tr/tr/download/article-file/185983>.
- Büyükoztürk, Ş., Çakmak, E. Kılıç, A., Özcan, E., Karadeniz, Ş. & Demirel, F. (2010). *Bilimsel araştırma yöntemleri*. Pegem Akademi.
- Cajori, F. (2015). *Matematik tarihi* (çev. D. İlalan). ODTÜ Yayıncılık No: 25744. (Eserin orijinali 2014'de yayımlandı).
- Cramer, K., & Post T. (1993). Connecting research to teaching proportional reasoning. *Mathematics Teacher*, 86(5), 404-407.
- Cramer, K., Post, T., & Currier, S. (1993). Learning and teaching ratio and proportion: research implications. Owens, D. (Editör). *Research ideas for the classroom* içinde 159-178, Macmillan Publishing Company.
- Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* ( 2. Baskı). SAGE Publications.
- Çelik, A. (2010). *İlköğretim öğrencilerinin orantısal akıl yürütme becerileri ile problem kurma becerileri arasındaki ilişki*. [Yayımlanmamış yüksek lisans tezi]. Hacettepe Üniversitesi.
- Çelik, A. & Özdemir, E. Y. (2011). *İlköğretim öğrencilerinin orantısal akıl yürütme becerileri ile oran-orantı problemi kurma becerileri arasındaki ilişki*. Pamukkale Üniversitesi Eğitim Fakültesi Dergisi, 30(1), 1-11. <https://dergipark.org.tr/tr/download/article-file/114573>.
- Çelik, D. (2007). *Öğretmen adaylarının cebirsel düşünme becerilerinin analitik incelenmesi*. [Yayımlanmamış doktora tezi]. Karadeniz Teknik Üniversitesi.
- Çetin, B. & İlhan, M. (2016). SOLO taksonomisi. Bingölbalı, E., Arslan, S. ve Zembat, İ. Ö. (Editörler). *Matematik eğitiminde teoriler* içinde 861-879. Pegem Akademi.
- Çetin, H. (2009). *İlköğretim ikinci kademe öğrencilerinin orantısal akıl yürütme becerileri ile denklem çözme başarıları arasındaki ilişki üzerine bir çalışma*. [Yayımlanmamış yüksek lisans tezi]. Selçuk Üniversitesi.
- Çetin, İ. (2009). *7. ve 9. sınıf öğrencilerinin oran ve orantı konusundaki kavram yanlışları*. [Yayımlanmamış yüksek lisans tezi]. Selçuk Üniversitesi.
- Debreli, E. (2011). *The effect of creative drama based instruction on seventh grade students' achievement in ratio and proportion concepts and attitudes toward mathematics*. [Unpublished master's thesis]. Middle East Technical University.
- Duatepe A. & Akkuş-Çıkla O. (2002). İlköğretim matematik öğretmen adaylarının orantısal akıl yürütme becerileri üzerine niteliksel bir çalışma. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 23, 32-40. [http://www.efdergi.hacettepe.edu.tr/shw\\_artcl-947.html](http://www.efdergi.hacettepe.edu.tr/shw_artcl-947.html).
- Duatepe A., Akkuş-Çıkla O. & Kayhan M. (2005). Orantısal akıl yürütme gerektiren sorularda öğrencilerin kullandıkları çözüm stratejilerinin soru türlerine göre değişiminin incelenmesi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 28, 73-81. [http://www.efdergi.hacettepe.edu.tr/shw\\_artcl-768.html](http://www.efdergi.hacettepe.edu.tr/shw_artcl-768.html).
- Ersoy, E. & Başer, N. (2013). Matematiksel düşünme ölçeğinin geliştirilmesi. *Kastamonu Eğitim Dergisi*, 21(4), 1471-1486. <https://dergipark.org.tr/tr/download/article-file/209980>.
- Fielding-Wells, J., Dole, S., & Makar, K. (2014). Inquiry pedagogy to promote emerging proportional reasoning in primary students. *Mathematics Education Research Journal*, 26(1), 47-77. <https://doi.org/10.1007/s13394-013-0111-6>.
- Göktepe, S. & Özdemir, A. Ş. (2013). İlköğretim matematik öğretmen adaylarının uzamsal görselleştirme becerilerinin SOLO modeli ile incelenmesi. *Kalem Eğitim ve İnsan Bilimleri Dergisi*, 3(2),91-146. <https://doi.org/10.23863/kalem.2017.26>
- Gözkaya, Ş. (2015). *Gerçekçi matematik eğitimi destekli öğretim yönteminin 7. sınıf oran-orantı konularının öğretiminde öğrenci başarısına ve öğrenmenin kalıcılığına etkisi*. [Yayımlanmamış yüksek lisans tezi]. Erciyes Üniversitesi.

- Groth, R. E., & Bergner, J.A. (2006) Preservice elementary teachers' conceptual and procedural knowledge of mean, median, and mode. *Mathematical Thinking and Learning*, 8(1), 37-63. [https://doi.org/10.1207/s15327833mtl0801\\_3](https://doi.org/10.1207/s15327833mtl0801_3).
- Kaplan, A. & Öztürk, M. (2012). The effect of computer based instruction method on instruction of ratio- proportion and development of proportional reasoning. *Energy Education Science and Technology Part B-social And Educational Studie*, 4(3), 1663- 1672. [https://www.researchgate.net/publication/273136193\\_The\\_effect\\_of\\_computer\\_based\\_instruction\\_method\\_on\\_instruction\\_of\\_ratio-proportion\\_and\\_development\\_of\\_proportional\\_reasoning](https://www.researchgate.net/publication/273136193_The_effect_of_computer_based_instruction_method_on_instruction_of_ratio-proportion_and_development_of_proportional_reasoning).
- Kaplan, A., İşleyen, T. & Öztürk, M. (2011). 6. sınıf oran orantı konusundaki kavram yanlışları. *Kastamonu Eğitim Dergisi*, 19(3), 953-968. <https://dergipark.org.tr/tr/download/article-file/817410>.
- Karakoca, A. (2011). *Altıncı sınıf öğrencilerinin problem çözmede matematiksel düşünmeyi kullanma durumları*. [Yayımlanmamış yüksek lisans tezi]. Eskişehir Osmangazi Üniversitesi.
- Kayhan, M. (2005). *6. ve 7. sınıf öğrencilerinin oran-orantı konusuna yönelik çözüm stratejilerinin; sınıf düzeyine, cinsiyete ve soru tipine göre değişiminin incelenmesi*. [Yayımlanmamış yüksek lisans tezi]. Hacettepe Üniversitesi.
- Koçyiğit Ş. & Moralı H. (2020). Matematik öğretmen adaylarının soyut matematik dersindeki bilgilerinin MATH taksonomi çerçevesinde analizi. *PESA Uluslararası Sosyal Araştırmalar Dergisi*, 6(2), 141-161. <https://doi.org/10.25272/j.2149-8385.2020.6.2.05>.
- Koçyiğit Gürbüz, M. (2018). *Yedinci sınıf öğrencilerinin etkinlik temelli öğrenme yaklaşımı altında oran-orantı kavramlarını oluşturma süreçlerinin incelenmesi: APOS Teorisi*. [Yayımlanmamış yüksek lisans tezi]. Eskişehir Osmangazi Üniversitesi.
- Konyalıhatipoğlu, M. E. (2016). *Ortaokul 7. sınıf öğrencilerinin analitik ve bütüncül düşünme stillerinin SOLO Taksonomisi ile incelenmesi*. [Yayımlanmamış yüksek lisans tezi]. Recep Tayyip Erdoğan Üniversitesi.
- Kurdal, C. (2016). *Dinamik ve etkileşimli matematik öğrenme ortamlarında öğrencilerin kesirler ve oran orantı konusunda yaptığı hatalar ve çözüm önerileri*. [Yayımlanmamış yüksek lisans tezi]. Bayburt Üniversitesi.
- Küpçü, A. R. (2008). *Etkinlik temelli öğretim yaklaşımının orantısal akıl yürütmeye dayalı problem çözme başarısına etkisi*. [Yayımlanmamış doktora tezi]. Marmara Üniversitesi Eğitim Bilimleri Enstitüsü, İstanbul.
- Küpçü, A. R. & Özdemir, A. Ş. (2012). İlköğretim öğrencilerinin bilişsel stil, cinsiyet ve orantısal düşünme seviyelerine göre orantı ilişkili problem çözme başarıları. *Kastamonu Eğitim Dergisi*, 20(2), 451-472. <https://dergipark.org.tr/tr/download/article-file/806955>.
- Langrall, C. W., & Swafford, J. (2000). Three balloons for two dollars: Developing proportional reasoning. *Mathematics Teaching in the Middle School*, 6(4), 254-261. Retrieved from <http://www.jstor.org/stable/41180939>.
- Lesh, R., Post, T., & Behr, M. (1988). Proportional reasoning. Hiebert, J. ve Behr M. (Editörler). *Number concepts and operations in the middle grades* içerisinde 93-118. Reston, Lawrence Erlbaum & National Council of Teachers of Mathematics.
- Martínez Ortiz, A. (2015). examining students' proportional reasoning strategy levels as evidence of the impact of an integrated LEGO robotics and mathematics learning experience. *Journal of Technology Education*, 26(2), 46-69. <http://doi.org/10.21061/jte.v26i2.a.3>.
- Merriam S. B. (2015). *Nitel araştırma desen ve uygulama için bir rehber* (çev. edt. S. Turan). Nobel Yayınları No 349. (Eserin orijinali 2013'de yayımlandı).
- Miles, M., & Huberman, A. (1994). *Qualitative data analysis: an expanded sourcebook*. (2nd ed). Thousand Oaks, Sage.
- Misailidou, C., & Williams, J. (2003). Diagnostic assessment of children's proportional reasoning. *Journal of Mathematical Behavior*, 22(3), 335-368. [https://doi.org/10.1016/S0732-3123\(03\)00025-7](https://doi.org/10.1016/S0732-3123(03)00025-7).
- Musan, M. S. (2012). *Dinamik matematik yazılımı destekli ortamda 8. sınıf öğrencilerinin denklem ve eşitsizlikleri anlama seviyelerinin SOLO Taksonomisine göre incelenmesi*. [Yayımlanmamış yüksek lisans tezi]. Pamukkale Üniversitesi.
- National Council of Teachers of Mathematics (NCTM). 2020. *Principles and standards for school mathematics*. Reston, Va.: NCTM.

- Özdemir, A. Ş. & Göktepe-Yıldız, S. (2015). the analysis of elementary mathematics preservice teachers' spatial orientation skills with SOLO model. *Eurasian Journal of Educational Research (EJER)*, 61, 217-236. <https://doi.org/10.14689/ejer.2015.61.12>.
- Öztürk, M. (2011). *Bilgisayar destekli öğretim yönteminin oran orantı konusunun öğretiminde akademik başarıya etkisi*. [Yayımlanmamış yüksek lisans tezi]. Atatürk Üniversitesi.
- Pakmak, S. G. (2014). *6. sınıf öğrencilerinin niceliksel ve niteliksel orantısal akıl yürütme problemlerinin çözümündeki anlayışlarının incelenmesi*. [Yayımlanmamış yüksek lisans tezi]. Pamukkale Üniversitesi.
- Patton, M. Q. (2014). *Nitel araştırma ve değerlendirme yöntemleri* (çev. edt. M. Bütün ve S. B. Demir). Pegem Akademi No: 14749. (Eserin orijinali 2014'de yayımlandı).
- Pelen, M. S. (2014). *6. sınıf öğrencilerinin orantısal akıl yürütme becerilerinin problemlerin sınıflanması ve sayısal yapılarına göre incelenmesi*. [Yayımlanmamış yüksek lisans tezi]. Çukurova Üniversitesi.
- Pittalis, M., Christou, C., & Papageorgiou, E. (2003). *Students' ability in solving proportional problems*. Proceedings of the 3rd European Research Conference in Mathematics Education: Bellaria: Italy, 3.
- Rider, R.L. (2004). *The effect of multi-representational methods on students' knowledge of function concepts in developmental college mathematics*. [Unpublished doctoral dissertation]. North Carolina State University.
- Subaşı, M. & Okumuş, K. (2017). Bir araştırma yöntemi olarak durum çalışması. *Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 21(2), 419-426. <https://dergipark.org.tr/tr/download/article-file/474049>.
- Şen, C., & Güler, G. (2017). Effect of strategy teaching for the solution of ratio problems on students' proportional reasoning skills. *Malaysian Online Journal of Educational Sciences*, 5(2), 1-15. <https://files.eric.ed.gov/fulltext/EJ1142503.pdf>.
- Tanrıoğen, A. (Editör) (2012). *Bilimsel araştırma yöntemleri*. İkinci Baskı. Anı Yayıncılık.
- Toluk Uçar, Z. & Bozkuş, F. (2016). İlkokul ve ortaokul öğrencilerinin orantısal durumları orantısal olmayan durumlardan ayırt edebilme becerileri. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi*, 17(3), 281-299. <https://dergipark.org.tr/tr/download/article-file/1487457>.
- Tuna, A. (2011). *Trigonometri öğretiminde 5E öğrenme döngüsü modelinin öğrencilerin matematiksel düşünme ve akademik başarılarına etkisi*. [Yayımlanmamış doktora tezi]. Gazi Üniversitesi.
- Umay, A. (2003). Matematiksel muhakeme yeteneği. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 24, 234-243. <https://dergipark.org.tr/tr/pub/hunefd/issue/7812/102550>.
- Umay, A. & Kaf, Y. (2005). Matematikte kusurlu akıl yürütme üzerine bir çalışma. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 28, 188-195. <https://dergipark.org.tr/tr/pub/hunefd/issue/7808/102434>.
- Ünsal, A. (2009). *İlköğretim 7. sınıf öğrencilerinin orantısal akıl yürütme becerilerinin başarı, tutum ve cinsiyet değişkenleri açısından incelenmesi: Bolu ili örneği*. [Yayımlanmamış yüksek lisans tezi]. Abant İzzet Baysal Üniversitesi.
- Van de Walle, J.A., Karp, K. S., & Bay-Williams, J. M. (2013). *İlkokul ve ortaokul matematiği gelişimsel yaklaşımla öğretim* (çev. edt. S. Durmuş). Nobel Yayınları No: 521. (Eserin orijinali 2012'de yayımlandı).
- Wadhwa, S. (2008). *A handbook of teaching and learning*. New Delhi, Sarup and Sons Publishers.
- Yeşildere, S. (2006). *Farklı matematiksel güce sahip ilköğretim 6, 7 ve 8. sınıf öğrencilerinin matematiksel düşünme ve bilgiyi oluşturma süreçlerinin incelenmesi*. [Yayımlanmamış doktora tezi]. Dokuz Eylül Üniversitesi.
- Yıldırım, A. & Şimşek, H. (2008). *Sosyal bilimlerde nitel araştırma yöntemleri*. Seçkin Yayıncılık.
- Yıldırım, C. (2015). *Matematiksel düşünme*. Remzi Kitabevi.

### Yazarlar

Meltem Glsm KARLI, Milli Eđitim Bakanlıđı Tokat İl Milli Eđitim Mdrlđne bađlı bir devlet okulunda ilköđretim matematik ođretmeni olarak grev yapmaktadır. İlgilendiđi bařlıca arařtırma alanları arasında matematik eđitiminde kavram yanılıđları, orantısal dřnme becerisi, STEM, TPACK ve teknoloji destekli matematik eđitimi konuları yer almaktadır.

Esra YILDIZ, İstanbul Medeniyet niversitesi, Eđitim Bilimleri Fakltesi, Matematik ve Fen Bilimleri Eđitimi Blm'nde Dr. Ođretim yesi olarak grev yapmaktadır. Ođretmen eđitimi, teknolojik pedagojik alan bilgisi geliřimi, istatistik ve geometri ođretimi ve teknoloji destekli matematik eđitimi alanlarında bilimsel alıřmalar yrtmektedir.

### İletiřim

Meltem Glsm KARLI, Tokat İl Milli Eđitim Mdrlđ, Artova/Tokat/Trkiye

E-posta: [meltemgulsumkarli@gmail.com](mailto:meltemgulsumkarli@gmail.com)

Dr. Ođr. . Esra YILDIZ  
İstanbul Medeniyet niversitesi  
Cevizli Yerleřkesi, İstanbul

E-posta: [esra.yildiz@medeniyet.edu.tr](mailto:esra.yildiz@medeniyet.edu.tr)

# Milli Eğitim Bakanlığınca Sunulan Elektronik Hizmetlerin Karar Destek Sistemi Olarak Kullanılması: Temellendirilmiş Kuram Çalışması\*

Tayfun YÖRÜK\*\* İlhan GÜNBAI\*\*\*

## Atf için:

Yörük, T. ve Günbayı, İ. (2022). Milli eğitim bakanlığınca sunulan elektronik hizmetlerin karar destek sistemi olarak kullanılması: temellendirilmiş kuram çalışması. *Journal of Qualitative Research in Education*, 29, 149-178, doi: 10.14689/enad.29.6

**Öz.** Bu çalışma Millî Eğitim Bakanlığı tarafından yönetim enformasyon sistemleri kapsamında okullarımızda kullanılan elektronik hizmetlerin karar destek sistemlerine dönüştürülmesi yönünde kuram ortaya koymayı amaçlamaktadır. Çalışma nitel araştırma yöntemlerinden temellendirilmiş kuram çalışması olup yorumlayıcı paradigmaya dayanmaktadır. Gönüllük esasına dayalı olmak koşulu ile okul yöneticileri, psikolojik danışma ve rehber öğretmenleri araştırma grubunu oluşturmaktadır. Araştırmada veri toplama aracı olarak yarı-yapılandırılmış görüşme formları kullanılmış, katılımcıların verdiği cevaplar ses kayıt cihazına kaydedilmiş, kayıtlar çözümlenerek metne dökülmüştür. Elde edilen dökümler üzerinde NVivo 10.0 programı kullanılarak içerik analizi ile temellendirilmiş kuram çalışmalarının adımları olan açık, eksensel ve seçici kodlamalar uygulanarak temalar elde edilmiştir. Bu temalar ışığında yönetim enformasyon sistemlerinin karar destek sistemlerine dönüşümünü açıklayan genel bir model elde edilmiştir. Bulgular incelendiğinde elde edilen modelin açık sistem kuramıyla benzerlik gösterdiği görülmüştür. Buna göre açık sistem kuramının öğelerine karşılık gelen "Etkin Kullanıcı Arayüzü", "Kolektif Katılım Temelli İzleme Sistemi" ve "İstatistiksel Raporlama" okullarda uygulanacak karar destek sistemi modelinin temellerini oluşturmaktadır.

**Anahtar Kelimeler:** Karar destek sistemleri, temellendirilmiş kuram çalışması, eğitim teknolojileri

## Makale Hakkında

Gönderim Tarihi: 15.12.2019  
Düzeltilme Tarihi: 27.12.2021  
Kabul Tarihi: 14.01.2022

## Makale Türü

Araştırma

© 2022 ANI Yayıncılık. Tüm hakları saklıdır.

\* Bu çalışma Dr. Öğr. Üyesi Tayfun YÖRÜK'un, Prof. Dr. İlhan GÜNBAI danışmanlığında yazdığı doktora tezinden üretilmiştir.

\*\* Sorumlu Yazar: Akdeniz Üniversitesi, Türkiye, [tayfun@akdeniz.edu.tr](mailto:tayfun@akdeniz.edu.tr)

\*\*\* Akdeniz Üniversitesi, Türkiye, [igunbayi@akdeniz.edu.tr](mailto:igunbayi@akdeniz.edu.tr)



## Giriş

Çağımız yönetim anlayışı örgüt çevresini ve öğelerini değerlendirme ve gelecekle ilgili kestirimde bulunabilmeye, diğer bir deyişle stratejik yönetime dayalıdır. Böylelikle kurumlar, nasıl bir işleyiş sergileyeceği ve olası veya ani sorunlara nasıl önlemler alacağı gibi konularda hazırlıksız yakalanmaz (Üzün, 2000). Bu noktada yöneticilerin stratejik açıdan önem arz eden kararları alabilmesi için tutarlı, doğru, güvenilir ve nesnel bilgiye ihtiyaç duyduğunu söylemek mümkündür.

Günümüzde örgütler faaliyet alanlarındaki varlıklarını devam ettirebilmeleri ve bu alanlarda başarıyı yakalamaları çoğunlukla bilgiyi oluşturma, kullanma ve bilgiden yararlanmada ne derecede başarılı olduklarıyla yakından ilgilidir (İraz ve Zerenler, 2008). Organizasyonlar için hayati önem taşıyan bilgi, kurumsal planlama ve kontrol için vazgeçilmez bir kaynaktır (Anderson, 1979). "Kurumsal planlama" ile "kurumsal etkinlik" arasında doğrusal bir ilişki olduğu gerçeği ışığında "bilgi" ile "kurumsal etkinlik" arasında pozitif bir korelasyon olduğu ileri sürülebilir (Şimşek ve Öğüt, 1998). Başka bir ifadeyle, etkin bilgi temini ve yönetiminin, etkin bir kurumsal işleyiş için vazgeçilmez ön koşul olduğu iddia edilebilir (Öğüt, 2012).

Bilginin yönetim alanında bu denli öneminin yanı sıra, doğru bilgi ve bu doğru bilginin yönetim süreçlerinden karar verme aşamasındaki rolü yöneticiler için büyük önem arz etmektedir. Günümüz yöneticileri artık içinde buldukları rekabet ortamında bilginin karar verme sürecinde doğru kullanımının organizasyonlara veya kurumlara neler kazandırdığının bilincindedirler. Bu nedenledir ki; çağımız yöneticileri bilgi teknolojilerine yatırımlar yaparak organizasyonların veya kurumların stratejik hedeflerine ulaşmalarını hızlandırmaktadırlar (Arslan ve Yılmaz, 2010). McCamy'e (1947) göre yönetimin temelini karar verme oluştururken, sürecin kalitesi de yine karar verme tarafından ortaya koyulur. Bununla beraber yönetim sürecinin bütün öğeleri karar vermeye bağlı, karar vermeye çevrelenmiş, iç içe geçmiştir. Kısacası bu öğeler karar verme için vardır (Aydın, 2010). Bursalıoğlu'na (2002) göre de karar verme, yönetimin özü ve diğer süreçlerin sürekli ilişki içinde bulunduğu bir eylemdir. Örgütün devamlılığı verilen kararların doğruluğuna bağlıdır ve bu nedenle yöneticilerin doğru ve yerinde karar verebilmeleri için sürecin gerek modelleri ve gerekse aşamaları hakkında bilgili olması ve özellikle bu süreci diğer süreçlere nazaran daha fazla dikkate alması gerekmektedir (Bursalıoğlu, 2002).

Karar verme eyleminin ve sürecinin kolaylaştırılması adına örgütlerde birtakım enstrümanlar kullanılmaktadır. Bu enstrümanların başında ise yönetim enformasyon sistemleri ve karar destek sistemleri (KDS) gelmektedir. Çoğu zaman birbirleriyle karıştırılabilen bu iki kavramla ilgili olarak alanyazında birçok tanıma rastlamak mümkündür. Kreitner (1983), yönetim enformasyon sistemlerini tanımlarken bunun, bilgiyi toplayan, işleyen ve transfer etme işlevi gören bilgisayar tabanlı bir ağ olduğunu belirtmiştir. Bunu yanında Holt (1987) yönetim enformasyon sistemleri için yönetim kademesinin karar verebilmesi adına bütünleşik bir enformasyon sistemi olduğunu öne sürmüştür. Sprague'a (1980) göre ise örgüt içerisinde kaynak olarak bilginin kullanılması için gereken sistemler ve eylemler bütünüdür. Davis ve Olson (1985) ise

yönetim enformasyon sistemlerini yöneticilerin karar vermesi, yönetsel işlev ve eylemlerini gerçekleştirebilmesi için destek sağlayan bütünleşik insan-makine sistemi olarak ifade etmiştir. Tanımlarda öne çıkan mesajı, yöneticilerin daha etkili kararlar alabilmesi için hangi bilgiye ihtiyaç duyulduğunun belirlenmesine ve gerekli bu bilginin nasıl kaydedileceğine ilişkin cevaplar içeren bilgisayar tabanlı bütünleşik sistemlerdir şeklinde özetlemek mümkündür.

Türkiye'nin en büyük kamu kurumlarından birisi olan Millî Eğitim Bakanlığı bahse konu elektronik dönüşüm sürecini en başarılı şekilde ve yaygın biçimde uygulayan kurumlardan biri olarak gösterilebilir. Millî Eğitim Bakanlığı Bilişim Sistemleri (MEBBİS) adı altında yürüttüğü elektronik hizmetler ile Bakanlık, kendisine bağlı birimlerin işlemlerini hem hız hem de kolaylık açısından optimize ederek işlemlerin güvenli ortamlarda gerçekleşmesine olanak sağlamıştır. Başlangıçta "PERSİS (Personel Yönetim Bilgi Sistemi)", "İLSİS (İl ve İlçe Millî Eğitim Müdürlükleri Yönetim Bilgi Sistemi)", "YÖSİS (Yüksek Öğretim Yönetim Bilgi Sistemi)", "BÜTSİS (Bütçe Yönetim Bilgi Sistemi)", "İMİSİS (İdari ve Mali İşler Yönetim Bilgi Sistemi)" ve "YDSİS (Yurt Dışı Eğitim Bilgi Sistemi)" gibi farklı modülleri olan MEBBİS, 2006 yılında şimdiki adını almış ve bütün modülleri tek çatı altında toplanmıştır. İsimlerinden de anlaşılacağı üzere bu modüller Bakanlığın ve Bakanlığa bağlı il ve ilçe millî eğitim müdürlüklerinin işlemlerine yönelik olarak personel ve bütçe gibi konular üzerinde etkinlik göstermektedir. Bahsi geçen bu konuların yanı sıra okulların en önemli paydaşı olan öğrencilere yönelik olarak ise "e-okul – Millî Eğitim Bakanlığı Okul Yönetim Bilgi Sistemi" isimli yönetim enformasyon sistemi 2007 yılında hayata geçirilmiştir. Bu sistemle birlikte öğrencilerin T.C. Kimlik numaralarına dayalı olarak oluşturulan veritabanı ile öğrencilerin ilk defa kayıt olmalarından mezun oluncaya kadarki sürede öğrencilere ait bilgiler tutulmaktadır. Bu bilgiler arasında öğrenci devamsızlık bilgileri, not bilgileri, karne, ödül ve disiplin, veli, aileye ait özel bilgiler vb. yer almaktadır (Özata ve Sevinç, 2010). Faaliyete başladığı günden bugüne kadar kendini devamlı olarak yenileyen e-okul sistemi, öncelikli olarak kendi bünyesinde uygulamaya koyduğu "Veli Bilgilendirme Sistemi (VBS)" ile öğrenci velilerinin de sistemden yararlanmasının önünü açmıştır. Öğrenci nakil işlemleri, denklik işlemleri, seçmeli ders işlemleri vb. gibi alt modüllerin eklenmesiyle daha çok alanda işlevsellik kazanan e-okul sistemi, kullanımının yaygınlaşması amacıyla mobil platformlarda da kullanılabilir şekilde tasarlanmış ve hizmete sunulmuştur.

Yönetimde kararın ve karar almanın önemli bir süreç olması ve bu sürecin yirminci yüzyılın son çeyreğinde özellikle bilgisayar destekli bilişim sistemleri ile desteklenmesiyle "Veri-Bilgi-Karar" sürecine dikkatler yoğunlaşmış ve "Karar Destek Sistemleri" şeklinde ifade edilen yaklaşım gündemde yerini bulmuştur (Kuruözüm, 1998). O'Brien (1993) KDS'yi, "karar alma süreçlerine etkileşimli ve fiili (de facto) destek sağlayan bilgi sistemleridir" şeklinde tanımlamıştır. (Öğüt, 2012). Bunun yanında KDS'nin ne olduğuna ilişkin şüpheli bir yaklaşım da geliştirilmiş ve bu sistemin organizasyonlardaki bilgi sistemlerinin yeni bir biçimi olduğu ortaya koyulmuştur. İlk olarak 1970'li yılların başında Morton (1971) tarafından "yönetim karar sistemleri" tabiriyle ortaya atılan KDS'nin geçmişi Simon'un (1947) klasikleşen "Administrative Behaviour" isimli kitabına kadar dayanır. Alanyazında çok fazla tanımına rastlanan KDS'nin ne olduğuna, nasıl özelliklerinin olması gerektiği yönünde de birçok çalışma

yapılmıştır. Öyle ki Alter (1980) kendisinin KDS olduğunu iddia eden 56 sistemi incelemiş ve bunların özelliklerini anlatan özetler çıkarmıştır. Benzer şekilde Keen (1980) KDS olduğunu düşündüğü 30 farklı sistem tanımlamış ve bunların özelliklerini karşılaştırmıştır. Gerek Alter, gerek Keen ve gerekse alanda çalışma yapmış diğer araştırmacıların karakteristik olarak ortaya koydukları maddeler incelendiğinde görülen ortak noktalar aşağıdaki gibidir (Sprague, 1980):

- KDS'ler yüksek seviyedeki yöneticilerin karşılaştığı daha az yapılandırılmış, belirsizliği yüksek sorunları çözmeyi amaç edinir.
- KDS'ler klasik veri girişi ve veri elde eden fonksiyonları içeren model veya teknikleri birleştirmeye çalışır.
- KDS'ler özellikle bilgisayar kullanım becerileri düşük seviyede olan kullanıcılara etkileşimli bir ortam sunmaya odaklanır.
- KDS'ler kullanıcının karar verme yaklaşımında ve çevresinde meydana gelen değişikliklere kolayca uyum sağlama yeteneğini verir.

Bu noktada yönetim enformasyon sistemleri (YES) ile KDS'nin de arasındaki ilişkiyi ve farkları ortaya koymak yerinde olacaktır. KDS'nin doğuşu, yönetim bilgi sistemlerin yetersiz görülmesiyle olmuştur. Karar verilen ortam, yöneticilerin doğru ve zamanlı karar verebilmesi için önemlidir. (Sayın ve Şen, 1996). Yönetim enformasyon sistemlerinin sağlamakla yükümlü olduğu örgütün günlük işleyişi hakkında bilgilendirme yapan veri setleri orta kademe yöneticiler için yeterli olsa da, tepe yöneticilerin karar alma eylemlerini yerine getirebilmeleri için yönetim enformasyon sistemleri ile sağlanan bilgiden daha fazlasına ihtiyaç duymaktadırlar. Sprague ve Carlson (1986), KDS ile YES arasındaki ilişkinin ifade edilebilmesi için "Hiyerarşik Yaklaşımı" geliştirmişler ve bu yaklaşımda "veri – bilgi – karar" aşamalarında her bir birimin görevleri üzerinde durmuşlardır.

Diğer örgütlerde olduğu gibi karar verme eylemi eğitim örgütlerinin yönetiminin de temel bir sürecidir çünkü bütün diğer kurumlara benzer şekilde okullar da karar vermeye dayanan yapılardır (Hoy ve Miskel, 2010). Buraya kadar genel olarak örgütlerde karar verme süreci, modelleri ve çeşitleri hakkında bilgi verilmeye çalışıldı. Birçok konuda olduğu gibi karar verme konusunda da eğitimin ve okulların kendine özgü yönleri sebebiyle birtakım farklılıklar ve zorluklarla karşı karşıya kalınabilmektedir. Kamusal eğitim örgütleri, kâr amacı gütmediklerinden dolayı ekonomistlerin veya ticari organizasyonların sıklıkla üzerinde durduğu maliyet-fayda ve girdi-çıkıtı arasındaki ilişkilerin hesap edilmesi zor ve çoğu zaman imkânsızdır. Bu zorluk zaten bir anlamda seçim yapma süreci olan karar verme sürecinde özellikle seçeneklerin gerektiği kadar göz önünde bulundurulmamasına sebebiyet verir (Bursalıoğlu, 2002).

Her ne kadar zorlukları olsa da konu başlığının girişinde de değinildiği gibi işin özünde okulların da karar vermeye dayanan yapılar olduğu ve bu noktadan hareketle bir karar süreci yaşayacağı vardır. Günümüzde okullarda karar verme süreci eğitim kurumlarının durumsallığına, insan tabiatına, teknolojiye ve kurumsal belirsizliklere odaklanmıştır (Estler, 1988). Bu odaklanma ile karşılaşılan sorunlara sunulan çözümler

de çeşitlenmiş ve karmaşıklaşmıştır. Bu karmaşık hal içerisinde bir okul yöneticisinin "synoptic" yani en uygun çözümü bulma arayışı içerisinde olmasını beklemek doğru bir yaklaşım gibi gözükmemektedir. Bunun yerine yöneticinin yine karar modelleri anlatılırken "yönetimsel modelde" bahsi geçen tatmin edici çözümler bulması daha uygun olacaktır (Bursalıoğlu, 2010). Tatminkâr çözümler aranırken okulların demokratik örgütler olduğunun hatırlanması ve örgütlerde verilen kararlardan etkilenen bireylerin, verilen bu kararda söz sahibi olmasının gerekliliği göz ardı edilmemelidir (Aydın, 2010). Okulların demokratik örgütler olması bir yana fiziksel olarak da büyük kurumlar olması dolayısıyla zaten sorunların tek kişi tarafından çözülmesi de olası değildir. Bunun için öğretmenler başta olmak üzere tüm paydaşların mümkün olan azami seviyede karar süreçlerinde yer alması gerekmektedir. Bu katılımın temelinde okul yöneticilerinin çalışma arkadaşlarının bilgi ve deneyimleriyle yapacağı katkıya da ihtiyacı olduğu vardır (Özden, 2005). Bütün bunların yanında okulları etkileyen güçlerin dağılmış olması ve bu etki güçlerinin akıcı olmasından dolayı çoğu zaman yöneticilerin kararlarının kesin ani olması gerekmektedir (Bursalıoğlu, 2002). Bu ani kararlar karar çeşitlerinde anlatıldığı gibi programlanmamış kararlar olacağından okul yöneticileri ani reaksiyon verecek ve karar aşamasını ya tek başına ya da dışarıdan sınırlı gelecek katkıyla yaşayacaklardır. Bu nedenle okul yöneticileri ya geleneksel stratejiyi kullanarak sezgi ile hareket edip karar verecek ya da bu aşamada modern teknik olarak bilgisayarlardan yararlanacaktır (Simon, 1960).

Millî Eğitim Bakanlığı da 2000'li yılların başlarında Yönetim Enformasyon Sistemleri kapsamında bir takım elektronik hizmetler sunarak hem çağın gereksinimlerine ayak uydurmayı hem de kamusal alanda iş ve işlemlerin hızlı yürümesini hedeflemiştir. Hayata girdiği zaman itibarıyla oldukça başarılı olan bu elektronik hizmetler günümüze kadar birçok güncelleme ile birlikte gelebilmiştir. Ancak gelişme açısından bilişim sektöründeki 1 senenin bile çok uzun bir zaman olduğu göz önünde bulundurulduğunda bu geçen zaman zarfında mevcut durumun ne olduğu, kullanıcıların beklentileri gibi konular da değişme ve gelişme göstermektedir.

Günümüzde adından sıkça bahsettiren KDS, örgütlerin ya da kuruluşların dışında veya içinde yer alan verilere, bu verilerle çalışmak isteyen son kullanıcıların kolaylıkla erişebilmelerini sağlamaktadır. Böylece, gerekli olan bilgilere hem hızlı hem de zamanında ulaşım sağlanabilmekle birlikte kurumlarda karar verme sürecinin zamanlamasına yardımcı olarak verimliliği, etkililiği ve alınan kararların kalitesini arttırmaktadır (Arslan ve Yılmaz, 2010). Bu araştırmanın amacı da temellendirilmiş kuram çalışması kullanılarak okul yönetiminde karar verme sürecinin daha etkili hale getirilebilmesi için yönetim enformasyon sistemleri kapsamında sunulan mevcut elektronik hizmetlerin KDS'ye dönüştürülmesinin ortaya konulmasıdır. Çalışmanın amacına ulaşması için temel soru "Okul yönetiminin ve özellikle karar verme sürecinin daha verimli hale getirilmesinde yönetim enformasyon sistemlerinin KDS'ye dönüşümünü nasıl bir kuram açıklayabilir?"

## Yöntem

Olgular, düşünceler, deneyimler üzerinde bir çalışma yapmak için ölçüm yapmak yerine problem hakkında bu problemde etkilenen kişileri doğrudan dinlemek, gözlemlemek daha yerinde olacaktır. Bu çalışma da Millî Eğitim Bakanlığı'nın hâlihazırda sunduğu elektronik hizmetlere ilişkin kullanıcıların özellikle deneyimlerini ve önerilerini içererek bir KDS'ye dönüşüm için kuram ortaya koymayı hedeflediğinden, nitel araştırma desenlerinden temellendirilmiş kuram çalışmasını kullanmaktadır. Ayrıca nitel araştırmalar, özellikle kuram geliştirmede çok etkilidir ve araştırmacının bizzat gerçek dünyadaki görüşme ve gözlemleriyle elde edilen bilgiler tümevarım yöntemiyle elde edilerek kuram ortaya koyulur (Patton, 2014).

Nitel araştırmalar, görüşme, gözlem ve doküman analizi yollarıyla olayların ve algıların kendi ortamında bütüncül ve gerçekçi bir şekilde ortaya koyulmasıyla daha önce görülmeyen, bilinmeyen neticelerin ilişkisel bağlamda açıklanması olarak tanımlanabilir (Yıldırım ve Şimşek, 2011; Glaser, 1978). Bilindiği üzere zamanla toplumlar, toplumsal örgüt yapısı ve bu yapının işleyişi bağlamında isteyerek ya da istem dışı değişim gösterir (Kurtkan, 1968; Günay, 1993). Bu değişimin türleri çok farklı başlıklar altında toplanabilse de değişimin nasıl gerçekleştiğine dair Burrell ve Morgan (1988) dört farklı paradigma geliştirmişlerdir: radikal yapısalcı, yapısalcı, radikal hümanist ve yorumlayıcı paradigmlar. Habermas (1987) yorumlayıcı paradigmayı kişiler arası etkileşimden doğan ve sosyal dünyayı anlatan "Fenomenolojik Sembolik Etkileşim Yaklaşımı" ve bireysel biçimde oluşturduğumuz öznel dünyayı anlatan "Etnometodolojik Yaklaşım" olmak üzere iki başlık altında incelemiştir. Yorumlayıcı paradigmaya ilişkin verilen bilgiler ışığında gerçekliğin bireyler arası etkileşimle diğer bir deyişle "konuşma – tartışma – anlaşma – uzlaşma" yoluyla veya fenomen şeklinde nitelenen kişinin subjektif yaşantısı sonucu oluşturulduğunu söylemek mümkündür (Günbayı, 2016).

Türk eğitim sisteminde bulunduğumuz yüzyılın başlangıcı özellikle elektronik ve bilişim alanlarında birçok yeniliğin hayata geçtiği dönemdir. Klasik uygulamaların aksine elektronik hizmetler yoluyla verilerin işlenmesi ve değerlendirilmesi, milli eğitim üst yönetimi ile okulların kâğıt üzerindeki işlemlerinin dijital ortamlara aktarılmasını sağlamıştır. Çağın gereği olarak yeniliğin sürdürülebilirliğini sağlamak yeniliği devreye sokmak kadar önemli olduğundan, değişen ihtiyaçlara cevap verebilmek ve bu sayede sürdürülebilirliği sağlamak için mevcut elektronik hizmetlerin en önemli unsuru olan fiili kullanıcılarının bu hizmetler hakkındaki görüşleri önem arz etmektedir. Ancak onlara yöneltilecek uygun sorular ve bu sorulara alınacak cevaplar çalışmanın nihai hedefi olan elektronik hizmetlerin okul yönetimi kullanımında verimliliğini arttırmaya ve okullarda daha etkin kararlar almak için KDS'ye dönüşümün sağlanmasına olanak verecektir. Bu nedenle bu çalışmada da katılımcıların mevcut elektronik hizmetler üzerine yaşadıkları deneyimleri, sıkıntıları, sorunların sebepleri ve çözümleri ile birlikte KDS'ye dönüşüm yolunda bir model ortaya koymak ve bu modelin de bir kuramı açıklamasını sağlamak adına nitel araştırma yöntemlerinden faydalanılmıştır.

Türk eğitim sisteminde yönetim bilgi sistemleri kapsamında okullara birçok elektronik hizmet sunulmaktadır. Bu sistemler başta okul yöneticilerine olmak üzere okulun bütün paydaşlarına hitap etmekte, okul iş ve işleyişine yardımcı olmaktadır. Temel soru, bu sistemlerin daha etkin hale getirilerek, özellikle yöneticiler için, yönetimin önemli süreçlerinden olan karar verme aşamasında kullanılabilecek şekilde nasıl dönüştürüleceğidir. Yöneticinin başta akademik alan olmak üzere diğer tüm yönetim alanlarında alacağı kararları Millî Eğitim Bakanlığının sunduğu yönetim bilgi sistemleri ile daha etkili hale getirmenin yollarının araştırılacağı bu çalışma, mevcut sunulan elektronik hizmetlerin evrilmesine odaklanması sebebiyle yorumlayıcı paradigmaya dayanmaktadır. Yorumlayıcı paradigmanın sayılılarından olan örgütsel etkinliklerin sembolik birer belge olarak nitelenmesi ve yorum-bilim yöntem analizi ile bu etkinliklerin anlamlandırılmaya çalışılması nedeniyle bu çalışmada, fenomenolojik sembolik etkileşimciliğin ve etnometodolojik yaklaşımların kuramsal perspektifinin yol göstereceği temellendirilmiş bir kuram çalışması yapılmıştır.

Temellendirilmiş kuram, bütünüyle çalışmanın yapıldığı çevrede gerçekleşen etkinlik, davranış ve prosedürlerin incelenmesiyle elde edilen verileri esas alan önerme ya da teorik modellerin oluşturulduğu bir yöntemdir (Glaser ve Strauss, 1967). En temel niteliğinin çalışma sürecinde araştırmacıya kesinlik, açıklık ve esneklik sağlama olduğu bilinen temellendirilmiş kuram, araştırma sürecinin sonunda sistematik bir şekilde toplanan verilerin analizi aracılığı ile kurama ulaştırır (Strauss ve Corbin, 1990). Toplum bilim üzerine yapılan nitel araştırmalarının en etkili deseni kabul edilen temellendirilmiş kuram çalışmaları, mevcut bir teorik çerçeveden hareket etmek yerine, bizzat kuramın kendisini oluşturmaya odaklanmaktadır (Denzin, 1997; Patton, 2014).

Temellendirilmiş kuram çalışmalarının uygulanmasında ve varsayımlarında ortaya atıldığı günden bugüne gerek alanyazına kazandıranlar ve gerekse diğer bu alanda çalışma yapanlarca değişiklikler yapılmıştır (Çalışkan, 2011). Başlangıcında pozitivist yaklaşımla yürütülen temellendirilmiş kuram çalışmaları zamanla yerini anti-pozitivist yaklaşımlara bırakmıştır. Temellendirilmiş kuram çalışmasının tarihsel gelişimi incelendiğinde ulaşılmaya çalışılan nihai nokta aynı olsa da kuramcılarca özellikle kodlama evrelerinde farklılık gösterdiği gözlenmektedir. Bu çalışmada Strauss ve Corbin'in (1990) 3 aşamalı (açık kodlama, eksensel kodlama ve seçici kodlama) kodlamaları baz alınmıştır.

Bu desende çözümlenme, araştırmacı ile elde edilen veriler arasındaki etkileşimden ibarettir ve aslında sürecin kendisi araştırmaya yön veren ve standartlar ortaya koyan bir "kodlama prosedürüdür" (Strauss ve Corbin, 1990). Temellendirilmiş kuram çalışmaları, üzerinde çalışılan konu her ne olursa olsun esas olarak "Sistemli biçimde yapılan karşılaştırmalı çözümlenmeden çıkan kuram nedir? Alana yapılan katkılar nasıl gözlemlenir ve kuramsallaştırılır?" sorularına yanıt arar (Patton, 2014). Temellendirilmiş kuram çalışmalarının ilk aşaması olan açık kodlama bir yorumlama sürecidir ve bu süreçte katılımcılardan elde edilen tüm veriler çözümlenerek küçük parçalara ayrılır. Daha açık bir ifadeyle, gözlem, görüşme ve doküman analizi ile sağlanan her fikir etiketlenerek temalar ve bu temalara bağlı alt temalar elde edilir. Açık kodlama belirtilen teknikler yardımıyla veri elde edilir edilmez zaman

kaybetmeden gerçekleştirilir. Bu çalışmada da gözlem ve bireysel görüşmeler yapılmasını takiben açık kodlamaya geçilerek alt temalar, üst temaya bağlanmadan elde edilmiştir. İkinci aşama olan eksensel kodlamada ise elde edilen alt temaların, bağlı olabilecekleri üst tema ile olan ilişkisi test edilir. Eğer bu testte alt temanın temasıyla bağlantısı doğrulanmazsa araştırmacı, katılımcının bu alt temaya ilişkin verdiği tepkinin nedenlerini araştırarak kuramını genişletir. Seçici kodlama olan son aşamada ise elde edilen bütün alt temaların ait oldukları üst temalarla birlikte asıl kurama esas "ana tema" üzerinde birleştirilmesi işlemi gerçekleştirilir. Özetle araştırmacı "Bulgularımı birkaç cümle ile toparlayacak olsam, neler söyleyebilirim?", "Bu araştırma ile sunulan temel analitik fikir nedir?" gibi sorular sorarak kuramı analitik olarak geneller (Strauss ve Corbin, 1990). Ayrıca Patton'a (2014) göre kuramlaştırma, öncelikle düşünceleri ve kavramları anlama ya da sezinleme, sonrasında ise bunları açıklayıcı ve rasyonel biçimde formüle etmeyi içermektedir. Bu ifadelerden hareketle, bu çalışmada temellendirilmiş kuram çalışması kullanılmasının amacı da zaten elde bulunan ve mikro ölçekte bir okula ait tüm verileri içeren yönetim enformasyon sisteminin dönüşümünü gerçekleştirmektir. Çalışmada bu dönüşümü gerçekleştirirken, sistemin tüm özelliklerinin sunduğu kavramları anlama, karşılaştırmalı çözümlenme ile kavramlar arasında ilişki kurma ve kurulan ilişkilerden elde edilen modeli ortaya koyma sırası izlenmek suretiyle temellendirilmiş kuram çalışmasının aşamalarından yararlanılmıştır.

## Çalışma Grubu

Çalışmada nitel araştırmalarda kullanılan katılımcı seçimi yöntemlerinden amaçlı örnekleme yöntemi kullanılmıştır. Nicel araştırmalarda evrene genelleme yapabilmek için kullanılan olasılık temelli örneklemenin tersi olarak ortaya çıkan amaçlı örnekleme, konuya hâkim olduğu düşünülen katılımcıların detaylı bir biçimde çalışılmasını sağlamaktadır. Ayrıca çalışmada kuramsal bilgiye hâzi olduğu düşünülen katılımcıları içermesi nedeniyle "kuramsal örnekleme" tekniğinden de faydalanılmıştır. İlk defa Glaser ve Strauss (1967) tarafından kullanılan kuramsal örneklemede araştırma sorusuna cevap olabilecek süreç veya kavramların yinelenmeye başladığı ana kadar veri toplama süreci devam eder. Bu sebeple araştırmacı çalışma grubunun büyüklüğü hakkında başlangıçta bilgi sahibi değildir (Yıldırım ve Şimşek, 2011). Çalışmaya 4 devlet ortaokulu, 3 devlet Anadolu lisesi, 2 devlet ilkokulunda görev yapmakta olan 6 okul müdürü, 5 müdür yardımcısı, 6 rehber öğretmen gönüllü olarak katılım göstermişlerdir. Bu katılımcılara ait demografik bilgiler Tablo 1'de sunulmuştur.

Tablo 1.

## Katılımcılara Ait Demografik Bilgiler

| Kodu | Ünvanı           | Branşı                | Kıdem Yılı |
|------|------------------|-----------------------|------------|
| RÖ01 | Rehber Öğretmen  | -                     | 22         |
| MY01 | Müdür Yardımcısı | Bilişim Teknolojileri | 8          |
| RÖ02 | Rehber Öğretmen  | -                     | 9          |
| RÖ03 | Rehber Öğretmen  | -                     | 14         |
| RÖ04 | Rehber Öğretmen  | -                     | 24         |
| OM01 | Okul Müdürü      | Tarih                 | 16         |
| MY02 | Müdür Yardımcısı | Biyoloji              | 25         |
| MY03 | Müdür Yardımcısı | İngilizce             | 11         |
| MY04 | Müdür Yardımcısı | Bilişim Teknolojileri | 12         |
| RÖ05 | Rehber Öğretmen  | -                     | 18         |
| RÖ06 | Rehber Öğretmen  | -                     | 18         |
| OM02 | Okul Müdürü      | Tarih                 | 26         |
| MY05 | Müdür Yardımcısı | Fizik                 | 22         |
| OM03 | Okul Müdürü      | Sınıf Öğretmeni       | 26         |
| OM04 | Okul Müdürü      | Sınıf Öğretmeni       | 16         |
| OM05 | Okul Müdürü      | Bilişim Teknolojileri | 13         |
| OM06 | Okul Müdürü      | Bilişim Teknolojileri | 18         |

Katılımcıların seçilmesinde özellikle okul yönetiminde karara doğrudan katılan kişiler tercih edilmiştir. Ayrıca katılımcıların devlet okullarında görev yapıyor olmasına dikkat edilmiştir. Bunun nedeni ise özel okulların Milli Eğitim Bakanlığı tarafından sunulan yönetim enformasyon sistemlerine ek olarak değişik ve karar destek sistemlerine benzer yapıda yazılımlar kullanıyor olmalarıdır. Bu noktada çalışma grubuna katılımcı olarak okul müdürünün, müdür yardımcısının ve rehber öğretmenlerinin tercih edilmesinin sebebi sorgulanabilir. Bilindiği üzere okul müdürleri okullarda etkili karar verebilmek için okulun tüm paydaşlarını bu sürece dâhil ederler. Her ne kadar bütün paydaşlar sürecin içerisinde yer alsalar da nihai karar okul müdürlerine aittir. Bu neden, çalışma grubunda okul müdürlerinin yer alması gerekmektedir. Bunun yanında acil karar verilmesi gereken sorunlarla karşılaşıldığında veya rutinleşen kararlarda okul müdürlerinin ani aksiyon almaları gerekebilir. Bu gibi durumlarda istişare mercii müdür yardımcısı ve rehber öğretmenlerdir. Bu nedenle bu iki grupta çalışmada katılımcı olarak yer alması son derece önemlidir.

Temellendirilmiş kuram çalışmalarında kullanılan bireysel görüşmeler anlık olarak yani görüşmeler biter bitmez kodlanmaktadır. Bu aşamanın adı açık kodlama olarak adlandırılırken elde edilen temalar tekrar etmeye başlayınca görüşmeler durdurulur. Bu nedenle 9 farklı devlet okulundan görev yapmakta olan 17 katılımcının görüşleri çalışmaya esas teşkil edecek verileri sağlamışlardır.



## Veri Toplama Araçları

Temellendirilmiş kuram çalışmalarında gözlemler ve katılımcılarla yapılan görüşmeler veri toplama tekniklerinden en sık kullanılanıdır. Bunlara ek olarak görüşme ve gözlemleri destekleyecek doküman analizine de ihtiyaç duyulabilmektedir (Hancock, 1998). Okul yöneticileri ve rehber öğretmenlerden yarı yapılandırılmış görüşme formu aracılığı ile bireysel görüşmeler yapılarak veriler toplanmıştır. Ayrıca okullarda eğitim öğretim süreçlerine yardımcı olan evraklar ile özellikle okul rehberlik servislerinde bulunan öğrenci kişilik hizmetlerine ait basılı materyal şeklindeki dokümanlar da araştırmada veri kaynağı olarak kullanılmıştır.

## Verilerin Toplanması

Bireysel görüşmelere başlanmadan önce görüşme formunda özet bir şekilde yer alan araştırmanın amacı, katılımcı ile paylaşılmış ve görüşme boyunca ses kaydı yapılacağı için katılımcı bilgilendirilmiş; izni alınarak, görüşmeler ses kayıt cihazında depolanmıştır. Her görüşme sonrası yeni bir görüşmeye başlanmadan, son incelenen evrak ve ses kaydının dökümü çözümlenerek kodlamalar gerçekleştirilmiştir. Teyit amaçlı olarak görüşme dökümleri alan uzmanınca görüşme kayıtları ile karşılaştırılmış ve dökümler ve kayıtlar doğrulanmıştır. Temellendirilmiş kuram çalışması kodlama mantığına uygun olarak görüşmelere başlanmadan önce oluşturulan kod listesi ile her döküm sürekli olarak karşılaştırılmış, tümevarımcı bir yaklaşımla eksik olduğu tespit edilen ve eldeki döküme göre oluşan yeni kodlar kod listesine eklenmiş ya da mevcut kodlarda değişiklik yapılmıştır. Glaser ve Strauss'un (1990) "sürekli karşılaştırmalı analiz" olarak tabir ettiği bu süreçte görüşme formu sürekli olarak güncellenmiş, yeni kodlarla detaylandırılmıştır. Bu güncelleme işlemi cevapların sürekli tekrar etmesiyle son bulmuştur. Sürekli karşılaştırmalı analiz esnasında veriler analiz edilirken içerik analizi ve betimsel analiz yöntemlerinden faydalanılmıştır.

## Verilerin Analizi

Merriam'a (1998) göre elde edilen verilere anlam kazandırmak adına yapılan veri analizi çok yoğun, yorucu ve karmaşık bir süreçtir. Bütün bu zorlu analiz sürecinde nitel araştırmalarda kodlama işlemini kısmen kolaylaştırarak bütüncül bir çerçevede araştırmaya hâkim olabilmeyi sağlayan NVivo 10.0 paket programı kullanılmıştır. Yine bu bölümde bahsedildiği üzere temellendirilmiş kuram çalışmalarında verilerin toplanması ve analizi eş zamanlı olarak yapılmaktadır.

İlk aşama olan açık kodlamada görüşmeler eş zamanlı olarak kodlanmış, her görüşme sonrası alan notları gözden geçirilerek incelenen dokümanlar üzerine ve genel olarak görüşme üzerine tutulan memolar değerlendirilmiştir. Eksensel kodlama aşamasında araştırmaya esas soruya ulaşmak için açık kodlamada elde edilen kategorilerden alt kategorilere ulaşılmaya çalışılmıştır.

“Okullarda etkili karar verilebilmesi için elektronik hizmetlerin KDS olarak kullanılmasını nasıl bir kuram açıklar?” sorusuna cevap arama yolunda iç içe geçmiş üç alt model elde edilmiş ve sonuç olarak okul yönetiminde KDS’ye yapılacak dönüşüm modeline ulaşılmıştır. Bu modeli net ifadelerle ortaya koymak için araştırmadan elde edilen temalar ve alt temalarda değişiklik yapılması gerekmiş, bazı temalar gruplandırılmış veya isimlerinde değişiklik yapılmıştır. Seçici kodlama olarak adlandırılan bu son aşamada ana tema ve bu ana temaya bağlı alt temalar elde edilerek araştırmacının esas sorusuna cevap elde edilmiştir.

## Bulgular

Bulgular üç alt başlıkta incelenmiş olup bu alt başlıklardan ilkinin araştırma sonucu elde edilen modelin ana başlıklarından olan “Etkin Kullanıcı Arayüzü” oluşturmaktadır, diğer iki alt başlık ise “Kolektif Katılım Temelli İzleme Sistemi” ve “İstatistiksel Raporlama”dır. Sistem yaklaşımının “Girdi”, “Süreç” ve “Çıktı” öğeleri ve bu öğelerin birbirleri ile ilişkisi ile benzerlik gösteren bu başlıkların genel görünümü Şekil 1’de ortaya koyulmuştur.

### Şekil 1.

Önerilen KDS Modeline Ait Başlıklar



Her bir alt başlık nitel araştırma terminolojisine uygun olarak seçici kodlama neticesinde son haline kavuşturulan “tema” ifadesiyle anılacaktır. Bu temalar kendine ait alt başlıklarla detaylı bir şekilde incelenecek ve bu alt başlıklar için de “alt tema” ifadesi kullanılacaktır. Bu başlık altında sadece bulgulara yer verilecek olup, temalara ait açıklamalar ve araştırmacı görüşleri sonuç ve tartışma başlığı altında sunulacaktır.

### Etkin Kullanıcı Arayüzü

Modelin ana bileşenlerinden ilki, sistem yaklaşımında “Girdi” ögesine karşılık gelen “Etkin Kullanıcı Arayüzüdür”. Arayüz terimi birçok alanda kullanılsa da bilişim alanında resim, ses, yazı biçimleri ve renkler yoluyla kullanıcı ve sistem arasında iletişimi sağlayan görsel-işitsel aracı şeklinde ifade edilmektedir (Rudisill, 1996). Bir yazılımın kullanılmasında yazılım ile kullanıcı arasındaki etkileşimin temel taşı olması nedeniyle, tasarlanan kullanıcı arayüzün ihtiyaçlara cevap veren, işlerin daha hızlı yapılmasını sağlayan bir yapıda olmasının gerekli olduğu düşünülebilir. Katılımcıların cevapları

incelendiğinde ortaya koyulan modelde etkin bir kullanıcı arayüzünün olmasının gerekliliğinin vurgulandığı görülmektedir. Elde edilen bulgular ışığında ve seçici kodlama neticesinde “Etkin Kullanıcı Arayüzü” teması altında iki alt tema oluşmuştur: Tasarım, Aktif Güncelleme.

## Tasarım

“Etkin Kullanıcı Arayüzü” temasının ilk alt teması olan “Tasarım” başlığı altında, katılımcıların görüşlerine uygulanan seçici kodlama ile geliştirilecek KDS’de bulunması gereken ve sistem içerisinde kullanılacak verilerin güvenilir olmasına dayanan görsel özellikler hakkında görüşler mevcuttur. Bu görüşler incelendiğinde 12 katılımcının “Veri Güvenilirliği”, 4 katılımcının da “Sırasız Erişimli Kişiselleştirilebilir Arayüz” kodlarında görüş belirttikleri; buna göre de bu alt temaya ait kodun oluştuğu görülmüştür: Veri Güvenilirliği, Sırasız Erişimli Kişiselleştirilebilir Arayüz.

“Veri Güvenilirliği” kodu altında görüş belirten 12 katılımcıya ait görüşlerden bazıları aşağıdaki gibidir:

Benim en büyük kuşku buralardan bilgi alırken bu bilgiler doğru mu güvenilir mi güncel mi şeklinde oluyor... Çok arttırılabilir örnekler ama özetle şunu söyleyebilirim karar verebilmek için somut, güncel, güvenilir bilgiye ya da sizin tabirinizle enformasyona ihtiyaç var. Bunun sağlanması lazım önce. (MY01,2,1,1)

Ama tabi genellikle yeni gelen öğrencilerin bilgileri güncellenmemişse, sınıf öğretmenleri tarafından, işte öğrenci kaç kardeş, kimle oturuyor, nerede oturuyor, geçirdiği hastalığı var mı? Geçirdiği ameliyat var mı? Özrü var mı gibi bilgiler güncellenmemişse çocuğun özel durumu hakkında pek bir bilgi edinme şansınız yok. (MY03,2,1,1)

4 Katılımcı da mevcutta kullanılan arayüzle ilgili sıkıntılarını dile getirmiş ve bir KDS’de kullanılacak arayüz tasarımının önemi hakkında görüş ortaya koymuştur:

E-okulda girince sol tarafta çıkan bir şey var, menüler. O kadar çok şey var ki onun içinde bile arama yapmak zor. Bu işlerin daha basitleştirilmesi. Öğrenciyle ilgili, velilerle ilgili, akademik başarıyla ilgili bilgiler olabilir belki ama bunlar daha iyi sınıflandırılması lazım. (MY03,2,1,2)

Yani bu yönetim süreçlerinde ihtiyaç duyacağımız verilerin daha ulaşılabilir nitelikte bu modüllerin içerisinde yer alması gerektiğini düşünüyorum. Yani e-okul sisteminde de MEBBİS sisteminde de ihtiyaç duyulan verilere daha hızlı, daha pratik yapıların oluşturulması gerektiğini düşünüyorum. (OM06,2,1,2)

## Aktif güncelleme

“Aktif Güncelleme” alt temasına ait görüşler tasnif edildiğinde üç alt tema oluşmuştur. Bu alt temalara ait kodlar 3 başlık altında toplanmıştır: Proaktif Ajanda, Dış Veri Kaynaklar, Anlık Veri Girişi.

6 katılımcının görüş belirttiği ve erken uyarı sistemi mantığını öne çıkaran “Proaktif Ajanda” koduna ait katılımcı görüşleri şöyledir:

Ayrıca gün içinde idareciler olarak kırk farklı yere bölünüyoruz, okullar fiziki açıdan olsun, temizlik açısından olsun sıkıntılar içerisine giriyor, önceliklerimizi belirlememiz gerekiyor. Hani okula ilişkin acil işlere acil önlem alabilmek için bilgilere ihtiyacımız var. Bunlar eklenebilir...

Mesela bir sınıf haftanın belli günü belli saatte devamsızlığı sürekli hale getirmiş. Anında bu konuda uyarılmayı ki o dersin o saatinde neler olup bitiyor öğrenebilmeliyim belki öğretmen kaynaklı veya dışarıda bir şeyler var. Bunlar konusunda beni uyarmalı. (MY01,2,2,1)

Okul hakkında farklı modüller var bu bilgiler için ama ihtiyaç bilgisi orada gözükmez mesela okulun ihtiyacına yönelik bilgiler için. (MY03,2,2,1)

**Katılımcılardan 5'inin veri kaynaklarının ortak veri tabanından aktarımını öngördüğü "Dış Veri Kaynakları" koduna ilişkin görüşler aşağıdaki gibidir:**

Özel durumları açısından yeterli değil elbette daha özel bilgilere ihtiyaç var. Ne gibi? Mesela anne vefat etmiş, neden vefat etmiş, çocuk kaç yaşındayken vefat etmiş. Vefat ettiğinde çocuğun yaşadığı travmanın boyutları nasıl olmuş çocuğa etkisi. Bunlar önemli, çocuğun daha özeli için. (OM03,2,2,2)

Burada işin aslı öğretmene de çok yüklenmek doğru değil. Hani bilgi toplumu olmaktan bahsettiniz ya başta. İşte bilgi toplumu özelliklerini tam yansıtabilsek ortak bir veritabanı ile bu bilgilerin kimseden girmesini beklemeden yapabilirsek işte o zaman daha güzel olur. Olması da gereken de bu zaten. (OM04,2,2,2)

**Katılımcılardan 4'ü ise sistemi kullananların aktif birer veri veya bilgi sağlayıcısı olması görüşünde birleşmişlerdir:**

Bu not düşme işini de bizler idareciler olarak gün be gün yapamayız. Zaten iş yükümüz ortada, ya bu işler için sadece arıza kaydı ve çözümlerine ilişkin bir personel bulundurulmalı ya da öğretmenlerimize oto kontrol gibi bir mekanizma ile herkesin kendi sınıfından sorumlu olacağı bir sistem verilmeli. Bir problemle karşılaşıldığında sınıf öğretmeni bunu bana söyler, ben bunu not alırım. Bir yere yazarım yani ama unutma ihtimalim var. Elektronik ortamları daha verimli kullanabiliriz bu aşamada, biraz daha esnek bir sistemle öğretmenlerimize sorumluluk vererek her sınıf öğretmeni sınıfının fiziki durumuna ilişkin sıkıntılarını paylaşabilmeli, biz de bu sıkıntıları topluca görüp önlem alabiliriz... başkaları da yarın bir gün aynı sıkıntı olursa en baştan başlamayacak acaba bu sıkıntı neden oldu diye. (MY05,2,2,3)

## Kolektif Katılım Temelli İzleme Sistemi

Sistem yaklaşımı çerçevesinde "süreç" ögesine karşılık gelen "Kolektif Katılım Temelli İzleme Sistemi", KDS'ye dönüşüm yolunda "Etkin Kullanıcı Arayüzünden" gelen veri ve enformasyonun işlendiği ve bilgiye dönüştüğü bir tema olarak karşımıza çıkmaktadır. Temanın bu ismi almasında en büyük etken, seçici kodlama esnasında göze çarpan katılımcı görüşlerinin kurum içerisinde öğretmen, öğrenci ve kurum boyutlarında bir hafızanın oluşması adına tüm unsurların eş zamansız biçimde sistemle iletişim halinde olmaları yönünde olması ve bu unsurların süreklilik esasına dayanan bir takip sisteminde kontrol altında tutulmasıdır. Bu izleme sistemi okulun üç temel paydaşına odaklanmış, alt temalar da bu üç paydaşa göre oluşmuştur: Okul İzleme, Öğretmen İzleme, Öğrenci İzleme.

## Okul izleme

Katılımcıların görüşleri incelendiğinde, okullarda elektronik ortamda KDS'nin yerleşebilmesi için okulun gerek fizikî ve gerekse yapılanma bazında tüm iş ve işlemlerinin elektronik ortamda gerçekleşmesinin gerekliliğinin ortaya koyulduğu

görülmektedir. Özellikle “Kurumsal Hafıza”, “GZFT (SWOT) Analizi”, “Fizikî Donanım” ve “Yapılanma ve Kararlar” kapsamında bu izlemenin yapılmasının uygun olacağı yönünde görüş belirten katılımcıların ifadelerinde bu alt temaya ait dört kod elde edilmiştir.

Katılımcılardan 8’i okulda kurumsal hafızanın oluşması için tüm paydaşların okulun geçmişinden bugüne tüm verilerin yığın biçimde artırılması, üzerine koyarak geliştirilmesinin gerekliliğini ortaya koymuşlardır. Bu koda ilişkin katılımcı görüşlerinden bazıları aşağıdaki gibidir:

Mesela okulun gelişimsel bir geçmişten bugüne ve geleceğe ilişkin bir raporunun olması gerekli. Geçmişteki deneyimler gelecek idarecilere ve öğretmenlere aktarılmalı, fiziki açıdan da eğitim açısından da. Böyle bir çalışma olabilir, her gelen sıfırdan bir konuya el atmamış olur böylece. (MY01,3,1,1)

Yeni gelen de maalesef böyle öğrenecek. Sıfırdan başlayacak. Karar vermeye ilişkilendirmeye çalışıyorum bir yandan da ama karar vermek için bilmek lazım. Değilse bocalarsınız, karar verirsiniz yanlış sonuçlar çıkar, yeni karar verirsiniz böyle hata yapa yapa doğru kararı verirsiniz ama kaybolan zaman, emek, belki para gitti işte... İşte her yeni gelen yeni kararlar alacak yanlış olacak, tekrar yapılacak filan diye... Bilgi notu şeklinde yazabilmeliyim. Çevresi şöyledir, bu okulun şöyle sürekli problemi var, kantini şöyledir, şunları yapıldı bunlar yapılmaya çalışıldı ama olmadı, şundan dolayı olmadı gibi bilgi notları girebilmeliyim ki gelecek olan bir adım daha ileri gitsin. (OM02,3,1,1)

Yine katılımcılardan 8’i bu kurumsal hafıza koduna dayalı bir biçimde okulun güçlü ve zayıf yanları ile gerek okul dışından gerekse okulun kendi unsurlarından oluşabilecek fırsat ve tehditlere karşı da bir GZFT (SWOT) analizinin gerekliliğini vurgulamışlardır. Katılımcıların görüşlerinden bazıları şöyledir:

Mevcut durum analizini detaylı biçimde görebilmem lazım. Geçmişten bugüne güncellenen tehditler, fırsatlar hakkında bilgim olması lazım bir eyleme geçmeden önce. (MY01,3,1,2)

Okulu tanımaya çalışıyorum, çevreyle, okulun öğrenci profilini tanımaya yönelik hiçbir bilgi yok. Onu ben sora sora, arkadaşlara sora sora, velilerle tanıştıkça konuştukça öğrenmeye çalışıyorum ki o velinin okulun bulunduğu çevresi hakkında düşünce yapısını bilmeden o okula yön veremezsiniz. (MY04,3,1,2)

Katılımcılardan 3’ü okulun fizikî donanımı adına mevcut bilgilerin işlevsizliğini bunu yerine daha detaylı bilgilerin yer alması ve buna göre izlemenin gerçekleştirilebileceğini ortaya koymuşlardır:

Okulun fiziki şartları ile ilgili çok da net bilgiler vermiyor aslında. Ne bileyim derslik sayısıdır, bilişim teknolojileri sınıf sayısıdır, kaç metrekaşe alanda kuruludur gibi bilgiler var. (MY02,3,1,3)

Bilgisayar laboratuvarı var ama kaç yılında alındılar, modelleri ne eski mi yeni mi günümüz ihtiyacına cevap verebilir mi? Günümüzde hangi bilgisayarlar revaçta? Bunları bilemeyiz. Veya kütüphane var ama kullanan öğrenci kaç tane bilemeyiz. Sınıflarımız var tamam da kaç sırası var, o sıralardan kaç bakım ister, ne olur bunları acil bilmem gerekse tüm okulu gezmem lazım, çetele çıkarmam lazım. (OM02,3,1,3)

3 Katılımcı da okulun yapılanmasına ve bu yapılanmanın nasıl işleyeceğine ilişkin bilgilerin elektronik ortamda bulunarak karar vermeye katkı sağlayacağına dikkat çekmiştir:

Okulun müdürü var, müdür yardımcısı var, rehber öğretmeni, öğretmenleri, memuru var. Bunlar arasında çok bir koordinasyon var mı sizce? En büyük sıkıntılarımızdan bir tanesi de bu.

Kararlar alınıyor bir işi gerçekleştirmek için ama o kararlardan kim sorumlu, sorumlu olan da bilmiyor, biz de araştırarak bulmaya çalışıyoruz. İlk yardım ekibi seçmişiz, tatbikat yapılacak hadi ara ki bulasın ilk yardım ekibini, öğretmen de unutmuş kendisinin ekipte olduğunu, bilse de ne yapacağını bilmiyor. Öğretmen hangi müdür yardımcısı hangi kademedeki sorumlu bilmiyor. Bir yazı gelmiş, memur cevap yazacak ama öğretmenler kurulundaki kararlardan haberi yok. (MY05, 3,1,4)

E-okulun daha gelişmiş bir sistemini kurduk ve bütün evrak işlerini bir yerde topladık. Yönetim sistemini geliştirmeyi amaçlamıştık. ŞÖK'ler (Şube Öğretmenler Kurulu), Öğretmenler Kurulu gibi birçok kağıtları her öğretmene birer şifre vererek giriş yapmalarını sağladık ve sene başından okuldaki herkes bütün görevlerini bir yerde görebiliyorlardı. Bilgiyi sen düzenli bir şekilde kaydedilmesini sağlarsan, "bana şu toplantı tutanağını getir" demene gerek kalmaz. Bir de herkese açık bir erişim olan bizimki gibi durumlarda öğretmen devamlı olarak hangi görevlerde, gruplarda olduğunu bilir. Ama mevcut düzende böyle bir durum yok. (RÖ02,3,1,4)

## Öğretmen izleme

"Kolektif Katılım Temelli İzleme Sisteminin" bir diğer alt teması öğretmen izlemedir. Katılımcı görüşlerine göre öğretmen izleme, okulda görev yapan öğretmenlerin "Akademik Kariyer", "Hizmetiçi Eğitim" ve "Öğretmen Devamlılık" boyutlarına göre öğretmenler hakkında yargıya sahip olma, çıkarımlarda bulunma ve eğitim öğretim süreçlerinde karşılaşılabilecek sorunlara gereken önlemlerin alınmasına odaklanmaktadır.

Katılımcılardan 8'i, öğretmenlerin akademik kariyer bilgilerine detaylı biçimde sistemde yer verilmesiyle, özellikle eğitim öğretim süreçlerinde doğru kişiyi doğru işe koşmak adına tutarlı kararların verilebileceği görüşünü ortaya koymuşlardır. Bu koda ilişkin görüşler şu şekildedir:

Biz nelerde karar veriyoruz? Öğretmen hangi 9'lara mı girsin 10'lara mı girsin gibi. Bunu öğretmene sorarak bu kararı veriyoruz. Şimdi bazı seviyelerin müfredatı kolay, öğretmen ısrarla o seviyeyi istiyor. Diyoruz ki 'Hocam hangi seviyeleri okutursun?' örneğin '9. sınıfları okuttum ben hep'. E tamam o zaman sen 9'ları okut bu sene diyoruz. Seneye de aynı ondan sonra da. Örneğin öğretmen 20. yılında, yani 20 yılda hangi sınıfların dersine girmiş bir bakalım oradan hareket edelim karar vermek için. Ortalama bir not görelim, diyelim ki 'haa, şu seviyede başarılı olmuş, bu seviyede yetersiz' gibi. Bu konularda MEBBİS işimizi kolaylaştırabilir. (MY01,3,2,1)

MEBBİS'ten beklentimiz öğretmene ilişkin çıkarımlar yapmamıza destek olsun. Örneğin, öğretmenin geçmişteki okuttuğu sınıflar neler? Bunların hangilerinde daha başarılı olmuş gibi birtakım bilgilerle işimizi kolaylaştırırsa. Böyle istiyorum yani daha objektif karar veririz. (MY03,3,2,1)

3 Katılımcı öğretmenlerin hizmetiçi eğitim bilgilerinin, okullarda karar verme süreçlerinde etkili olduğu görüşünü savunarak, bu bilgilerinde izlenmesinin önemini vurgulamışlardır:

... birçok bilgi mevcut ama öğretmenlerle ilgili bir toplu bilgiye ihtiyacım oluyor. Örneğin 'şu şu alanda hizmet içi almış öğretmenler' diyor. E bulamıyorum ki; tek tek bütün öğretmenlerin hizmet içi durumlarına bakmam lazım, inanılmaz zaman alıcı bir durum. 65 öğretmenli bir okul burası, 100 ve üzeri olanlar var düşünemiyorum yani onları. Bu bilgiler mevcut aslında ama tek tek bakacak olduktan sonra neye yarar ki elektronik ortam. Hazır yeri gelmişken hizmet içinden bir örnek daha vereyim. Öğretmenlerimizin malum gelişime ihtiyaç duydukları alanlar elbette var, gelecekte de olacaktır ama mesela öyle bir şey olsa hangi öğretmenler hangi alanlarda

hizmet içi eğitim almışlar, kimlerin neye ihtiyacı olabilir bunlarla ilgili de MEBBİS mesela bizi yönlendirebilir. (MY01,3,2,2)

Ama e-okulun öğretmen versiyonu olsa iyi olur daha da verimli ve sık kullanılır. Örneğin okullarda gerçekleştirilmesi gereken işler var, belli zümrelerin yapması gereken işler. Ve bu işler nedense hep belli kişilere ihale edilir. O zümrede örneğin proje geliştirme üzerine hizmetiçi eğitim almış öğretmen var ama işi hiç daha önce proje yapmamış veya bu konuda hiç eğitim almamış öğretmene verirsin olmaz...Birçok öğretmenimiz neredeyse üniversite bilgileri ile hala ayakta duruyor, kendini geliştirmemiş bir tane gerek kendi alanıyla veya pedagojik alanla ilgili hizmetiçine gitmemiş. FATİH Projesi diyoruz ama EBA'yı kullanamayacak öğretmen çıkıyor karşımıza. Böyle durumda olan öğretmenler hakkında bilgim olmalı sistem üzerinden ve o öğretmenimi tabi mevzuatı da arkama alarak zorlayabileyim kendini geliştirmesi için. (MY02,3,2,2)

Katılımcılardan 2'si ise öğretmen devamlılığının yine eğitim öğretim süreçleri üzerinde önemli olduğunu ve bu alanda bir karar verilecekse mutlaka öğretmenin bu konuda da takibinin gerekli olduğunu belirtmiştir:

Ders programı yapıyoruz, başıma geldiği için anlatıyorum. Daha yeni atandım kuruma, toplam belli bir miktar saat ders var. Öğretmenlere eşit olarak dağıtıyoruz, ama öğretmenlerden biri devamlı hastalanıyor, E yasal olarak hakkı var ne yapayım, 10 gün 5 gün falan diye raporlu, mazeret izinli gibi böyle. Daha sonra öğrendim ki öğrenci nasıl devamsızlığı alışkanlık haline getirmiş, öğretmen de getirmiş. O zaman öğrendim ki ders dağıtımını yapılırken böyle öğretmenler hakkında bilgi sahibi olmak lazım ve mümkün olan en az ders saatini vermek lazım diye düşündüm. Daha az derse girerse daha az çocuk mağdur olur ve bunun bir çözümü bulunabilir. İlla ki öğretmen art niyetli olacak diye bir durum yok, küçük çocuğu vardır, hastası vardır. Sabahları 2 saate gelemiyordur, zorlamanın bir anlamı yok, o saatleri boşaltacaksınız ki öğretmenin kafası rahat olsun. Burada şunu anlatmaya çalıştım, öğretmenin bir göstergesi olacaksa ki olmalı bence öğretmenin işine gösterdiği özen okulda geçirdiği vakitle eş değer. Okula gerek ders için gerekse başka bir etkinlik için okulda bulunan öğretmenin ayırt edilebilmesi gerekli. (MY05,3,2,3)

Hangi öğretmen devamsızlık yapmaya daha meyillidir, hastalık izin gibi raporları da içeren analizler karar vermemizde yardımcı olur. (OM01,3,2,3)

## Öğrenci izleme

Katılımcı görüşlerine göre eğer okullarda bir KDS hayata geçirilecekse bu sistemin öğrenci takibine dair unsurları da barındırması gerekmektedir. Öğrenciler eğitim öğretim süreçlerinin asıl odak noktası olması dolayısıyla, onlar üzerinde izlenmesi gereken noktaların da detaylı ve sayıca çok olduğu da göze çarpmaktadır. Görüşlerin "Akademik", "Yönlendirme", "Öğrenci İşleri", "Psiko-Sosyal Gelişim" ve "Gelişimsel Sağlık" durumu başlıklarındaki konularda toplanması ve yoğunlaşması da bunun en bariz göstergesidir.

Katılımcılardan 8'i öğrencilerin akademik yaşamları boyunca, özellikle geçmiş akademik bilgilerinin, deneyimlerinin de yer aldığı bir sisteme ihtiyaç duyduklarını ancak bu sayede akademik anlamda bir öğrencinin izlenmesinin mümkün olacağı yönünde görüş belirtmişlerdir. Katılımcıların bu konudaki görüşleri şöyledir:

Özellikle bu yıl itibarıyla. Çocuğun eski verilerine erişemiyoruz, mezun olan bir öğrenciyeye erişemiyoruz... Verileri bir sene girip gelecek sene kapatmanın anlamı yok diye düşünüyorum. Hatta her yıl insanların daha net sonuç alabilmesini sağlayabiliriz. (MY04,3,3,1)

Bir öğrencinin ilkokula adımını attığı ilk günden liseye gelinceye kadar ki tüm notlarına... (OM01,3,3,1)

Akademik olarak da yeterli olduğu söylenemez. Geçmiş not bilgileri yok mesela mevcut dönemin senenin var ama geçmiş yok. Geçmiş de önemli. (OM03,3,3,1)

Yine 8 katılımcı, öğrenci izlemesi yapılmasının öğrenciyi doğru yönlendirme yapılmasına yardımcı olacağını belirtmiş, böylelikle öğrencilerin bir sonraki eğitim yaşantısında olması gereken yerde olabileceklerini veya halihazırda yapılmış bir yönlendirmenin nedenlerinin anlaşılacak öğrenciye ona göre bir yaklaşım geliştirilebileceğini savunmuştur. Katılımcıların bu koda ait görüşleri aşağıdaki gibidir:

9. Sınıfta öğrenciyi alıyoruz, 12. Sınıfa kadar bu çocuğun hangi derslerdeki başarısında artış var, düşüş var, ne gibi önlemler alabilirim, geçen seneye göre devamsızlığı artmış mı azalmış mı bunları bilebilmeliyim. (MY01,3,3,2)

Seçmeli dersler biraz daha sıkıntılı ama çünkü bizdeki uygulanmak istenen sistem anladığım kadarıyla benim düşünceme göre iyi bir sistem. Öğrenci istediği eski kredili sistemin bir benzeri aslında. İsteddiği dersleri yasal çerçevede defalarca seçsin, rahat rahat mezun olsun. Ama maalesef bundan sonraki süreç, yüksek öğretim süreci buna müsait değil. Çocuk seçmeli derslerde eğer yükseköğretime yararlanamayacağı bir dersse onu seçmesinin bir anlamı olacağını düşünüyorum. Ama çocuklar ders seçme işini belli bir sınıftan sonra 9, 10'da rahat seçiyorsunuz, 11 ve 12'de seçmeli derslerde sıkıntı yaşıyorsunuz. (MY03,3,3,2)

Katılımcılardan 7'si, okullar için KDS'de akademik izlemenin ve yönlendirme sisteminin yanı sıra ödül-disiplin işlemleri, devam-devamsızlık işlemleri gibi konularda da öğrencinin izlenmesinin gerekliliğini, bu sayede öğrenciye ilişkin verilecek kararların daha tutarlı olacağı görüşünde birleşmişlerdir:

Veya devamsızlığı artan bir öğrenci, bunun nedenlerini göz önüne sermesi gerekiyor. Rehberlik çalışmasının bilgileri de toplanmalı diye düşünüyorum. (MY02,3,3,3)

Varsa disiplin cezalarına... Ailevi yaşantısındaki değişmelere erişebilmeliyim... Çocuk devamsızlığı özellikle hangi zamanlarda yapmış? (OM01,3,3,3)

5 Katılımcı okullarda KDS'ler kapsamında öğrencilerin izlenmesi adına onların "Psiko-Sosyal Gelişimlerinin" de takibe alınmasına dikkat çekmiştir. Bu koda ait katılımcıların görüşleri aşağıdaki gibidir:

Kendi öğrencilerimiz için de çok fazla bir şey yok. Anne baba bilgileri, kimlik bilgileri, fotokopileri zaten bizde mevcut. Genel bilgileri, bunlar da boyuydu, kilosuydu. Kiminle oturduğu, ödül veya cezaları. Ama bir değerlendirme yapacak olsak özellikle çocuğun psiko-sosyal gelişimi ile ilgili bir değerlendirme yapacak olsak, oradaki verilere bakarak yapamayız. Sadece not bilgileri var, o bilgiler de sadece o seneye kısıtlı görülebiliyor. (MY04,3,3,4)

Geliştirilebilir tabii. Özellikle kendi rehberlik alanımda da bölümler eklenebilir. Çocuğun ilgi ve yeteneklerinin geçmişten geleceğe görmek için ilgi yetenekli alanları işlenebilir... Öğrenme stilleri eklenebilir. (RÖ01,3,3,4)

Katılımcılardan 4'ü, "Kolektif Katılım Temelli İzleme Sisteminin" "Öğrenci İzleme" alt teması kapsamında öğrencilerin gelişimsel olarak sağlık durumlarının izlenmesinin de gerekli olduğu, bu sayede özellikle öğrenciler hakkında verilecek kararların sağlık durumlarının da göz önünde bulundurularak verilebileceği görüşündedir:

Şimdi çocuk hastalanmış, şekeri yokmuş şeker hastası olmuş. Ben bu yıl 3 yıl, çocuk buradan mezun olmuş gitmiş. 'Benim çocuğum şeker hastası olmuş haberin var mı?' Benim yok, senin olması lazım sınıf rehber öğretmeni olarak. Bu bilgiler e-okulda yer almalı, okula çocuk



kaydolurken, abuk sabuk bilgiler giriliyor. Bakanlığın formatında bu bilgiler daha geçerli, güvenilir ve bizim işimizi kolaylaştıracak, her okulun sisteminde bulunacak, her elimi attığımda öğrencinin sağlık ve aile bilgileri olacak. Bir sürü şeyi kâğıtlarda topluyoruz, 1620 öğrencim var, bir sürü kâğıt masrafı. (RÖ02,3,3,5)

Geçirdiği hastalıklar neymiş, ne kadar sürmüştü, devam edeni var mı? (OM01,3,3,5)

## İstatistiksel Raporlama

Ortaya koyulan modelin son ögesi olan "İstatistiksel Raporlama", "Etkin Kullanıcı Arayüzü" ögesinden gelen verilerin "Kolektif Katılım Temelli İzleme Sistemi" aracılığı ile bilgiye dönüştürülmesine yönelik olarak karar verme sürecinde hem mevcut durum analizlerini içeren hem de geleceğe yönelik öngöründe bulunulmasını sağlayan karşılaştırmalı istatistiksel göstergeleri içermektedir. Bu öge ayrıca sistem yaklaşımının "çıkıtı" adımı ile de özdeşleştirilebilir. Katılımcı görüşleri incelendiğinde görüşlerin iki alt temada toplandığı görülmektedir. Öncelikli olarak sistemden beklenen mevcut durum hakkında bilgi edinebilmek bu bilgi edinme sürecinde esnek bir raporlama yapma imkânına sahip olmaktır. Sistemden beklenen ikinci özellik ise mevcut veriler ve bilgiler ışığında geleceğe dair projeksiyonlar yapabilme, kestirimlerde bulunabilme yeteneğini kullanıcılara sağlamasıdır. Beklenen bu özellikler dolayısıyla "İstatistiksel Raporlama" temasının iki alt temadan oluştuğunu söylemek mümkündür: Durum Analizi, Kestirimsel Raporlama.

## Durum analizi

Katılımcıların görüşlerine göre karar verme sürecinin sağlam, tutarlı ve güvenilir bilgiye dayanabilmesi için eldeki veri ve bilgilerin detaylı bir biçimde raporlanması, mevcut durumun analizi için önemlidir. Veri ve bilgilerin çıktı oluşturacak şekilde isteğe bağlı uyarlanmış raporlarla elde bulundurulması, verilecek nihai kararın temelini oluşturacak, karar verilecek durumun da iyi anlaşılmasına olanak verecektir. Katılımcılar, hangi durumların analizine ihtiyaç duyulduğuna ilişkin bilgiler verirken aynı zamanda bu bilgilerin nasıl bir raporlama sürecine tabi tutulacağı yönünde de görüş belirtmişlerdir. Buna göre "Durum Analizi" alt teması, analizi yapılacak durumların toplandığı "Eğitim-Öğretim Süreçleri Raporlama", "Okul Fizikî Donanımı Raporlama" ile bu raporlamanın nasıl olması gerektiğine ilişkin görüşlerin toplandığı "Esnek Raporlama" ve "Karşılaştırmalı Raporlama" alt temalarından oluşmaktadır.

Katılımcılardan 10'u, raporlama yapılması esnasında raporlanacak bilgilerin seçimi, rapor türü gibi konularda esnek olabilme görüşünü savunmuşlardır:

Ben hep şunu düşünmüşümdür. Bu bilgiler her yıl giriliyor değil mi? Bu bilgiler depolanıp, arama motoru gibi 10 sene önceki veriye erişebilmeliyim ben. Aramamı kendim yapayım. Dönüt vermek yerine bakanlığın belirlediği standart şablonlar var, bunu yerine o an aklımıza gelen ihtiyacımız olan, sadece ben değil birçok arkadaş, herkesin farklı şeye ihtiyacı vardır. İstedığımız şeye arama motoru mantığı ile çalışması gerekiyor... Daha ayrıntılı verilerin işlenip, güzelce depolanıp, direk karar vereceğimiz noktada kolayca arayıp bulabilmeliyiz. Bu yönde verilerin güzelce toplanıp önümüze hazır getirilmesi bizim işimizi kolaylaştırır. Zaman kullanımını azaltır diye düşünüyorum. (MY04,4,1,1)

Bakanlık bir liste istiyor, T.C. kimlik ve doğum tarihinin olduğu... E böyle bir liste de yok. Bütün hepsini sağdan soldan topluyoruz, birini bir yerden birini bir yerden alıyoruz. Bu raporlamaları biz seçebilirsek daha iyi olur, çok problem çözülür. (MY05,4,1,1)

7 Katılımcı, mevcut sistemde bulunan bilgilerin dağınıklığından şikâyet ederken, özellikle birçok fizikî unsur olan okulların fizikî donanımlarıyla ilgili bilgilerin detaylı raporlanmasının gerekliliğine işaret etmiştir. Bu alt tema hakkında katılımcı görüşleri aşağıdaki gibidir:

Anahtar bilgi orada yaşayarak ortamı hissederek anlamak daha farklı olabiliyor. Yine size kalıyor, bina her yerde aynı bina ama içindekiler ve atmosfer farklı, sonuç çıkarmak kişiye yöneticiye kalıyor... Bilgiler tamamdır fakat doğal olarak bizim bir şeyler oluşturup ortaya koymamız gerekiyor. Kesinlikle istatistikî çalışmalar yapılması gerekiyor. Geçmişten günümüze kadar yapılan oluşan değişikliklerin göz önüne seren bir sistemin olması gerekiyor ki biz de daha hızlı daha kesin bir yorumda bulunabilelim. (MY02, 4,1,2)

Okulun genel bilgileri var da mesela anlık olarak bir derslik hakkında bilgi istesem yok. Kütüphanemle ilgili anlık bilgi istesem kim kullanıyor, ne sıklıkta kullanıyor kaç kitap var ve benzeri bilgiler yok. (OM01,4,1,2)

Fizikî donanımın raporlanması yanında 6 katılımcı da eğitim-öğretim süreçleri çerçevesinde yapılacak raporlamanın okulun akademik durumu başta olmak üzere bu duruma bağlı bütün unsurlar hakkında karar verilmesi için elzem olduğunu ortaya koymuşlardır:

Ha bunlar fiziki açıdan, akademik açıdan da durum aynı sayılar özellikle hep tek öğrenci bazlı sistem. Genel analizler yok, sınıflar hakkında, sorunları hakkında özellikle eğitim öğretim hayatlarına etki eden durumlar hakkında bilgi alabilmemiz lazım... Bu bir sınıfın hangi derslerde başarısı var, hangilerinde başarı seviyesi düşük ve bunların nedenlerine ilişkin bilgiler içermiyor. (MY01,4,1,3)

Milli eğitim bizden devamlı istatistikî bilgiler istiyor, inanın çoğu zamanımızın çoğunu arşivde geçiriyoruz. Bir de sadece bu yıl için veri istense kolay ama bir de 2015 ve daha öncesi için veri istendiğinde okuma oranları veya A öğrencisinin durumu ile ilgili bilgi istendiğinde hiçbir şekilde bu bilgiyi elde edemiyoruz... Özlük bilgiler var ama özel bilgi yok. Rapor alma durumuna göre 'bu insan yılda şu kadar rapor almıştır, araştırma yapabilirsiniz' şeklinde bir uyarı yapılabilir mesela, sonuçta kişiler izin bilgileri de yer alıyor orada. Bizim teker teker girdiğimiz verilerin derlenmesi gerekli. Bu bilgiler okul idaresi için gerekli. Önlem alabiliyor idare, farklı bir durumla karşılaşılabılır, okul idaresinin B planı olabilmesi için buna ihtiyaç var. (MY04,4,1,3)

6 Katılımcı da raporlama sürecinin istatistik biliminin olanaklarından faydalanarak karşılaştırmalı analizler yapmasının KDS'ler için önemi hakkında görüş belirtmişlerdir:

Eğitimsel açıdan değerlendirecek olsak okulun sınıflarının genel başarı durumu ne? Başka sınıflarla veya başka okullarla karşılaştırıldığında bir sınıfın eksisi artısı ne bunları alma şansımız yok... Okulun sınıflarını birbirleriyle karşılaştırabilmeliyim belki bu sayede öğretmenlerimi de oradan gelecek bilgilere göre değerlendirebilirim. (MY01,4,1,4)

Veya sınıflar arası notları karşılaştırmak istediğimizde böyle bir şansımız yok. Sadece sınıfın not bilgisini alıyoruz onun dışında kendimiz bir düzenleme yapma şansımız yok. (MY05,4,1,4)

## Kestirimsel raporlama

KDS'nin en önemli özelliği mevcut durum hakkında elde edilen veri, enformasyon ve bilgilerin tutacağı ışıkla gelecek üzerine verilecek kararlarda kullanıcılara bir öngörü

yapabilme fırsatı tanınmasıdır. Bu bağlamda araştırma verilerinin toplandığı katılımcıların da görüşleri içerisinde bu konuya rastlanması kaçınılmazdır. Kişiler bazında öğrenci, öğretmen; fizikî bakımdan okulun kendisi, süreç bakımından eğitim-öğretim süreci ve bir kurum olarak okulun yapılması gibi konularda elde edilen sayısal verilerin ne anlama geldiği noktasında bir yorumlama yapılmasını ve bu yorumlardan hareketle de geleceğe dair çıkarımlarda bulunduğu “Kestirimsel Raporlama” özetle aşağıdaki iki soruya cevap aramaktadır:

1. “Peki, bu niceliksel bilgiler neyi ifade ediyor?”
2. “Bu yorumla gelecek için neler yapılabilir”

“Kestirimsel Raporlama” teması, bu sorulara verilecek cevapların toplandığı iki alt tema içermektedir: Yorumlama, Yönlendirme.

Katılımcıların 6’sı okullar için KDS’den, istatistiksel raporlama ile elde edilen sayısal göstergelere yorumlar geliştirmesi görüşünü ortaya koymuşlardır. Bu alt temaya ilişkin görüşler aşağıdaki gibidir:

Ayrıca edindiğim bu bilgiler, raporlar adına ne dersiniz deyin, bu bilgilerin ne anlama geldiğini veya gelecek için neler ifade ettiği konusunda da yardımcı olabilmeli diye düşünüyorum. Örneğin öğrenci ısrarla hukuk fakültesi istiyor ama sayısal zekasının üst düzeyde olduğunu görüyorsunuz ve bunu öğrenciye eldeki verilerle bir türlü anlatamıyorsunuz. (MY01,4,2,1)

O andaki bilgilere ulaşabiliyorsunuz ama yorum işini size bırakıyor. Yani enformasyonu derleyip toplayıp sizin bir sonuç çıkarmanız gerekiyor. İstatistikî bir bilgi çalışması yapılmalı belki de. (MY02,4,2,1)

Katılımcılardan 4’ü de okullar için KDS’nin, bilgileri sadece yorumlamakla kalmayıp, geleceği ilgilendiren kararlar verilmesinde de yönlendirme yapmasının gerekliliği görüşünü savunmuşlardır:

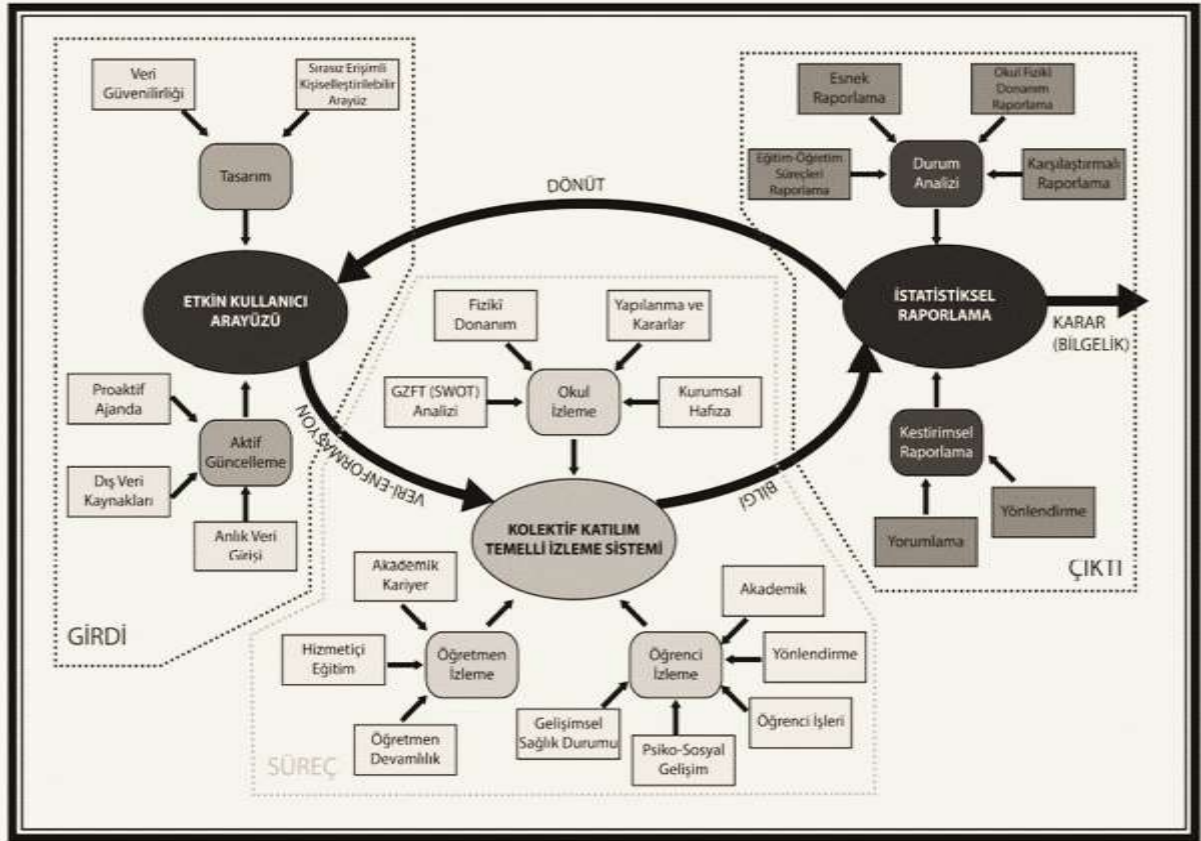
Bir de ne kadar bilgi olursa olsun öğrenciyi tanımak için öğrenciyle vakit geçirmek lazım. Belki sınıf veya dersine giren öğretmenlerinden bilgi almak daha doğru olabiliyor. Bu vakit geçirme işlemi adı üstünde zaten vakit alıcı bir süreç olduğundan benim yerime eldeki bilgilerle bilgisayar sistemi bunu yapmalı, öğrenciyle sanki vakit geçirmişçesine, onun bir arkadaşymış gibi nasıl bir insan tanıdığı bir insana onun hayatına veya içinde bulunduğu duruma bakarak nasihat verir, aynı bu şekilde biz idarecileri, öğretmenleri, velileri yönlendirmeli. (MY01,4,2,2)

Neler değişmiş? Geçmişten günümüze ders başarısından hangi derste daha başarılı, ne tarafa yönlendirilmesi, daha aktif olabileceği konusunda geçmişten günümüze yapılacak değerlendirmelerin tümünü kapsayan bir çalışma gerekli geliyor. (MY02,4,2,2)

Bu bulgular ışığında, sonuç ve tartışma kısmında detaylandırılacağı üzere önerilen KDS modeline ilişkin görsel, açık sistem kuramı ile de ilişkilendirilerek Şekil 2’de sunulmuştur.

Şekil 2.

Okullarda Karar Destek Sistemi Modeli



Sonuç ve Tartışma

Sistemler açık ve kapalı olmak üzere iki şekilde gruplanabilir. Açık sistem, çevreden enerji, enformasyon veya materyal alır, bu girdileri seçmek, biçimlendirmek gibi belirli bir sürecin ardından çıktı olarak tekrar çevreye sunar. Bu çalışmada da "Okullarda karar verme sürecinin daha etkili olabilmesi için mevcut e-hizmetlerin KDS'ye dönüşümünü nasıl bir kuram açıklayabilir?" sorusuna cevap aranırken sistem yaklaşımı kuramından yararlanılarak analitik genellemeye ulaşılmış olup KDS'ye dönüşüm kuramı açıklanmaya çalışılmıştır.

Açık sistemin tanımından anlaşılacağı üzere eğitim sistemleri açık sistemlerdir ve dolayısıyla okullar da açık sistem yaklaşımına göre faaliyet göstermektedir. Milli Eğitim Bakanlığına göre il milli eğitim müdürlükleri makro düzeyde bir açık sistem iken il milli eğitim müdürlükleri de okullar için makro seviyede bir açık sistem olarak düşünülebilir. Benzer şekilde bu çalışmada oluşturulan ve birbiriyle bağlantılı 3 alt modelin birleşiminden oluşan KDS modeli hakkında da okullar ve eğitim sistemimiz için alt seviyede bir açık sistem olduğu söylenebilir.

Yöntem kısmında da değinildiği üzere nitel araştırmaların önemli özelliklerinden biri genelleme yapılamayıp, analitik genelleme yapılabilmesidir. Bunun nedeni de katılımcı sayısının sınırlı olması ve nicel çalışmalara göre daha az sayıda bir örneklem grubuyla çalışılmasıdır. Durumuna uygun bir desen seçimiyle birlikte nitel araştırmacı, nitel verilerden ulaştığı sonuçlardan analitik genelleme yapabilmektedir (Yıldırım ve Şimşek, 2013).

Çevrelerinden enformasyon veya enerji alan açık sistemlerin çalışması çevreden gelen bu girdilere bağlıdır (Katz ve Kahn, 1966). Okullar birer açık sistem oldukları gibi okullarda uygulanacak bir KDS sistemi de okulun çevreye bağlı unsurlarından girdi alacağı için açık sistem olarak değerlendirilebilir. Bu çalışmada ortaya koyulan modelin alt modellerinden biri de açık sistemin bu girdi ögesine karşılık gelen "Etkin Kullanıcı Arayüzüdür". Bu alt model aracılığı ile sisteme girdi yapılabilen ve süreç için "hammadde" sağlanabilmektedir. Açıklanan modelde KDS, bilgisayar teknolojisine bağlı olarak geliştirildiği için, kullanıcıların sistemle etkileşime geçebilmesi, girdi sağlayabilmesi için bir arayüze ihtiyaçları vardır. Bu arayüzün nasıl etkin olacağı, bilgiye veya üst bilgiye dönüşüm sürecinde sağlanacak enformasyon ya da verinin bu arayüz aracılığı ile sisteme aktarılmasına bağlıdır. Araştırma sonuçlarına göre bu arayüzün etkinliği iki temel unsura bağlıdır. Bunlardan biri arayüzün "Tasarımı", diğeri ise arayüzün "Aktif Güncellemeye" olanak tanınmasıdır. Bu iki özellik ve tartışma kısmında açıklanacak olan bu iki özelliğe bağlı alt unsurlar ile sisteme, sürecin ihtiyaç duyduğu enerjinin sağlanması daha olası görülmektedir.

Açık sistemlerin bir diğer özelliği ise girdi olarak kabul ettikleri enformasyonu bir ürün, süreç veya hizmete çevirmeleridir. Girdi, bu noktada artık yeni bir şekil almıştır (Katz ve Kahn, 1966). Açık sistem bu süreç aşamasında gelen enformasyonu amacına uygun biçime dönüştürür (Bursalıoğlu, 2010). "İşlem" veya "Süreç" olarak da isimlendirilen açık sistemin bu ögesinin, bu çalışmada açıklanan alt modellerden ikincisi olan "Kolektif Katılım Temelli İzleme Sistemine" karşılık geldiğini söylemek mümkündür. Bu alt model adından da anlaşılacağı üzere bir çeşit takip sistemidir ve okulun üç önemli unsuru olan okulun fizikî yapısı, öğretmen ve öğrenciyi izlemeyi esas almıştır. Bu izlemeyi, girdi olarak kabul edilen ve "Etkin Kullanıcı Arayüzünden" gelen veri ve enformasyonu ihtiyaca yönelik olarak şekillendirerek ve gruplandırarak çıktı ögesine bilgi sağlama yoluyla gerçekleştirmektedir. Sistemin işlemesi girdi biriminden gelen veri ve enformasyonun, bir kararın verilme amacına göre ilgili okul paydaşına aktarılması ve burada işlenmesi şeklinde olmaktadır. Bu şekilde, nasıl ki açık sistemlerin süreç işleminde bir ürün veya hizmete dönüşüm sağlanıyorsa, ortaya koyulan modelde KDS'nin "Kolektif Katılım Temelli İzleme Sistemi" ile de okulun fizikî durumuyla, öğrenciyle ya da öğretmenle ilgili bir karar verme süreci de başlatılmış olmaktadır. Bu aşamada veri ve enformasyon tasnif edilmiş, çıktı aşamasında kullanılmak üzere hazır hale getirilmiştir. Çıktı birimi ile girdi birimi arasında bağ olan ve asıl dönüşüm işleminin gerçekleştiği öge olan süreç işlemi sistemin en önemli bileşeni olarak karşımıza çıkmaktadır (Sönmez, 1987).

Açık sistemlerin bir önemli özelliği de çevreye ürün sunmalarıdır. Bu ürüne sistem çıktısı adı verilir. Bu ana kadar sayılan girdi – süreç – çıktı adlarıyla anılan açık sistemin tüm

öğeleri döngüsel bir eylem şekli gösterirler. Bunun nedeni de çıkan ürünün tamamı veya bir kısmı yine sisteme girdi olarak kullanılmasıdır. Tekrar geri dönen bu girdiye de "dönüt" adı verilmektedir (Katz ve Kahn, 1966). Başka bir ifadeyle dönüt, sistemin ulaşmaya çalıştığı amacın gerçekleşme düzeyi dikkate alınarak sistemin işleyişi, varsa işlemeyen taraflarının sorunları ve bu sorunların nasıl çözüleceğinin belirlenmesine yönelik geliştirilen geri bildirimdir (Sönmez, 1987). Bu geri bildirimler bir yığın şeklinde artarak daha etkili ve verimli bulmada kullanılmakta olup düzenliliği ve sürekliliği olan öğelerdir.

Bu çalışmada açıklanan KDS modelinde ise "İstatistiksel Raporlama" alt modeli, sistemin çıktısına karşılık gelirken kullanıcılara mevcut durumun göstergelerini içeren "Durum Analizini" sunmaktadır. Ayrıca yine bu alt model, kullanıcıların geliştireceği yorumlara destek sağlayarak geleceğe yön veren kararların verilmesini kolaylaştıran "Kestirimsel Raporlama" yapılmasına olanak tanımaktadır. Sürecin çıktısı bir yandan eğitim-öğretim süreçleri kapsamında okul, öğretmen ve öğrenci üzerine üst bilgi niteliğinde karar olurken bir yandan da durum analizleri ile sisteme tekrar girdi olarak veri ve enformasyon sağlanmasıdır.

Hatırdada bulundurulması gereken bir nokta ise her sistemin alt sistemlerden oluşabileceğidir. Bu gerçekten hareketle bu çalışmada ortaya koyulan okullarda KDS'nin alt sistemlerini ve bu alt sistemlerin de alt sistemlerinin bulunduğu açıkça görülmektedir. Okullarda KDS'nin daha özet bir şekilde sistem yapısı Tablo 2.'de özetlenmiştir.

Çağımız toplumunda bilginin önemini ve yerini tartışmaya gerek yoktur. Herkesçe de bilinmektedir ki günümüzde bilgiyi üreten, dağıtan, pazarlayan ve yeni bilgilerin üretiminde kullanan toplumlar dünyaya hükmetmektedir. Mikro seviyede bakıldığında ise bu durum örgütlere de yansımaktadır. Gerek Ar-Ge çalışmaları ile ve gerekse bu çalışmalara destek sağlayan bilgisayar teknolojileri ile örgütler de sürekli olarak bilgi üretimi bağlamında çağı yakalama gayreti içindedir. Bu nedenle içinde bulunduğumuz toplum bilgi toplumu olarak anılmaktadır ve KDS'nin etkin biçimde faaliyet gösterebilmesi için bilgi üretiminin ön planda tutulduğu bir topluma ihtiyaç vardır. Çukurçayır ve Çelebi'nin (2009) ülkemizin bilgi toplumuna dönüşüm sürecine ilişkin yaptığı çalışmada elde ettiği sonuçlara göre de son zamanlardaki hükümet politikaları ile hem kamu hem de özel sektörün ortak çabaları bu dönüşümü hızlandırmış, bilginin üretimini ön plana almıştır. Bu sonuç aynı zamanda bu çalışmanın bulguları ile de örtüşmektedir. Çünkü araştırma katılımcılarının bilgi toplumu tanımlamasında "bilgi üretimi" etkinliğini vurgulaması, okullarda KDS'nin uygulanması için gerekli olan toplum tarzı algısının olması gerektiği biçimde olduğunu göstermektedir.

Tablo 2.

## Açıklanan Modele Ait Sistemler ve Özellikleri

|                                    | ÜST SİSTEM                              | ALT SİSTEM                    | ÖZELLİK                                       |
|------------------------------------|---|-------------------------------|---|
| OKULLARDA KARAR DESTEK SİSTEMLERİ  | ETKİN KULLANICI ARAYÜZ                  | Tasarım                       | Veri Güvenilirliği                            |
|                                    |   |                               | Sırasız Erişimli Kişiselleştirilebilir Arayüz |
|                                    |   | Aktif Güncelleme              | Proaktif Ajanda                               |
|                                    |   |                               | Dış Veri Kaynakları                           |
|                                    | KOLEKTİF KATILIM TEMELLİ İZLEME SİSTEMİ | Okul İzleme                   | Anlık Veri Girişi                             |
|                                    |   |                               | Kurumsal Hafıza                               |
|                                    |   |                               | GZFT (SWOT) Analizi                           |
|                                    |   |                               | Fizikî Donanım                                |
|                                    |   | Öğretmen İzleme               | Yapılanma ve Kararlar                         |
|                                    |   |                               | Akademik Kariyer                              |
|                                    |   |                               | Hizmetiçi Eğitim                              |
|                                    |   | Öğrenci İzleme                | Öğretmen Devamlılık                           |
|                                    |   |                               | Akademik                                      |
|                                    |   |                               | Yönlendirme                                   |
| İSTATİSTİKSEL RAPORLAMA            | Durum Analizi                           | Öğrenci İşleri                |   |
|                                    |   | Psiko-Sosyal Gelişim          |   |
|                                    |   | Gelişimsel Sağlık Durumu      |   |
|                                    |   | Esnek Raporlama               |   |
|                                    | Raporlama                               | Okul Fizikî Donanım Raporlama |   |
| Eğitim-Öğretim Süreçleri Raporlama |   |                               |   |
|                                    |   | Karşılaştırmalı Raporlama     |   |
|                                    | Kestirimsel                             | Yorumlama                     |   |
|                                    | Raporlama                               | Yönlendirme                   |   |

Ortaya koyulan KDS modeli bilişim teknolojileri temelli çalıştığı ve her aşamasında (girdi – süreç – çıktı) bu teknolojiye faydalandığı için sistemin kullanıcıları bilişim cihazları ile etkileşim halinde olmak zorundadır. Bu etkileşimin gerçekleşebilmesi için de bir kullanıcı arayüzüne ihtiyaç duyulmaktadır. Jung ve Yim (2015) kullanıcı arayüzünün kullanıcı-bilgisayar etkileşimine olan etkisini inceleyen çalışmalarında, etkileşimin ve öğrenmenin kolay olduğu ve kullanıcı dostu arayüze sahip olan uygulamaların kullanılabilirlik algısının çok yüksek olduğu sonucuna ulaşmışlardır. Bu arayüzün işlevselliği sisteme veri ve enformasyon girişi üzerine doğrudan etki yapmaktadır. Bu etki, arayüzün sahip olduğu iki özellik aracılığı ile gerçekleşmektedir: "Tasarım" ve "Aktif Güncelleme".

Okullarda geliştirilecek KDS'nin arayüz tasarımında dikkat edilmesi gereken noktaların başında, verilerin güvenilir kaynaktan gelmesi ve kontrol edilmeyen, doğruluğu ispatlanmayan ya da tamamlanmayan, eksik veri veya enformasyonun süreç

aşamasına, diğer bir ifadeyle işleme aşamasına geçmesinin engellenmesi gelmektedir. Ayrıca kullanıcıların bu arayüzde erişmeye çalıştıkları, işlem yapmaya çalıştıkları alanların kişiselleştirilebilir nitelikte olması, arayüz kullanımını daha verimli hale getirecektir. Kullanıcılar sürekli yaptıkları işlerin bulunduğu bağlantıları özelleştirip, gruplayabilecekler böylece yaptıkları işlerde kendi işleri ile ilgili olmayan fonksiyonlar arasından işlerini yarayanları seçmekle zaman kaybetmeyeceklerdir. Konuyla ilgili literatür incelendiğinde birçok çalışma, (Thomas, 2000; Hu, Ma ve Chau, 1999; Lohse ve Spiller, 1998) kullanıcı arayüzü tasarımının kullanıcıların zaman kazanmasında doğrudan etkili olduğunu ve hata yapma olasılıklarını da azalttığını göstermektedir.

Etkin kullanıcı arayüzünün bir diğer önemli özelliği ise "Aktif Güncellemeye" olarak tanınmasıdır. Açık sistem yaklaşımında her çıktının tamamının veya bir kısmının girdi olarak sürece yeniden dâhil edilmesi gibi, KDS'nin otomasyon yapısıyla sürekli tekrar eden işlerin varlığına karar verilen bir çıktı sisteme tekrar dâhil edilerek "Proaktif Ajanda" oluşturulmalıdır. Böylece sistem kullanıcıları rutin işleri -bir bakıma erken uyarı sistemi görevi gören- "Proaktif Ajandalarından" öğrenebilecek ve herhangi bir zaman kaybına veya ihmale sebebiyet vermeden işlemi gerçekleştirilebilecektir. Bu yaklaşım bir açıdan da siberetik kurama benzemektedir. Çıktılar, girdiler olarak sisteme tekrar dâhil edilmekte ve sistem bir otokontrol mekanizması geliştirmektedir. Kaban (1994) tarafından yapılan ve genel sistem teorisi ile siberetiği konu alan çalışmanın sonuçları da bu bulguyu desteklemektedir. Çalışmada siberetiğin insanı pasifize etmeyen, öznesi birey olan, amacı bireyin gelişimi ve bireyin enerjisini boşuna işgal eden sürekli tekrarlanan işlerin cihazlarca yapılmasını sağlayan otomasyon sistemi olduğu tanımına ulaşılmıştır. Modele göre sistem kullanıcılarının her biri aynı zamanda sistem için veri veya enformasyon sağlayıcısı konumundadır. Böylelikle okul, öğrenci veya öğretmenle ilgili olarak en küçük bilginin dahi sisteme kullanıcılar tarafından girişi yapılabilecek ve bu bilgidен herkes aynı anda haberdar olabilecektir. Bu sayede okul müdürü, müdür yardımcıları, öğretmenler hem kendileriyle ilgili hem okulla ilgili hem de öğrenciyle ilgili tutulan kayıtları takip edebileceklerdir. Bu durum okulda informal iletişimin gelişmesini ve yaygınlaşmasını sağlayarak, iletişim kanallarının zenginleşmesine ve iletişim kurmak için gereken zamanın teminine olanak verecektir. Çünkü Niehoff'un (2010) okullarda bilgi paylaşımına dönük yaptığı çalışmasında okul müdürlerinin özellikle informal yollardan akran paylaşımı yoluyla iletişim kurduğuna dikkat çekilirken en büyük iletişim engeli olarak zaman sıkıntısı gösterilmiştir.

Modelin ikinci alt modeli olan "Kolektif Katılım Temelli İzleme Sistemi" tamamen arka planda çalışan bilgisayar teknolojisi ile "Etkin Kullanıcı" arayüzü ve çıktı birimi olan 3. alt model "İstatistiksel Raporlama" arasında bağ kurmaktadır. "Etkin Kullanıcı Arayüzü" adlı giriş biriminden gelen veri veya enformasyonun kullanılan arayüz üzerinde bilgiye dönüştürüldüğü alan olan bu alt modelde okulun 3 temel unsuru olan "Okul - Öğretmen - Öğrenci" üzerinde izleme yapılabilmektedir. Neden böyle bir izleme sistemine ihtiyaç duyulduğunu Akbaba-Altun (2000) tarafından yapılan çalışma sonuçları net bir şekilde ifade etmektedir. Çalışmaya göre okul yöneticileri bilişim teknolojilerini yazışmalar ve kayıtların saklanması amacıyla kullanmaktadır. Oysa bu teknoloji böylesine sığ bir amaç için kullanılmayacak kadar kapsamlı hizmetler sunabilmektedir. Bu alt model kararın verildiği bir aşama değil, kararın verilebilmesi



için gerekli olan üst bilginin üretimini gerçekleştirecek veri veya enformasyonun tasnif edilip anlam yüklendiği ve böylece bilginin oluşturulduğu bir aşamadır.

“Kolektif Katılım Temelli İzleme Sisteminin”, “Okul İzleme” başlığı altında okula ait bir “Kurumsal Hafıza” yer alacaktır. Bu “Kurumsal Hafıza” okulun geçmiş deneyimlerinin paylaşıldığı gerek fizikî ve gerekse eğitim-öğretim süreçleri açısından yanlış veya doğru yapılan bütün işlemlerin kayıt altında tutulduğu bir bileşendir. Gül ve Özden (2011) de çalışmalarında modelin bu bileşenin işlevine dikkat çekmiş; kurumsal hafızanın kurum içinde bilgilerin oluşturulması, depolanması, işlenmesi ve paylaşılması için vazgeçilmez bir unsur olduğunu belirtmişlerdir. Bu bileşen sayesinde Amerika’nın yeniden keşfedilmesinin önüne geçilecek ve kurumların sürekliliği sağlanacaktır. Yönetici sirkülasyonun olduğu dönemlerde ise yeni yönetici, bir önceki yöneticinin kaldığı yerden devam edebilecektir. Modelde önerilen ve “Okul İzleme” kapsamında sunulan özelliklerden biri de okulun güçlü, zayıf yanları ile okula ait fırsat ve tehditlerin (GZFT-SWOT) yer aldığı analizin sistemde yer almasıdır. Değişen şartlara göre güncellenecek olan bu analiz okulun tüm paydaşları için bir bilgilendirme notu niteliğinde olacaktır. Özan, Polat, Gündüzalp ve Yaraş (2015) da çalışmalarında GZFT (SWOT) analizinin okul yönetimine etkilerini incelemiş ve eğitim örgütlerinde işgörenlerin koordinasyonu ve etkili bir yönetim süreci için bu analizin gerekliliği sonucuna ulaşmışlardır.

Sunulan KDS’nin “Kolektif Katılım Temelli İzleme Sisteminin” bir diğer ögesi “Öğretmen İzlemedir”. Öğretmenlerin deneyimlerinin pratiğe aktarılması, varsa eksiklerin giderilmesi ve bu deneyimlerin geliştirilmesi eğitim sisteminin geleceği için önemlidir (Ertürk, Altınkaynak, Veziroğlu ve Erkan, 2014). Bu öge ile özellikle eğitim-öğretim süreçlerine odaklanılmış, öğretmenlerden en yüksek seviyede yararlanılmak istenmiştir.

Araştırmada ortaya koyulan KDS’nin son alt sistemi “İstatistiksel Raporlamadır”. Mevcut yönetim enformasyon sistemlerinde girişi yapılan veriler, ham halde kalmakta, istatistiksel çözümlenmelere yer verilmemekte dolayısıyla da anlamlı bilgi üretimi gerçekleştirilememektedir (Erdoğan, Aydın, Akın ve Demirkasımoğlu, 2014). Adından da anlaşılacağı üzere bu alt sistem “Etkin Kullanıcı Arayüzü” ile girilen veri ve enformasyonun “Kolektif Katılım Temelli İzleme Sistemi” ile bilgiye dönüştürülerek bir çıktı elde edilmesine yönelik işlev göstermektedir. Ayrıca bu alt sistem açık sistem yaklaşımında olduğu gibi sisteme tekrar dâhil edilecek dönütleri de sisteme sağlamaktadır. “İstatistiksel Raporlama” alt sistemi bir yandan mevcut durum analizleri için gösterge niteliğinde elle tutulur raporların oluşturulması sağlarken, bir yandan da niceliksel verilere istatistikî analizler uygulayarak durum hakkında karşılaştırmalı bilgilerin üretilmesine olanak sağlamaktadır.

Sonuç olarak bu çalışmada Millî Eğitim Bakanlığının Yönetim Enformasyon Sistemleri kapsamında sunmuş olduğu elektronik hizmetlerin KDS’ye dönüştürülmesi için bir model ortaya koyulmuştur. Model açıklanırken araştırma katılımcılarından elde edilen görüşler ışığında mevcut yönetim bilgi sistemlerinin etkileşimsiz, pasif ve esnek olmayan bir yapıya sahip olduğu görülmüştür. Hem mevcut yönetim bilgi sistemlerini daha verimli hale getirmek hem de yönetim süreçlerinin kalbi sayılan karar verme sürecinin somut bilgiye dayanmasını sağlamak için okullarda KDS modeli “Etkin

Kullanıcı Arayüzü”, “Kolektif Katılım Temelli İzleme Sistemi” ve “İstatistiksel Raporlama” başlıklı 3 alt modelden oluşacak şekilde ortaya koyulmuştur. Açık sistem yaklaşımının esasları ile örtüşen esaslara sahip olan bu model göstermiştir ki; her ne kadar alt sistemleri olsa da KDS bir bütündür, her alt sistemin çıktısı bir diğer alt sistemin girdisidir ve bu model istatistik biliminin de katkılarıyla okullarda verilerin kararların somut bilgilere ve bir gerekçeye dayanmasını sağlayacaktır.

**Etik Kurul Onayı:** Bu araştırmada, Akdeniz Üniversitesi Etik Kurulunun belirlediği protokoller takip edilmiştir. Ancak araştırma, yazar T.Y'nin 2017 yılına ait “Milli Eğitim Bakanlığının yönetim enformasyon sistemleri kapsamında sunduğu elektronik hizmetlerin karar destek sistemi olarak kullanılması: Temellendirilmiş bir kuram çalışması” başlıklı tezinden üretildiği için ve o yılda doktora tezleri için etik kurul onayı ihtiyacı bulunmadığı için bu araştırmada etik kurul onayı bulunmamaktadır.

**Bilgilendirilmiş Onam:** Katılımcılardan bilgilendirilmiş onam alınmıştır.

**Hakem değerlendirmesi:** Dış hakem değerlendirmesi.

**Yazarların Katkıları:** Araştırmanın Tasarımı ve Uygulaması, Veri Toplama ve Analiz, ve Makale Taslağının Hazırlanması – T.Y.; Fikri İçeriğin Eleştirel Gözden Geçirilmesi ve Makalenin Son Halinin Onayı - Tüm yazarlar.

**Çıkar Çatışması:** Yazarlar herhangi bir çıkar çatışması beyan etmemiştir.

**Finansal Açıklama:** Yazarlar bu çalışmanın herhangi bir finansal destek almadığını beyan etmişlerdir.

## Kaynaklar

- Akbaba-Altun, S. (2000). Okul müdürlerinin bilgi teknolojilerine ilişkin görüşleri. *Kuram ve Uygulamada Eğitim Yönetimi*, 37, 46-71.
- Alter, S. (1980). *Decision Support Systems: Current Practice and Continuing Challenges*. Massachusetts: Addison-Wesley Publishing Co.
- Anderson, R. G. (1979). *Data Processing and Management Information Systems*. (3rd ed.). Plymouth: Macdonald and Evans Ltd.
- Arslan, V., & Yılmaz, G. (2010). Karar Destek Sistemlerinin Kullanımı İçin Uygun Bir Model Geliştirilmesi. *Havacılık ve Uzay Teknolojileri Dergisi*, 4(4), 75-82.
- Aydın, M. (2010). *Eğitim Yönetimi (Genişletilmiş 9. Baskı)*. Ankara: Hatiboğlu Yayınları.
- Burrell, G., & Morgan, G. (1988). *Sociological Paradigms and Organizational Analysis*. New Hampshire: Heineman.
- Bursalıoğlu, Z. (2002). *Okul Yönetiminde Yeni Yapı ve Davranış (12. Baskı)*. Ankara: Pegem A Yayıncılık.
- Bursalıoğlu, Z. (2010). *Eğitim Yönetiminde Teori ve Uygulama (9. Baskı)*. Ankara: Pegem Akademi.
- Çalışkan Zeybekoğlu Z. A. (2011) A grounded theory of school as a social system in an Atypical context. Doktora Tezi, Orta Doğu Teknik Üniversitesi Sosyal Bilimler Enstitüsü, Ankara.
- Çukurçayır, M. A., & Çelebi, E. (2009). Bilgi Toplumu ve E-Devletleşme Sürecinde Türkiye, ZKÜ Sosyal Bilimler Dergisi, 5(9), 59-82.
- Davis, G. B., & Olson, M. H. (1985). *Management Information Systems*. New York: McGraw Hill.
- Denzin, N.K. (1997). *Interpretive Ethnography: Ethnographic Practices for the 21st Century*. Thousand Oaks, CA: Sage.
- Erdoğan, Ç., Aydın, İ. ve Akın, U., Demirkasimoğlu, N. (2014). Türkiye’de E-Okul Yönetim Bilgi Sisteminin İlköğretim Okulu Müdür Yardımcılarının Görüşlerine Göre Değerlendirilmesi. *Eğitim Bilimleri Araştırmaları Dergisi*, 4(1), 113-132.
- Ertürk, H.G., Altınkaynak, Ş.Ö., Veziroğlu, M., & Erkan, S. (2014). Okul Öncesi Öğretmenlerin Üniversite Deneyimlerinin Mesleki Yaşantılarına Etkisine İlişkin Görüşlerinin Belirlenmesi. *Kastamonu Eğitim Dergisi*, 22(3), 897-908.
- Glaser, B. (1978). *Theoretical Sensitivity*. San Francisco: University of California.
- Glaser, G. B., & Strauss, L.A. (1967). *The Discovery Of Grounded Theory: Strategies For Qualitative Research*. Chicago: Aldine Publication.
- Gül, S., & Özden, K. (Ekim, 2011). Kurumsal Öğrenme Bağlamında Bilgi Haritalama. *Endüstri Mühendisliği Yazılımları ve Uygulamaları Kongresi’nde sunulmuştur*. İzmir.
- Günay, Ü. (1993). *Din Sosyolojisi Dersleri*. Kayseri: Erciyes Üniversitesi Yayınları.
- Günbayı, İ. (2016). Liderlik ve Toplumsal Değişme. N. Güçlü ve S. Koşar (Editörler). *Eğitim Yönetiminde Liderlik* (s. 245-282). Ankara: Pegem Akademi
- Habermas, J. (1987). *Knowledge and Human Interests* (Çev. Jeremy J. Shapiro). Cambridge: Polity Press (Eserin orijinali 1968 yılında yayınlandı).
- Hancock, B. (1998). *An Introduction to Qualitative Research*. Nottingham, UK: Trent Focus Group, Division of General Practice, University of Nottingham.
- Holt, D. H. (1987). *Management Principles and Practices*. New Jersey: Prentice- Hall

- Hoy, W.K., & Miskel, C.G. (2010). Eğitim Yönetimi (Çev. S. Turan ve E. Arslanargun). Ankara: Nobel Yayınları.
- Hu, P.J., Ma, P., Chau, P.Y.K. (1999). Evaluation of user interface designs for information retrieval systems: a computer-based experiment. *Decision Support Systems*, 27, 125-143.
- İraz, R., & Zerenler, M. (2008). Turizm İşletmelerinde Yönetim Bilişim Sistemleri Kullanımının Yönetimsel Kararlar Üzerindeki Etkisi. *Selçuk Üniversitesi İ.İ.B.F. Sosyal ve Ekonomik Araştırmalar Dergisi*, 15, 375-391.
- Jung, W., & Yim, H.R. (2015). Examining the Indirect Effect of User Interface on the Usability of Smartphone Applications. *Advanced Science and Technology Letters*, 99, 4-7.
- Kaban, Z.Y. (1994). Genel Sistem Teorisi ve Sibernetik, *Marmara İletişim Dergisi*, 8, 219-226.
- Katz, D., & Kahn, R.L. (1966). *The Social Psychology of Organizations*. New York: Wiley.
- Keen, P. G. W. (1980). *Decision Support Systems: A Research Perspective*. Göran Fick and Ralph H. Sprague (Eds.), *Decision Support Systems: Issues and Challenges* (s. 23-44). England: Pergamon Press.
- Kreitner, R. (1983). *Management*. Boston: Houghton Mifflin Company.
- Kurtkan, A. (1968). *Köy Sosyolojisi*. İstanbul: İstanbul Üniversitesi Yayınları.
- Kuruüzüm, A. (1998). *Karar Destek Sistemlerinde Çok Amaçlı Yöntemler*. Antalya: Akdeniz Üniversitesi Basımevi.
- Lohse, G.L., & Spiller, P. (1998). Electronic Shopping. *Communications of the ACM*, 41(7), 81-88.
- McCamy, J.L. (1947). An Analysis of the Process of Decision-Making. *Public Administration Review*, 7(1), 40-49.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education. Revised and expanded from case study research in education*. San Francisco: Jossey-Bass.
- Morton, S. M. S. (1971). *Management Decision Systems: Computer Based Support for Decision Making*. Massachusetts: Division of Research, Harvard University.
- Niehoff, K.L (2010). *Teachers' professional learning: The role of knowledge management practices*. Yayımlanmış Doktora Tezi, University of Connecticut, Connecticut, USA.
- O'Brien, J. A. (1993). *Management Information Systems: A Managerial End User Perspective* (2nd Ed.). Illinois: Irwin Inc.
- Öğüt, A. (2012). *Bilgi Çağında Yönetim* (5. Baskı). Ankara: Nobel Yayınları
- Özan, M.B., Polat, H., Gündüzalp, S., & Yaraş, Z. (2015). Eğitim Kurumlarında SWOT Analizi. *Turkish Journal of Educational Studies*, 2(1), 1-28.
- Özata, M. ve Sevinç, İ. (2010). *Türk Kamu Yönetiminde Enformasyon sistemleri ve E-Dönüşüm*. Konya: Eğitim Kitabevi Yayınları.
- Özden, Y. (2005). *Eğitimde yeni değerler: Eğitimde dönüşüm* (6. Baskı). Ankara: Pegem A.
- Patton, M.Q., (2014). *Qualitative Research & Evaluation Methods: Integrating Theory and Practice* (4th ed.). London: SAGE Publishing
- Sayın, E., & Şen, T. (1996). *Yönetim enformasyon Sistemi*. Eskişehir: Anadolu Üniversitesi Yayınları.
- Simon, H. (1947). *Administrative Behaviour*. New York: Harper Brothers
- Simon, H. (1960). *New Science of Management Decision*. New York: Macmillan.
- Sönmez, V. (1987). *Sevgi Eğitimi*. Ankara: Şafak Matbaası.
- Sprague, R. H. Jr. (1980). A Framework for the Development of Decision Support Systems. *MIS Quarterly*, 4(4), 1-26
- Sprague, R.H. Jr. ve Carlson, E.D. (1986). *Building Effective Decision Support Systems*. New Jersey: Grolier Computer Science Library.

- Strauss, A., & Corbin, J. (1990). Basics of Qualitative Research: Grounded Theory Procedures and Techniques. London: Sage Publications.
- Şimşek, S., & Öğüt, A. (1998). Planlama Yönetiminin Bölgesel Boyutu: GAP Yönetimi Örneği. Atatürk Üniversitesi İktisadi ve İdari Bilimler Dergisi, 12:1-2, 279-300.
- Thomas, D.H. (2000). The Effect of Interface Design on Item Selection in an Online Catalog, Library Resources & Technical Services, 45(1), 20-46.
- Üzün, C. (2000). Stratejik Yönetim ve Halkla İlişkiler. İzmir: Eylül Yayınları.
- Yıldırım, A., & Şimşek, H. (2013). Sosyal Bilimlerde Nitel Araştırma Yöntemleri (9. Baskı). Ankara: Seçkin Yayıncılık.

**Yazarlar****İletişim**

Tayfun YÖRÜK, Akdeniz Üniversitesi Uygulamalı Bilimler Fakültesi Yönetim Bilişim Sistemleri Bölümü'nde doktor öğretim üyesi olarak görev yapmaktadır. Eğitim yönetimi, eğitim teknolojileri, uzaktan eğitim ve insan-bilgisayar etkileşimi gibi alanlarda çalışmaları bulunmaktadır.

Dr. Öğr. Üyesi, Akdeniz Üniversitesi, Uygulamalı Bilimler Fakültesi, Yönetim Bilişim Sistemleri Bölümü, Antalya.

E-posta: [tayfun@akdeniz.edu.tr](mailto:tayfun@akdeniz.edu.tr)

İlhan GÜNBAI Akdeniz Üniversitesi Eğitim Fakültesi Eğitim Bilimleri Bölümü'nde öğretim üyesi olarak görev yapmaktadır. Eğitim yönetimi, karma araştırma yöntemleri, nitel araştırma yöntemleri gibi alanlarda çalışmaları bulunmaktadır.

Prof. Dr., Akdeniz Üniversitesi, Eğitim Fakültesi, Eğitim Bilimleri Bölümü, Antalya.

E-posta: [igunbayi@akdeniz.edu.tr](mailto:igunbayi@akdeniz.edu.tr)

# Öğretmen Güçlendirme Stratejileri: Yapılamama Nedenleri ve Çözüm Önerileri\*

Naciye ÇALIŞICI ÇELİK\*\* Bilgen KIRAL\*\*\*

## Atıf için:

Çalışıcı Çelik, N. ve Kiral, B. (2022). Öğretmen güçlendirme stratejileri: yapılamama nedenleri ve çözüm önerileri. *Journal of Qualitative Research in Education*, 29, 179-202, doi: 10.14689/enad.29.7

**Öz:** Bu araştırma, okul yöneticilerinin uygulaması gereken güçlendirme stratejilerini ve güçlendirme yapamama nedenlerini tespit etmek amacıyla yapılmıştır. Araştırma, 2017-2018 akademik yılında Ege Bölgesinde bir ilde dört sınıf öğretmeni ve dört okul yöneticisi ile yürütülmüştür. Araştırmada nitel araştırma desenlerinden fenomenoloji deseni kullanılmıştır. Araştırmanın sonuçlarına göre; okul yöneticileri tarafından uygulanması gereken güçlendirme stratejileri; fiziksel ve psikolojik destek, iletişim, okul işleyişi ve öğretmen özerkliği kategorileri altında ortaya çıkmıştır. Okul yöneticilerinin öğretmen güçlendirmesi yapamama nedenleri kişisel, yönetsel maddi yetersizlikten ve yetkilerinin sınırlı olmasından kaynaklanan nedenler olarak tespit edilmiştir. Milli Eğitim Bakanlığı'nın öğretmen güçlendirme için yapması gerekenlere ilişkin kişisel gelişimi ve öğretmen özerkliğini destekleyici politikalar benimsenmelidir. Bulgular ışığında güçlendirme yapılmasının karşısında engel olan finansal kaynakların artırılması gibi öneriler sunulmuştur.

**Anahtar Kelimeler:** İlkokul, öğretmen, yönetici, güçlendirme, öğretmen güçlendirme

## Makale Hakkında

Gönderim Tarihi:  
20.12.2019  
Düzeltilme Tarihi:  
21.02.2021  
Kabul Tarihi:  
23.01.2022

## Makale Türü

Araştırma

© 2022 ANI Yayıncılık. Tüm hakları saklıdır.

\* Bu çalışma 07-10 Kasım 2019 X. Eğitim Yönetimi Forumunda bildiri olarak sunulmuştur.

\*\* Sorumlu yazar: Aydın Adnan Menderes Üniversitesi, Türkiye, [naciye.celik@adu.edu](mailto:naciye.celik@adu.edu)

\*\*\* Aydın Adnan Menderes Üniversitesi, Türkiye, [bilgen.kiral@adu.edu.tr](mailto:bilgen.kiral@adu.edu.tr)

## Giriş

Öğretmenler devletlerin geleceğinin şekillenmesinde, eğitim-öğretim faaliyetlerinin gerçekleştirilmesinde ve örgütsel hedeflerin gelişmesinde önemli etki gücüne sahip olan, okulun en önemli yapı taşlarından biridir. Bugünün küçükleri, yarının büyükleri olduğuna göre geleceğinin şekillenmesinde en önemli görev öğretmenlere düşmektedir. Hatta öğretmenleri metaforik olarak geleceğinin mimarı şeklinde ifade etmek de bu anlamda yanlış olmayacaktır. Öğretmenler toplumun mimarı olduğuna göre, öğretmen niteliklerinin artırılmasının devletlerin en önemli sorumluluklarından birisi olduğu söylenebilir.

Öğretmenlerin niteliklerinin artırılmasının yanı sıra öğretmenlerin potansiyellerinden en üst seviyede yararlanılması da gerekmektedir (Podolsky vd., 2019). Öğretmenlerin nitelikleri artırılırken ve potansiyelleri ortaya çıkarılırken teşvik edilmesi ve cesaretlendirilmeleri ve onlara çeşitli şekillerde destek olunması gerekmektedir (Richards, 2005). Bunlar arasında öğretmenlerin sosyal ve özlük haklarının iyileştirilmesi, statülerinin yükseltilmesi hem fiziki ortam hem mesleki ve kişisel gelişim hem de eğitimsel materyal ihtiyaçlarının karşılanması, fikirlerine değer verilmesi ve kararlara katılımlarının sağlanması gibi destekler akla gelmektedir (Short, 1992). Bu ifade edilenler öğretmenlerin okul yönetimlerince güçlendirilmesini ifade etmektedir.

Güçlendirme kavramı, güç kelimesinden türetilmiştir. Türk Dil Kurumu Sözlüğü'ne (2021) göre güç; fiziksel, düşünce ve ahlaki açıdan kişileri etkileme ya da etkiye direnebilmedir. Başka bir tanımda güç; bir kimsenin kendi istediği davranışı başkalarına yaptırabilme yeteneği şeklinde tanımlanmıştır (Koçel, 2014). Güçlendirme ise, sinerji ile ortaya çıkan gücün; bilinçli, maksatlı, kontrollü biçimde kullanılmasıdır (Thomas ve Velthouse, 1990). Güçlendirme, örgütün amaçlarına yönelik işleri yapmaları amacıyla; çalışanların bilgi ve uzmanlıklarının artmasıyla motive olmaları, görevlerinde inisiyatif kullanabilmeleri (White, 1992), ortaya çıkan sorunları kontrol edebilme yeteneklerinin olduğunu hissetmeleridir (Foster, 1990). Güçlendirme, personelin kendi işlerinde yetkisinin artırılması, daha fazla karar hakkı ve işinde özerkliğin olabilmesi (Altuğ, 1997); yöneticinin çalışanlara ne yapmaları gerektiğini vurgulamak yerine, çalışanların neyi nasıl yapacaklarına kendilerinin karar verebilecekleri özgür bir çalışma ortamının sağlanmasıdır (Elma ve Demir, 2012). Güçlendirme ayrıca çalışanların mesleki gelişimine de katkı sağlamaktadır. Bilişsel, motivasyonel ve diğer tüm değişkenler göz önüne alınarak, güçlendirme çalışanların kendilerine olan güvenlerini artırmaya yarayan bir araçtır (Rehm, 1989).

Güçlendirmenin yukarıda ifade edilen tanımlarında üzerinde en çok durulan kavramlar, cesaretlendirme, kendi kendine yetebilme ve özgür çalışma ortamına sahip olmadır (Kimwarye vd., 2014). Güçlendirilmiş çalışanlar, liderlerinden etkilenen, liderlerinin davranışlarını izleyen, görevini içselleştirerek ve severek yapan çalışanlardır (Ganiban vd., 2019). Eğitim sistemlerinde öğretmenleri güçlendirme, okul yöneticilerinin görevidir (Vrhovnik vd., 2018). Bunun bilincinde olan yöneticiler, bir bireyi güçlendirmenin,

aslında tüm örgüte etki ettiğini, örgütteki diğer bireylere de bir takım gelişme yollarını açtığını bilmektedirler. Bu durum da örgütteki ilişkilere olumlu yansımalarının yanı sıra, örgütün ilerlemesini sağlamaktadır (Harpell ve Andrews, 2010). Çünkü güçlendirilen bireyler bilgi, beceri, fırsat ve vizyonlarını diğerleri ile paylaşmaktadırlar (Alosaimi, 2016; Ledesma & Joyas, 2015; Longwell-McKean, 2012). Bu sebeple, olaya sadece güçlendirilen bir birey açısından bakılmamalıdır (Kıral, 2019). Bunun farkında olan yöneticiler örgütsel gelişme için güçlendirme yapmakta (Paynevandy, 2016); çeşitli güçlendirme yöntemlerini tek tek veya eş zamanlı kullanmaktadırlar (Kimwarey vd., 2014).

Bilgi çağının yaşandığı bu devirde yöneticiler başarılı olmak için, farklı güçlendirme yöntemlerini araştırmakta ve kullanmaktadırlar (Akçakaya, 2004). Çünkü bir örgütün amaçlarına ulaşabilmesi için, örgütte çalışan bireylerin güçlendirilmesi ve yöneticinin bunlara hâkim olması önemlidir (Çelik ve Konan, 2020). Çünkü olumlu bir örgüt kimliği oluşturmak için gerekli olan şartlar güçlendirme yöntem ve stratejileri olup, bunlar çalışanların harekete geçirilmesi için önemlidir (Conger ve Kanungo, 1988). Bu sebeple yöneticiler, çalışanlarının potansiyellerini artırmak, onları çeşitli yollarla motive etmek ve çalışmalarını için onları harekete geçirmek amacıyla çeşitli güçlendirme stratejilerini (Kıral, 2015) kullanabilmektedirler. Bu sebeple yöneticiler güçlendirici liderler olmalı (Konan ve Çelik, 2017) güçlendirmeyi stratejik amaçlı kullanmalıdırlar. Bu ifade edilenlerden hareketle güçlendirmenin stratejik, gelişim amaçlı ve kasıtlı olarak kullanılmasının hem eğitim sistemi hem okul hem öğretmen hem de öğrenci için faydalı olduğu söylenebilir.

## Okul Yöneticilerinin Öğretmenleri Güçlendirme Stratejileri

Alan yazın incelendiğinde çeşitli öğretmen güçlendirme stratejilerinin kullanıldığı görülmüştür. Bunlardan en çok kullanılanlar arasında ödüllendirme, öğretmene destek sağlama, iletişim kurma, güven sağlama, ortak yönetim yapısı ve karar ortamı geliştirmenin okul yöneticilerince kullanıldığı görülmektedir (Avidov-Ungar ve Arviv-Elyashiv, 2018; Çelik ve Konan, 2020; Çetin ve Kıral, 2018; Ganiban vd., 2019; Kıral, 2015; Konan ve Çelik, 2017 gibi). Aşağıda yöneticiler tarafından uygulanan bu güçlendirme stratejileri açıklanmıştır.

**Ödüllendirme.** Güçlendirme stratejilerinden birisi ödüllendirmek suretiyle güçlendirme yapmaktır (Cheong vd., 2019). Ödüller; içsel ve dışsal ödüller olmak üzere ikiye ayrılmaktadırlar. İçsel ödüller, bireylerde başarıya duygusunun oluşmasına psikolojik olarak katkı sağlamaktır. Çalışanı övme, takdir etme, çalışanın örgüt içinde ve dışında tanınır olmasını sağlama içsel ödüllerdir. Dışsal ödüller ise yönetim kademesi tarafından verilen ekonomik veya fiziksel ödüllerdir. Terfi ettirme, ücret artışı sağlama, ekstra aylık verme dışsal ödüllerdir (Rhoades vd., 2001). Zaten çeşitli yollarla yapılan ödüllendirmenin, çalışanların çalışma motivasyonunu, isteğini ve başarısını artırdığı ortaya konulmuştur (Maslow, 1943). Ödüllendirme, çalışanın motivasyonunu artırdığına göre, yöneticiler çalışanlarına ekonomik, fiziksel veya psikolojik ödüller vererek çalışandan istedikleri verimi almayı ümit etmektedirler (McGregor, 1966). Bu şekilde yöneticiler bireylerin davranışlarını yönlendirebilecek, sosyal alışkanlık ve tutumlarını da olumlu yönde etkileyecektir (Özkalp ve Kirel, 2016). Blase ve Kirby (2000) de



çalışmalarında öğretmeni olumlu yönde etkilemek için yöneticiler tarafından kullanılan stratejilerden bahsetmişlerdir. Onlara göre en etkili yöntem çeşitli ödüllendirme yöntemlerinin kullanılmasıdır. Örneğin öğretmenler, diğer öğretmen arkadaşları tarafından ilgi gösterilmesine değer vermektedirler. Bu durumun bilincinde olan yöneticiler, öğretmen performansını artırmak için başarısını kanıtlayan öğretmeni ödüllendirmelidirler. Bunun neticesinde ise yöneticiler öğretmenler tarafından ilgi ve sıcaklık görmekte, bir anlamda kendilerinin takdir edilmelerine olanak sağlayan bu ödüllendirme durumundan yararlanmaktadırlar (Acaray, 2010). Ödüllendirme ile öğretmenin sınıf yönetimindeki gayreti artırılmakta; okul iklim ve kültürünün olumlu yönde değişmesine (Rangel vd., 2020) katkıda bulunulmakta ve okulun hedeflerine ulaşmasında yardımcı olunmaktadır (Yunus vd., 2021).

**Öğretmene destek sağlamak.** Alan yazın incelendiğinde, yöneticilerin çalışanlarına üç şekilde destek oldukları görülmektedir. Birincisi *duygusal açıdan destek olmak*; çalışana önemsemek, kabullenmek, ona sevgi göstermek, işindeki zorlukların üstesinden gelebilmesi için yardım etmek gibi örnekler verilebilir. İkincisi *bilgisel açıdan destek olmak*; çalışana performansı konusunda geri bildirimde bulunmak, rehberlik, mentorluk etmek gibi uzmanlık ve bilgi düzeyinde destek olmaktır. Üçüncüsü ise *maddi açıdan destek olmak*; çalışana araç-gereç, materyal kaynakları tedarik etmek ve ekonomik açıdan destek olmaktır (Bhanthumnavin, 2001; akt. Kalağan, 2009). Okul yöneticileri destek sağlamayı, öğretmenlerin kişisel gelişimine olanak vermek, gelişimlerine yardımcı olmak, materyal tedarik ederek ve problem çözme konusunda destek (Ahrari vd., 2021) olmak suretiyle gerçekleştirmektedirler. Öğretmen güçlendirme ayrıca fırsatların yaratılması ile alakalıdır (Yunus vd., 2021). Öğretmenlere uzmanlık alanlarında gelişme fırsatı tanınması, okulla ilgili problemlerin çözümünde onların yanında olunması, yöneticinin okulda açık kapı politikasını uygulaması, her an telefonundan ulaşılabilir olması, öğretmenin yöneticisini her an yanında hissetmesini sağlamak da öğretmene destek olma içerisindedir (Kıral, 2015). Öğretmen, öğrenci ya da veli ile sorun yaşadığında daima öğretmeni dinlemek ve sorunu çözüme kavuşturmak, her durumda öğretmenin fikirlerine saygı ile yaklaşmak ve ona güvendiğini göstermek öğretmen için motive edicidir (Blase ve Blase, 1996). Öğretmenler yenilik yapmak, yaratıcılıklarını ortaya koymak ve başarı için risk almak konularında, okul temelli tüm çalışmalarını yapmaları için cesaretlendirilmelidir (White, 1992). Okul müdürlerinin öğretmenlerin mesleki gelişim faaliyetlerini desteklemeleri de çok önemlidir (Rangel vd., 2020). Bunu yaptıkları sürece öğretmenlerin mesleklerini içselleştirmeleri artacak, iş doyumları (Romanish, 1993) ve örgütsel bağlılıkları (Kıral, 2020) artacaktır. Öğretmenlerin mesleklerinde gelişmeleri ile öğrencilerine faydalarının artacağı, öğrencilerin kazanması gereken bilgi ve beceriye ulaşmalarının da kolaylaşacağı, okul yöneticilerinin okulun amaçlarına daha kısa sürede ulaşılabilmesinin yolunu açacağı da ifade edilebilir.

**Öğretmenlerle etkili iletişim kurma.** İletişim, okul içinde ve dışındaki paydaşlar arasında ilişkilerin kurulmasını ve sürekliliğini sağlayarak okul örgütünü dinamikleştirir. Yöneticinin etkili iletişime geçerek öğretmeni etkilemesi ve öğretmenin okulun amaçlarına göre davranış gösterip, yöneticiyi yanıtlaması yönetsel iletişimdir (Kaya, 2007). Yöneticiler, öğretmenlerin her fırsatta kendilerini ifade edebilmeleri için zemin hazırlamalı, örgütsel iklimin olumlu olmasına dikkat etmelidirler (Rangel vd., 2020;

Yunus vd., 2021). Etkili okulların; etkili sınıflardan geçtiğinin bilinciyle, okul yöneticileri öğretmenlere etkili sınıf oluşturma yöntem ve tekniklerinde kılavuzluk etmelidirler (Balcı, 2014). Yöneticiler etkili yönetim ve nitelikli eğitim sergileyebilmek için tüm okul çalışanlarını okulda çalışmaktan mutlu olan bireyler hâline getirme, iletişim kanallarını kullanarak birlikte hareket etme bilinci sağlamalıdır (Kraft ve Dougherty, 2013; Lacks, 2016).

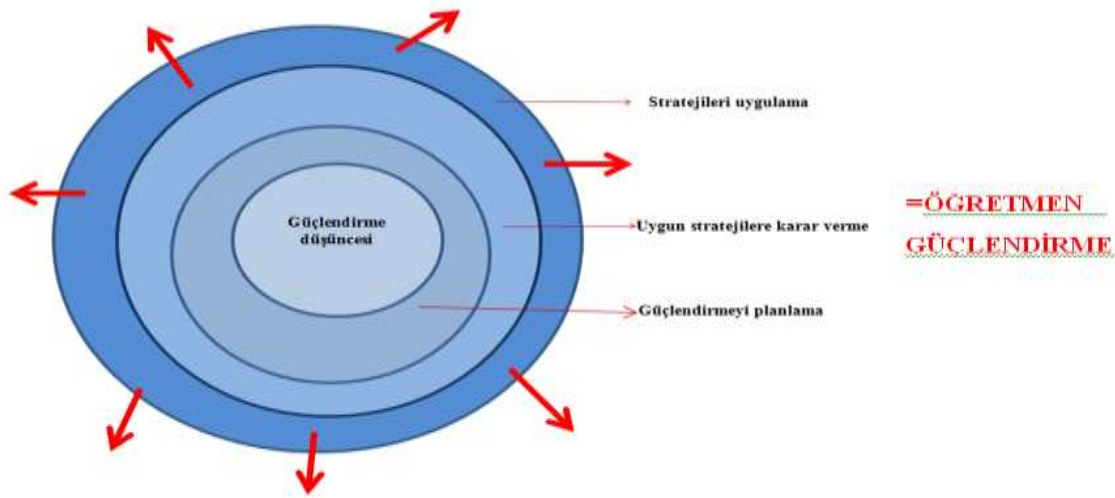
**Güven sağlamak.** Öğretmen güçlendirme stratejilerinden bir diğeri okul içerisinde yönetici ve öğretmenler arasında karşılıklı güven ilişkisi kurmaktır (Kimwaley vd., 2014). Okul ortamında güven olgusunu yerleştirmek birçok kişi ile alakalıdır. Bir okulda güven duygusunu yaratmak çok zaman alan bir süreçtir (Acaray, 2010). Bu sebeple okul yöneticileri; yardımsever olmalı (Akbaşlı ve Diş, 2019), öğretmenlerin iş ya da özel yaşantıların da karşılaştıkları problemlere karşı duyarlılık göstermeli ve samimi bir şekilde onlarla ilgilenmelidir (Blase ve Blase, 1996). Yöneticilerin iyimser olması, olaylarda her zaman olumlu olanı vurgulaması (Keser ve Kocabaş, 2014), öğretmenlere karşı samimi olması ve her konuda açık olması ile okulda güven ortamını oluşturacaklardır (Blase ve Blase, 1996). Yöneticilerin personeline sorumluluk ve yetki vermesi; hem onu işi ile baş başa bırakmakta hem de yöneticinin ona güvendiğini açıklamış olmaktadır (Kimwaley vd., 2014). Yönetimin çalışanlara, çalışanların da yönetime güven duyması önemlidir. Böyle bir ortamda çalışanların moral ve motivasyonu yüksek olacaktır (Foster, 1990). Daha verimli olan personel, yeni fikirler ortaya koymak ve geliştirmek için çaba harcayacaktır. Kendine güveni yüksek olan bir personel, örgüt başarısına ve gelişimine inanarak, buna katkıda bulunmak için hazır, istekli olarak davranmakta ve çalışmaktadır (Barutçugil, 2004).

**Ortak yönetim yapısı ve karar ortamı geliştirmek.** Yöneticilerin üzerinde önemle durması gereken diğeri bir güçlendirme unsuru ortak karar almak ve karara katılarak, sonuçlarını paylaşmaktır (Conway ve Calzi, 1995). Basit gibi görünse de karar sürecine katılım sağlamak, yönetici açısından zor olabilmektedir (Hallinger ve Richardson, 1988). Öğretmenleri okuldaki durumdan haberdar eden yönetici, öğretmeni içsel yönden motive edebilir (Kang vd., 2021) ya da okulda problem çözme takımları oluşturmak öğretmeni karar aşamasına katmak güçlendirme için farklı bir yol olabilir (Short ve Greer, 1997, akt. Acaray, 2010). Kararlara katılım bir örgütte çalışan öğretmenlerin bireysel özerklik gereksinimini hızlandırır ve yönetimin daha etkili kararlar almasını (Spreitzer, 1996), örgüt sorunlarının daha gerçekçi biçimde çözümlenmesini sağlar. Bu nedenle çağdaş bir özendirme aracı olan karara katılma uygulamasını, okul yöneticilerinin hayata geçirmesi ve uygulaması önemlidir (Duman, 2014). Ortak yönetim için karara katılma, program düzenleme, eğitim-öğretim faaliyetlerinde söz sahibi olma, öğrenci disiplini ve okul bütçesi gibi konularla ilgili olabilir (White, 1992). Ayrıca öğretmenlerin, toplantılarda karar aşamasında aktif olarak katılımlarının sağlanması, gerektiğinde resmi ya da gayri resmi yapıların çalıştırılması, öğretme-öğrenme sürecine katılımlarının cesaretlendirilmesi öğretmenin güçlendirilmesine olanak veren davranışlardır (Blase & Blase, 1996). Çalışanları karara katmanın altında değişik beklentiler yatmaktadır. Bu beklentiler içinde karara katılanların uzmanlıklarından ve yeteneklerinden yararlanarak daha sağlıklı karar vermek amaçlanırken; aynı zamanda bireylerin becerilerine ve yeteneklerine olan güveni göstererek, onların saygısını kazanmak, onları etkilemek ve

güçlendirmek amaçlanmaktadır (Aydın, 2017). Güçlendirme yapmayı düşünen yönetici planlı, programlı ve amaca dönük hareket etmelidir. Bunun için öncelikle yapması gerekenleri planlamalı, hangi stratejileri kullanacağına karar vermeli ve bunları hayata geçirmelidir (Kıral, 2015). Güçlendirme yapmadan önce yöneticilerinin hangi aşamaları takip ettiği, kısacası güçlendirme süreci, araştırmacılar tarafından oluşturulmuş Şekil 1’de verilmiştir.

### Şekil 1.

#### Güçlendirme Süreci



Şekil 1’de görüldüğü gibi yöneticilerin güçlendirme yapmadan evvel, güçlendirme yapma düşüncesi kafalarında şekillenmelidir. Yukarıdaki şekil “yöneticinin zihni” olarak düşünülürse, yönetici için güçlendirme öncelikle düşünce ile başlamaktadır. Bu düşünce daha sonra yöneticilerin planlama yapmasını gerektirmektedir. Nasıl, nerde, ne zaman, hangi gibi sorulara öncelikle kendisinin cevap vermesi gerekmektedir. Hangi öğretmene, nasıl güçlendirme yapılacaktır? Güçlendirme ne zaman, nerede yapılacaktır? Güçlendirme ne kadar bir süreci kapsayacaktır? Hangi stratejiler uygulanacaktır? Yönetici bu gibi soruları düşünerek gerekli planlamayı yaptıktan sonra, uygun stratejileri seçmelidir. Çünkü bir öğretmen için geçerli strateji diğer bir öğretmen için geçerli olmayabilir. Stratejiler seçildikten sonra kasıtlı ve bilinçli stratejiler uygulanmalıdır. Zaten şekilde de görüldüğü gibi verilen kırmızı kalın oklar güçlendirmenin yöneticinin çevresine uyguladığı kasıtlı ve önceden belirlenmiş stratejileri ifade etmektedir. Güçlendirme stratejileri bilerek ve isteyerek uygulandıktan sonra gerektiğinde stratejiler yenilemelidir. Güçlendirme faaliyetleri bir kere yapıp bırakılmamalı, süreklilik arz etmelidir.

Görüldüğü üzere lider okul yöneticileri öğretmenleri güçlendirmek için kasıtlı ve bilinçli bir takım güçlendirme stratejilerini uygulamaktadırlar (Kıral, 2019). Bunların başında; öğretmenleri yönetime ve okulun işleyişine, karar alma süreçlerine katmak, çalışanlarını sınırlamak ve kısıtlamak yerine, onları motive ederek, yaptıkları işlerde onları destekleyerek ve olumlu bir iletişim ortamı oluşturmak gelmektedir (Fidan Toprakçı, 2019). Çünkü yöneticiler; güçlendirilmiş öğretmenlerin, eğitim ve öğretim faaliyetlerinde daha verimli, iş doyumları ve kendine güvenleri daha yüksek, potansiyellerinin ve

içlerindeki gücün farkında olan bir birey, okulun amaçları doğrultusunda öğrencilerine daha kaliteli hizmet verdiklerinin bilincindedirler (Romanish, 1993; Sprague, 1992). Okul yöneticisinin uyguladığı güçlendirme stratejileri sayesinde okulda yapılanlardan ortak sorumlu olma, yönetimdeki aksaklıkları görme ve bunları çözebilme yetisi sağlama, özgün ve özgür bir bakış açısı geliştirme (Yenilmez ve Yolcu, 2007) gibi faydalar sağlanabilir. Bundan dolayı, okul müdürlerinin öğretmenlere uyguladıkları güçlendirme stratejilerinin belirlenmesi ve öğretmen güçlendirme çalışmalarının daha etkili yapılabilmesi için yöneticilerin ve öğretmenlerin görüş ve önerilerinin tespit edilmesinin önemli olduğu söylenebilir.

Alan yazın incelendiğinde öğretmen güçlendirme ile ilgili nicel çalışmaların (Avidov-Ungar ve Arviv-Elyashiv, 2018; Çelik ve Konan, 2020; Ganiban, Belecina ve Ocampo, 2019; Kıral, 2015; Kıral, 2020; Melenzyer, 1990, Short, 1992; Wilcoxon, Bell ve Steiner, 2019 gibi) ve derleme çalışmaların (Akçakaya, 2004; Conger ve Kanungo, 1988; Foster, 1990; Kıral, 2019; Thomas ve Velthouse, 1990 gibi) çok sayıda olduğu; fakat nitel araştırmaların (Çetin ve Kıral, 2018; Yin, 2018 gibi) daha az sayıda olduğu görülmüştür.

Güçlendirme ile ilgili bazı çalışmalar incelendiğinde örneğin; Avidov-Ungar ve Arviv-Elyashiv (2018) tarafından yapılan çalışmada öğretmenlerin mesleki rolleri, güçlendirme ve kariyer gelişimleri arasındaki ilişkiyi; Çelik ve Konan (2020) okul müdürlerinin güçlendirici liderliği ile öğretmenlerin özyeterliliği ve örgütsel vatandaşlık davranışları arasındaki ilişkiyi; Ganiban vd. (2019) öğretmen güçlendirmenin öncüllerini; Kıral (2015) okul yöneticilerinin öğretmenleri güçlendirmesi ile onların kayıtsızlığı arasındaki ilişkiyi; Melenzyer (1990) öğretmen güçlendirmenin başarısını açıklayan olayları; Wilcoxon vd. (2019) mesleğe yeni başlayan öğretmenlerin iyi olması için destekleme yoluyla güçlendirmeyi; Çetin ve Kıral (2018) öğretmen güçlendirme ile ilgili öğretmenlerin ve yöneticilerin bilgi düzeyini; Yin (2018) öğretmenleri düşünce olarak güçlendirmeyi araştırmışlardır.

Alan yazında derleme türünde güçlendirme stratejilerini içeren Wan (2005) tarafından Hong kong okulları için yapılmış bir çalışma ile Reep ve Grier'in (1992) derleme çalışması bulunmaktadır. Bu araştırmalardan hiçbirisi öğretmen güçlendirme stratejilerini ve yöneticilerin neden güçlendirme yapamadıklarını nitel araştırma ile araştırmamışlardır. Bu sebeple bu çalışmanın alanyazına nitel bulgular ışığında derin bir bakış açısı kazandıracığı ve okul yöneticilerine yol göstereceği düşünülmektedir. Ayrıca öğretmen ve yöneticilerin güçlendirme deneyimlerini ayrıntılarıyla belirlemek, bu konudaki deneyimleri ortaya koymanın da uygulayıcılara örnek teşki edeceği düşünülmektedir.

Öğretmen güçlendirme stratejileri, kimi zaman uygulanmakta kimi zamansa bir takım yasal engeller sonucu veya başka sebeplerle uygulanmamaktadır. Bu araştırma, okul yöneticileri ve öğretmenlerin görüşlerine göre okul yöneticilerinin uyguladıkları güçlendirme stratejilerini ve uygulanamama nedenlerini ortaya çıkarmak amacıyla yapılmıştır. Bu genel amaç doğrultusunda aşağıdaki sorulara yanıt aranmıştır.

Öğretmenlerin ve yöneticilerin deneyimlerine göre;

- Okul yöneticilerin uyguladıkları ve uygulaması gereken güçlendirme stratejileri nelerdir?

- Okul yöneticilerinin güçlendirme stratejilerini uygulayamama nedenleri nelerdir?
- Okul yöneticilerinin öğretmen güçlendirme yapabilmesi için Milli Eğitim Bakanlığı'nın yapması gerekenlere ilişkin önerileri nelerdir?

## Yöntem

### Araştırmanın Deseni

Bu araştırma, nitel araştırma desenlerinden fenomenoloji deseni yürütülmüştür. Çalışmanın fenomeni; “öğretmen güçlendirme stratejileri” şeklinde alınmıştır. Fenomenoloji araştırmalarında veri kaynakları, araştırmanın odaklandığı olguyu yaşayan ve bu olguyu anlatabilecek, yansıtabilecek birey ya da gruplardır (Ersoy, 2016). Fenomenoloji deseni; sadece bir betimleme değil, insanların bir olguya ait deneyimlerini, tutumlarını, algılarını, bu olgunun bireyin kendisinde nasıl bir anlam ifade ettiğini ve araştırılan olgunun yapısı ve özünü ortaya çıkarmayı hedeflemektedir (Creswell, 2007; Merriam, 2009). Bu araştırma, betimleyici fenomenoloji olup, araştırmaya katılan katılımcıların fenomene ilişkin deneyimlerini sorgulama, betimlemeyi hedef almaktadır (Kıral, 2021). Betimleyici fenomenolojide insan davranışları bireyin sosyal çevresinden bağımsız olarak deneyimleri tanımlayarak ortaya koymayı amaçlamaktadır (Ersoy, 2016). Bu araştırmada da bireylerin deneyimlerini betimlemek amaçlanmıştır. Zaten araştırma öncesinde yönetici ve öğretmenler, öğretmen güçlendirmeyi deneyimlediklerini ve bildiklerini söylemişlerdir. Çünkü yönetici ve öğretmenlerin bu konuda daha önceden almış oldukları bir eğitim bulunmaktadır. Birinci araştırmacı konu ile ilgili katılımcılara önceden bir ders saati öğretmen güçlendirmeyle ilgili bilgilendirme eğitimi ve toplantısı yapmıştır. Bu sebeple, kavram önceden bilinmekte ve deneyimlenmiş, okul yöneticilerince uygulandığı varsayıldığı için yapılan araştırma fenomenoloji deseniyle yürütülmüştür.

### Katılımcılar

Araştırma, 2017-2018 akademik yılında kıyı Ege Bölgesi'nde bir ilde iki farklı ilkokulda görev yapan dört sınıf öğretmeni ve dört okul yöneticisi ile yapılmıştır. Okullar amaçlı örnekleme yöntemlerinden aykırı durum örnekleme ile seçilmiştir. Buradaki aykırı durum; İlçe Milli Eğitim Müdürlüğü kanalı ile tespit edilen iki okuldan birinin sosyo-ekonomik yönden avantajlı bölgede; diğerinin ise dezavantajlı bölgede olmasıdır. Ayrıca okulların sosyo-ekonomik yönden avantajlı ve dezavantajlı olduğunu belirlemek için araştırmacılar iki bölgedeki kiralık evlerin fiyatlarını incelemişler, okullara bu kritere göre de karar vermişlerdir. Çünkü evlerin kira bedelleri bir bölgenin sosyo-ekonomik düzeyi hakkında bilgi veren önemli unsurlardan birisidir.

Yıldırım ve Şimşek'e (2005) göre; aykırı durumlar normal durumlara göre daha zengin veri ortaya koyar ve araştırma konusunun; derinlemesine, çok boyutlu bir biçimde anlaşılmasını sağlar. Okullardaki katılımcılar seçilirken amaçlı örnekleme yöntemlerinden ölçüt örnekleme yöntemi kullanılmıştır. Bu araştırmadaki ölçüt, okul

yöneticilerinin ve öğretmenlerin kıdemlerinin 15 yılın üstünde olmasıdır. Burada kıdemi fazla olan katılımcılarla görüşülerek, onların deneyimlerinden faydalanmak amaçlanmıştır. Katılımcıların aynı okulda bulunma sürelerinin ise 10 yıl ve üstünde olmasına dikkat edilmiştir. Burada en az 10 yıl birlikte çalıştıkları için birbirlerini daha iyi tanıdıkları düşünülmüştür. Çalışmada katılımcıların gerçek isimleri gizlenerek kod isimler kullanılmıştır.

Katılımcı özellikleri incelendiğinde; öğretmen katılımcıların birinin erkek sınıf öğretmeni, üçünün kadın sınıf öğretmeni olduğu görülmektedir. Öğretmen katılımcılara kod ad olarak Kaan, Esra, Aysel ve Sevgi isimleri verilmiştir. Öğretmenlerin kıdemlerinin ortalama 22 yıl olduğu ve şu an buldukları okuldaki çalışma yıllarının ise ortalama 13 yıl olduğu görülmüştür. Okul yöneticisi katılımcıların ise ikisi okul müdürü, ikisi ise müdür yardımcısıdır. Okul yöneticilerine verilen kod adları arasında Ahmet, Önder, Yılmaz ve Cemre isimleri verilmiştir. Cinsiyet açısından üç erkek, bir kadın okul yöneticisi bulunmaktadır. Okul yöneticilerinin kıdemlerinin ortalama 24 yıl olduğu, şu an buldukları okuldaki çalışma yıllarının ise ortalama 12 yıl olduğu görülmüştür. Araştırma kapsamında daha önceden kavramla ilgili bilgisi ve deneyimi olan katılımcılardan görüş alınmaya çalışılmıştır. Çünkü kavramla ilgili en iyi bilgiyi verecek olan kişilerin bu kavramı bilen ve yaşayan kişiler olduğunun düşünülmesidir.

## Veri Toplama Aracı ve Süreci

Çalışmada veri toplama aracı olarak; okul yöneticileri ve öğretmenlere yönelik "öğretmen güçlendirme stratejilerine ilişkin yarı-yapılandırılmış görüşme formu" kullanılmıştır. Görüşme formunun hazırlanması için alanyazın taraması yapıp konuyla ilgili diğer çalışmalar taranmıştır. Elde edilen verilerden yola çıkarak taslak bir form hazırlanmış ve uzman görüşü almak üzere iki öğretim üyesine sunulmuştur. Görüşme formu, öğretim üyeleri tarafından kapsam geçerliliği bakımından incelenmiş ve dört sorudan oluşan görüşme formu oluşturulmuştur. Gerekli düzeltmeler yapıldıktan sonra oluşturulan form ile pilot uygulama yapılmış ve öneriler doğrultusunda görüşme formuna son hali verilerek, katılımcılara uygulanmıştır. Araştırmada öğretmenlere; "öğretmen güçlendirme stratejileri size göre nelerdir? Okul yöneticileri tarafından hangi stratejiler uygulanırsa öğretmenlerin güçlendirilmiş olacağını düşünüyorsunuz? Bahsettiğiniz öğretmen güçlendirme stratejilerini sizin okul yöneticiniz uyguluyor mu? Uyguluyorsa hangilerini uyguluyor? veya Uygulamıyorsa nedenleri hakkında ne düşünüyorsunuz?"; okul yöneticilerine ise yukardaki ilk iki sorudan farklı "bahsettiğiniz güçlendirme stratejilerinden hangilerini uyguluyorsunuz? Güçlendirme yapamama nedenleriniz nelerdir?" soruları yöneltilmiştir. Okul yöneticilerinin ve öğretmenlerinin iki sorusunun farklı olması sebebiyle, iki ayrı form kullanılmıştır.

## Verilerin Toplanması ve Analizi

Verilerin toplanması süreci; İl Millî Eğitim Müdürlüğü'nden resmi araştırma izni alındıktan sonra; araştırmacılar tarafından, öğretmenlerin ve okul yöneticilerinin uygun oldukları farklı zaman dilimlerinde ve yerlerde, onlardan alınan randevular

doğrultusunda gerçekleştirilmiştir. Görüşmecilerden izin alınarak ses kayıt cihazı ile veriler kaydedilmiştir. Araştırmaya katılan öğretmen ve yöneticilere araştırma ile ilgili bilgi verilmiştir. Ayrıca katılımcıların kendilerini açık bir şekilde ifade edebilmeleri için; çalışmada gerçek isimlerinin kullanılmayacağı belirtilmiş ve her katılımcıya farklı bir kod isim verilmiştir. Ses kayıtları bittikten sonra, katılımcılara dinletilmiş, onay alınmış ardından, yazıya geçirileceği ve tekrar metin halinde katılımcılara gösterileceği söylenerek görüşmeler sonlandırılmıştır. Görüşmeler ortalama 40 dakika civarında sürmüştür. Ardından görüşme esnasında alınan ses kayıtları dinlenerek bilgisayar ortamında yazılmıştır. Daha sonra düzenlenen veriler katılımcılara verilmiş, eklemek ya da çıkarmak istedikleri herhangi bir görüşlerinin olup olmadığı teyit edilmiştir.

Verilerin çözümlenmesinde; yazılı metin haline getirilen görüşler, içerik analizi yöntemi kullanılarak analiz edilmiştir. Nitel veri analizinde araştırmacının yorumları ve ortaya çıkan kategorilerin anlamlı bir biçimde ilişkilendirilmesi ön plandadır. Bu bağlamda, içerik analizi yoluyla verileri çözümlene ve verilerin içinde saklı olabilecek gerçekleri ortaya çıkarmak önemlidir (Yıldırım & Şimşek, 2005). İçerik analizinde temelde yapılan işlem, birbirine benzeyen verileri belirli kavramlar ve temalar çerçevesinde bir araya getirmek ve bunları okuyucunun anlayabileceği bir biçimde düzenleyerek yorumlamaktır (Merriam, 2009, Yıldırım & Şimşek, 2005). Bu çalışmada, içerik analizi için öncelikle önemli ifadeler araştırmacılar tarafından belirlenmiştir. Ardından benzer ve ortak olan ifadeler gruplandırılmış, betimlemeler oluşturulmuş ve gerekli olanlar birleştirilerek kategori ve alt kategoriler oluşturulmuştur. Daha sonra kısaltılan ifadeler kategori ve alt kategorilerin altlarına yazılmıştır (Moustakas, 1994; akt. Ersoy, 2016).

## İnanırcılık

Araştırmanın geçerliği ve güvenilirliğini sağlamak için; katılımcılara, verdikleri cevapları, görüşme esnasında ve yazıya geçirdikten sonra doğrulama ve araştırma içerisinde, doğrudan alıntılara, bire bir ifadelerle yer verilmiştir (Creswell, 2007; Merriam, 2009). Görüşme formunun görünüş ve kapsam geçerliliğini sağlamak için, form oluşturulurken uzman görüşü alınmış ve pilot uygulama yapılmıştır. Pilot uygulama araştırmaya dâhil edilmemiş, sadece soruların anlaşılır olup olmadığını test etmek amacıyla yapılmıştır. İçerik analizine başlamadan önce bulgular kısmındaki kategori ve alt kategoriler, araştırmacılar tarafından, pilot uygulama, Türk dili alanındaki uzman ve eğitim yönetimi alanındaki bir akademisyen görüşü doğrultusunda oluşturulmuştur. Verileri birden fazla kişi kodlamış ve sonuçlar karşılaştırılmıştır. Daha sonra; Miles ve Huberman (1994) formülünden yararlanılarak araştırmanın güvenilirliği hesaplanmıştır. Bu araştırmanın güvenilirliği %98 olarak tespit edilmiştir.

## Araştırmacıların Rolü

Araştırma süreci boyunca araştırmacılar kişisel görüşlerinden, önyargılarından uzak bir şekilde araştırma sorularını katılımcılara yöneltmişlerdir. Araştırmacılar; görüşme, veri analizi, bulguların ortaya çıkarılması ve yorumlanması aşamalarının her birinde tarafsız olarak süreci yönetmişlerdir. Araştırmada görüşmelere başlamadan önce ilgili il milli

eğitim müdürlüğünden yazılı izin alınmış, ardından görüşmeler yapılmıştır. Araştırma sürecinde, araştırmacılar bilimsel ve mesleki etik kurallarına uygun davranmışlar, çalışmaya katılan öğretmen ve yöneticilerin kimliklerini ve okul isimlerini ortaya çıkaracak ifadelerden, yönlendirmelerden kaçınmışlardır. Araştırmacılar, rapor yazma esnasında da, doğrudan alıntılar verilirken, katılımcıları ortaya çıkaracak ifadeleri çalışma içerisine koymamışlardır. Yapılan doğrudan alıntılarda da katılımcı görüşleri olduğu gibi, değiştirilmeksizin çalışma içerisinde verilmiştir. Araştırmaya katılan okul yöneticisi ve öğretmenlerin rahat ve samimi cevaplar verebilmeleri için her birine birer kod isim verilmiştir.

## Bulgular

Bu bölümde, okul yöneticilerinin uyguladıkları güçlendirme stratejilerine ilişkin; sınıf öğretmenlerinin ve okul yöneticilerinin görüşlerinden elde edilen verilerin çözümlenmesi sonucu elde edilen bulgulara ve bu bulgulara ilişkin yorumlara yer verilmiştir.

### Güçlendirme Stratejileri

Güçlendirme stratejilerini ortaya çıkarmaya ilişkin katılımcılara; “öğretmen güçlendirme stratejileri size göre nelerdir? Okul yöneticileri tarafından hangi stratejiler uygulanırsa öğretmenlerin güçlendirilmiş olacağını düşünüyorsunuz?” soruları yöneltilmiştir. Öğretmen güçlendirmesine ilişkin, okul yöneticilerinin ve öğretmenlerin genel görüşlerini incelemek amacıyla yapılan içerik analizi sonucu elde edilen bulgular Tablo 1’de verilmiştir.

Tablo 1 incelendiğinde, güçlendirmeye ilişkin dört kategorinin ortaya çıktığı görülmektedir. Bunlar; destek, iletişim, okul işleyişi ve öğretmen özerkliğidir. Destek kategorisi fiziksel ve psikolojik destek olmak üzere iki alt kategoriye ayrılmıştır. Katılımcılar; psikolojik destek alt kategorisi kapsamında motive etmek, ödüllendirmek görüşlerini daha belirgin vurgulamışlardır. Fiziksel destek alt kategorisinde belirtilen görüşler arasında; fiziksel ihtiyaçların karşılanması ve fiziksel ortamın güzelleştirilmesi görüşü daha çok öne çıkmıştır. İletişim kategorisi kapsamında; öğretmenlerin kaynaşmasını sağlamak ve karara katılımı sağlamak daha çok ifade edilmiştir. Öğretmen özerkliği kategorisinde ise kaynak kitap kullanım serbestliği dile getirilmiştir.

Güçlendirme stratejilerine ilişkin öğretmen ve yöneticilere ait görüşler aşağıda verilmiştir:

Öğretmeni güçlendirmek istiyorsan, okul içinde adil iş dağılımı yapılmalı. Sınıf mevcutları eşit olmalı. Çalışanla çalışmayan ayırt edilmeli. Harcadığınız emek göze görülmeli. En azından bir teşekkür edilmeli ki hevesimiz kırılmasın. Kayırmacılık sona ermeli. Günlük siyaset kullanılarak öğretmeni incitici davranışlarda bulunulmamalı. Bizi etkileyecek kararlar alınacağı zaman fikrimiz sorulmalı (Aysel).

Öğretmeni güçlendirmek için öğretmenin arkasında durulmalı. Ortaya çıkan sorunlarda, bir veli, bir öğrenci şikâyetinde bulunduğu anda öğretmen günah keçisi ilan edilmemeli. Öğretmene değer verilmeli ve bu hissettirilmeli. Ders anlatımına, sınıfının içine müdahale edilmemeli. Eğitim yöneticileri öğretmene güven duymalı her şeyden önce. Öğretmenlerde yöneticilerine güvenmeli.



Hoşgörü sahibi olmak, samimi bir şekilde derdimizi dinlemek huzurlu bir okul ortamında değerli olduğumuzu hissettirecektir (Esra).

Öğretmenlerin güçlendirilmesi için ilkten ödüllendirme yönergesi revize edilmeli. Okulda etkili iletişim kurmak. Okul içinde ve dışında da öğretmenlerin kaynaşmasını sağlamak. Kaynaşma etkinlikleri düzenlemek gibi faaliyetler öğretmenleri güçlendirebilir (Yılmaz).

Öğretmenler bizim için çok değerlidir. Sorunların tespiti ve çözümünde ortak fikirlere önem vermek lazım. Öğretmenlerin değerli olduğunu hissettirmek. Öğretmenleri motive etmek. Demokratik ortam oluşturup, öğretmenin karara katılımını sağlamak. Öğretmenle her konuda iletişim içinde olmak biz yöneticilerin temel görevi zaten (Cemre).

**Tablo 1.**

*Okul Yöneticileri Tarafından Uygulanması Gereken Güçlendirme Stratejileri*

| Kategori           | Alt Kategoriler                        | Kodlar  | Öğretmen |      |       |       | Yönetici |       |        |       |
|--------------------|--|---|----------|------|-------|-------|----------|-------|--------|-------|
|                    |  |   | Kaan     | Esra | Aysel | Sevgi | Ahmet    | Önder | Yılmaz | Cemre |
| Destek             | Psikolojik                             | Motive etmek  | ✓        |      | ✓     | ✓     | ✓        | ✓     |        | ✓     |
|                    |  | Ödüllendirmek                                       |          | ✓    |       |       |          | ✓     | ✓      | ✓     |
|                    |  | Öğretmenin yanında olmak                            |          | ✓    |       | ✓     |          |       | ✓      |       |
|                    |  | Kişisel gelişimini sağlamak                         |          |      | ✓     |       |          |       |        |       |
|                    |  | Statüsünü geliştirmek                               | ✓        |      |       |       |          |       |        |       |
|                    |  | Mesleki gelişimi için teşvik (destek)               |          | ✓    |       |       |          | ✓     |        |       |
|                    |  | Değerli hissettirmek                                | ✓        | ✓    |       |       |          |       |        | ✓     |
|                    |  | Kariyer basamakları sağlamak                        |          |      |       | ✓     |          |       |        |       |
|                    | Fiziksel                               | Fiziksel ihtiyaçları karşılamak (Araç-gereç temini) | ✓        | ✓    | ✓     |       | ✓        | ✓     |        | ✓     |
|                    |  | Fiziksel ortamın güzelleştirilmesi                  |          |      | ✓     |       |          |       |        |       |
| İletişim           | Öğretmen kaynaşması için iletişim      |   |          |      | ✓     |       |          | ✓     |        |       |
|                    | Her konuda iletişim sağlamak           | ✓   |          |      |       |       |          |       |        |       |
|                    | Okul dışı etkinlik düzenlemek          |   |          |      |       |       |          | ✓     |        |       |
| Okul İşleyişi      | Karara katılımı sağlama                |   | ✓        |      |       |       |          | ✓     | ✓      |       |
|                    | Sorun çözümünde ortak fikir geliştirme |   |          |      |       |       |          |       | ✓      |       |
|                    | Adil görev dağılımı                    |   |          | ✓    |       |       |          |       |        |       |
|                    | Demokratik ortam oluşturmak            |   |          |      |       |       |          |       | ✓      |       |
| Öğretmen Özerkliği | Kaynak kitap kullanım serbestliği      | ✓   |          | ✓    |       |       | ✓        |       |        |       |
|                    | Eğitim programı esnekliği              |   | ✓        |      |       |       |          |       |        |       |
|                    | Sınıf içi özgürlük                     | ✓   |          |      |       |       |          |       |        |       |

## Uygulanan Güçlendirme Stratejileri

Okul yöneticilerinin uyguladığı güçlendirme stratejilerinin ortaya çıkarılması için öğretmenlere; “Bahsettiğiniz öğretmen güçlendirme stratejilerini sizin okul yöneticiniz uyguluyor mu? Uyguluyorsa hangilerini uyguluyor? veya Uygulamıyorsa nedenleri hakkında ne düşünüyorsunuz?” Soruları yöneltilmiştir. Okul yöneticilerine ise “bahsettiğiniz güçlendirme stratejilerinden hangilerini uyguluyorsunuz? Güçlendirme yapamama nedenleriniz nelerdir?” soruları yöneltilmiştir. Katılımcıların tümü bazen güçlendirme yapıldığını, bazense yapılamadığını ifade etmişlerdir. Okul yöneticileri tarafından uygulanan güçlendirme stratejileri Tablo 2’de verilmiştir.

**Tablo 2.**

Okul Yöneticilerinin Uyguladıkları Güçlendirme Stratejileri

| Kategori                | Kodlar  | Öğretmen |      |       |       | Yönetici |       |        |       |
|-------------------------|---|----------|------|-------|-------|----------|-------|--------|-------|
|                         |   | Kaan     | Esra | Aysel | Sevgi | Ahmet    | Önder | Yılmaz | Cemre |
| Psikolojik destek       | Sorunları dinlemesi                             |          |      |       | ✓     |          |       |        |       |
|                         | Sözlü teşekkür etme                             | ✓        | ✓    |       |       |          |       |        |       |
|                         | Hoşgörülü olması                                |          |      |       | ✓     |          |       |        |       |
| Fiziksel destek         | Çalışma ortamının geliştirilmesi                |          |      |       |       | ✓        | ✓     |        | ✓     |
|                         | Araç gereç temini                               |          |      |       |       |          | ✓     |        |       |
| Kişisel gelişim desteği | Hizmet içi eğitim kursları düzenlemek           |          |      |       |       |          | ✓     | ✓      | ✓     |
|                         | Eğitim konularında öğretmenin fikrinin alınması |          |      |       |       |          | ✓     |        |       |
| Psikolojik destek       | Güler yüzlü iletişim                            |          |      |       |       |          |       |        | ✓     |
|                         | Özel günlerde destek olmak                      |          |      |       |       |          |       |        | ✓     |

Tablo 2 incelendiğinde hem yöneticilerin hem de öğretmenlerin destek olma yönünde görüş bildirdiği görülmektedir. Öğretmenler, yöneticilerinin psikolojik destek olduğunu; yöneticiler ise öğretmenlerini fiziksel, kişisel gelişim ve psikolojik destek yönünde güçlendirdiklerini ifade etmişlerdir. Öğretmenler, yöneticilerinin yaptığı fiziksel ve kişisel gelişim desteklerini belirtmemişler veya bunları destek olarak görmemişlerdir. Bunların öğretmenler tarafından yöneticinin asli görevleriymiş gibi algıladıkları düşünülebilir. Aşağıda uygulanan güçlendirme stratejilerine ilişkin öğretmen ve yöneticilerin görüşlerine yer verilmiştir.

Bazen güçlendirme yapıyor bazen yapamıyor. Bizim okul müdürümüz, ortaya çıkan sorunlarda kimden yana olacağını hep şaşırıyor. Sonunda bir bakmışsınız herkesten yana oluvermiş. Politik davranıyor. Hoşgörüsü sahibi olduğu zamanlar oluyor. Dertlerimizi, samimi olarak dinliyor (Sevgi).

Öğretmenleri güçlendirmek için öğretmenlerin kendilerini eksik hissettikleri konularda (eğitim teknolojilerini kullanımı, işbirliği, öğretim yöntem ve teknikleri vb.) seminer ve kurslar düzenlemeye çalışıyorum. İstedikleri çalışma ortamını sağlamak için elimden geleni yapıyorum. Araç-gereç teminini sahip olduğumuz bütçe olanakları ölçüsünde yapmaya gayret ediyorum. Öğretmenlerin hangi konular da eğitim almak istedikleriyle ilgili önerilerini alıyorum. (Önder).

Çoğu öğretmen isteklerini bildirebiliyorlar bana. İçlerinde çekinenler vardı önceleri. Fakat zaman geçtikçe beni tanıdıkça, iletişimimiz güçlendikçe daha rahat davranmaya başladılar. Çalışma şartlarını güzelleştirmeye çalışıyorum. Elimden geldiğince güler yüzlü ve samimi davranmaya çalışıyorum. Seminer ve kurslar düzenlemeye çalışıyorum. Öğretmenlerin doğum gününü kutluyorum. Özel günlerinde ve üzgün günlerinde yanlarında olmaya özen gösteriyorum. (Cemre).

## Güçlendirme Yapılamama Nedenleri

Okul yöneticilerinin öğretmen güçlendirmesi yapamama nedenlerine ilişkin, okul yöneticilerinin ve öğretmenlerin görüşlerine ait yapılan içerik analizi sonucu elde edilen bulgular Tablo 3'te verilmektedir.

**Tablo 3.**

*Okul Yöneticilerinin Güçlendirme Stratejilerini Uygulayamama Nedenleri*

| Kategori | Alt Kategoriler                                      | Kodlar                                 | Öğretmen |      |       |       | Yönetici |       |        |       |   |
|----------|--|--|----------|------|-------|-------|----------|-------|--------|-------|---|
|          |  |  | Kaan     | Esra | Aysel | Sevgi | Ahmet    | Önder | Yılmaz | Cemre |   |
| Bireysel | Kişisel Yetersizlikten Kaynaklanan Nedenler          | Adil davranmama                        |          |      | ✓     |       |          |       |        |       |   |
|          |  | İletişim yetersizliği                  |          | ✓    |       | ✓     |          |       |        |       |   |
|          |  | Kararsızlık                            |          | ✓    |       |       |          |       |        |       |   |
|          |  | Öğretmenlere söz geçirememesi          |          | ✓    |       |       |          |       |        |       |   |
|          |  | Güler yüzlü olmaması                   |          |      | ✓     |       |          |       |        |       |   |
|          |  | Etkileme yetersizliği                  |          |      | ✓     |       |          |       |        |       |   |
|          |  | Liderlik yapamaması                    |          | ✓    |       |       |          |       |        |       |   |
|          | Yöneltilen Yetersizlikten Kaynaklanan Nedenler       | Karara katmama                         |          | ✓    | ✓     |       |          |       |        |       |   |
|          |  | Mesleki Yetersizlik                    |          | ✓    | ✓     |       |          |       |        |       |   |
|          |  | Olumsuz okul iklimi                    |          | ✓    |       |       |          |       |        |       |   |
|          |  | Denetim eksikliği                      |          | ✓    |       |       |          |       |        |       |   |
|          |  | Uzman gücü eksikliği                   |          |      | ✓     |       |          |       |        |       |   |
|          |  | Açık kapı politikasının uygulanmaması  |          |      | ✓     |       |          |       |        |       |   |
|          |  | Planlama eksikliği                     |          |      | ✓     |       |          |       |        |       |   |
| Örgütsel | Maddi Yetersizlikten Kaynaklanan Nedenler            | Araç-gereç temini gecikmesi            |          |      |       |       | ✓        |       |        | ✓     |   |
|          |  | Fiziksel ortam düzenlemesi             |          |      |       |       | ✓        |       |        | ✓     |   |
|          |  | İhtiyaçları karşılamada sıkıntı        |          |      |       |       |          |       | ✓      |       |   |
|          | Yetkilerinin Sınırlı Olmasından Kaynaklanan Nedenler | Ödül verme yetkisinin müdürde olmaması |          |      |       |       | ✓        | ✓     |        | ✓     |   |
|          |  | İzin verme yetkisinin müdürde olmaması |          |      |       |       | ✓        |       |        |       |   |
|          |  | Ek kaynak kullanımının yasak olması    |          |      |       |       | ✓        |       |        | ✓     |   |
|          |  | Müdürün, yardımcılarını seçmemesi      |          |      |       |       |          |       |        | ✓     |   |
|          |  | Hizmetçi eğt. kontenjanının az olması  |          |      |       |       |          |       |        | ✓     |   |
|          |  |  |          |      |       |       |          |       |        |       | ✓ |

Tablo 3 incelendiğinde, okul müdürlerinin güçlendirme yapamamalarına ilişkin öğretmen görüşlerinde, *bireysel nedenler* kategorisi kapsamında iki alt kategorinin ortaya çıktığı görülmektedir. Bunlar; kişisel ve yönetsel yetersizlikten kaynaklanan nedenler alt kategorileridir. Kişisel yetersizlikten kaynaklanan nedenler alt kategorisine ait görüşler arasında en sık tekrar edilen öğretmen görüşü; adil davranmama ve iletişim yetersizliğidir. Bunu kararsızlık, öğretmenlere söz geçirilememesi, güler yüzlü olunmaması, etkileme yetersizliği, liderlik yapılamaması izlemektedir. Yönetsel yetersizlikten kaynaklı nedenler alt kategorisinde ise karara katmama, mesleki yetersizlik en sık tekrar eden görüşler arasındadır. Bunları olumsuz okul iklimi, denetim eksikliği, uzman gücü eksikliği, açık kapı politikasının uygulanmaması, planlama eksikliği izlemektedir.

Okul müdürlerinin güçlendirme yapamamalarına ilişkin yönetici görüşlerinde ise, *örgütsel nedenler* kategorisi kapsamında iki alt kategorinin ortaya çıktığı görülmektedir. Bunlar; maddi yetersizlikten ve yetkilerinin sınırlı olmasından kaynaklanan nedenler alt kategorileridir. Maddi yetersizlikten kaynaklanan nedenler alt kategorisine ait görüşler arasında en sık tekrar edilen yönetici görüşü araç-gereç temininin gecikmesi, ardından fiziksel ortam düzenlemesi, ihtiyaçları karşılamada sıkıntı yaşanması takip etmektedir. Yetkilerinin sınırlı olmasından kaynaklanan nedenler alt kategorisinde ödül belgesi verme yetkisinin müdürde olmaması, öğretmene izin verme yetkisinin müdürde olmaması, mesleki yetersizlik gelmektedir. Bunları; ek kaynak kullanımının yasak olması, müdürün yardımcılarını kendisinin seçememesi, hizmetiçi eğitim kontenjanlarının az olması takip etmektedir. Aşağıda okul yöneticilerinin güçlendirme yapamama nedenlerine ilişkin öğretmen ve yönetici görüşlerine yer verilmiştir:

Dertlerimizi, samimi olarak dinliyor ama çözüm bulmuyor. Çözülemeyen sorunlar dağ gibi büyüdüğünde, okul, geriye gitmeye başlıyor. Okul müdürünün, iletişim becerilerini geliştirmesi, sorunların nedenini iyi belirlemesi gerekiyor. Bu konularda bilgi sahibi olmadığı için güçlendirme yapamadığını düşünüyorum. (Sevgi).

Güçlendirme uygulamıyor. Nedenine gelirse öğretmenlere sözünü geçiremiyor. Söylediğimizde ise öğretmenleri çok sıkılamak lazım, özgür bırakmak lazım şeklinde açıklama yapıyor. (Kaan).

Duruma göre değişiyor. Öğretmeni güçlendirmek için idarecilerin ilkten finansal kaynağa ihtiyacı var. Kermes yaparak, bağış toplayarak okulun ve öğretmenlerin ihtiyaçlarını giderebilmek çok zor maalesef. Çalışan öğretmeni ödüllendirmek gerekli. Bir Teşekkür belgesi verebilmek için 10 yere yazı yazıyoruz. Sonra öğretmenler kendi içinde o ne yaptı da teşekkür belgesi aldı diye konuşmaya başlıyorlar. Gönül koyanlar oluyor. Çok çalışan öğretmenler olmakla birlikte, gününü geçirmek için derse girenler var. Öğretmeni gerçekten güçlendirmek istiyorsanız ilkten, "öylesine öğretmenlik yapanların" sistemden temizlenmesi gerekli. (Önder).

Güçlendirme stratejilerini tam uygulayamıyorum. Öğretmen yazıcı istiyor alamıyoruz. Okulun hizmetlisinin, güvenliğinin maaşını zor ödüyoruz. Televizyonda çıkıp, okulların para istemesi yasak diyen yöneticiler, devlet okullarını bir kenara itip, özel okullara teşvik verme politikalarını izliyorlar. Bu durumda öğretmenin istediği araç-gereci temin etmede sıkıntı yaşayan bizlerden, öğretmeni güçlendirme hareketinde bulunacağımızı düşünmek yanlış. Biz ilkten, temel sorunlarımızı çözmeliyiz. Biz öğretmenimizi güçlendirmek için ancak içsel motivasyonları kullanabilir onları takdir edebiliriz. Ama bu durum onları ne kadar etkiler bilinmez. (Yılmaz).

## Milli Eğitim Bakanlığı'nın Yapması Gerekenler

Milli Eğitim Bakanlığı'nın (MEB) öğretmen güçlendirme için yasal anlamda yapması gerekenlere ilişkin öğretmen ve okul yöneticilerine; "MEB'in öğretmen güçlendirme için yasal anlamda ne gibi değişiklikler yapması gerektiğini düşünüyorsunuz, önerileriniz nelerdir?" soruları yöneltilmiştir. Katılımcılardan gelen görüşlere göre okul yöneticilerinin güçlendirme yapmaları için MEB'in yapması gerekenlere ait katılımcı görüşleri Tablo 4'te verilmiştir.

**Tablo 4.**

*Okul Yöneticilerinin Güçlendirme Yapmaları için MEB'e Öneriler*

| Kategoriler        | Kodlar   | Öğretmen |      |       |       | Yönetici |       |        |       |
|--------------------|--|----------|------|-------|-------|----------|-------|--------|-------|
|                    |  | Kaan     | Esra | Aysel | Sevgi | Ahmet    | Önder | Yılmaz | Cemre |
| Kişisel Gelişim    | Maaş artışı                                    |          | ✓    | ✓     |       |          |       |        |       |
|                    | Kariyer basamakları düzenlemesi                | ✓        |      |       |       |          |       |        |       |
|                    | Ödül çeşidinin artması                         |          | ✓    | ✓     |       |          |       |        |       |
|                    | Mesleki eğitim için ek bütçe                   |          |      | ✓     |       |          |       |        |       |
|                    | Gezi gözlem etkinlikleri                       |          |      |       | ✓     |          |       |        |       |
| Öğretmen Özerkliği | Kaynak kitap kullanımına izin verilmesi        |          | ✓    | ✓     | ✓     |          |       |        |       |
|                    | Öğretim Programı esnekliği                     |          |      |       | ✓     |          |       |        |       |
| Yönetmelik         | Okul müdürlerine yöneticilik eğitimi verilmesi |          | ✓    | ✓     |       |          |       |        |       |
|                    | Kararlarda öğretmen görüşünün zorunlu olması   |          | ✓    |       |       |          |       |        |       |
|                    | Okul müdürlerine güçlendirme eğitimi verilmesi |          |      | ✓     |       |          |       |        |       |
|                    | Yönetici atamalarında liyakat                  |          | ✓    |       |       |          |       |        |       |
| Yetki Artışı       | Okul müdürünün öğretmene izin verebilmesi      |          |      |       |       | ✓        | ✓     | ✓      |       |
|                    | Teşekkür ve takdir belgesi verme yetkisi       |          |      |       |       |          | ✓     | ✓      |       |
|                    | Okul yönetiminin müdür tarafından seçilmesi    |          |      |       |       |          | ✓     |        |       |
| Yasa ve Yönetmelik | Finansal kaynak artması                        |          |      |       |       | ✓        | ✓     | ✓      |       |
|                    | Hizmet içi eğitim kontenjan artışı.            |          |      |       |       | ✓        | ✓     |        |       |
|                    | Öğrt. performans değerlendirme sistemi uyg.    |          |      |       |       | ✓        |       |        |       |
|                    | 657'nin revize edilmesi                        |          |      |       |       |          |       | ✓      |       |
|                    | Merkezi yönetimin esnetilmesi                  |          |      |       |       | ✓        |       |        |       |

Tablo 4 incelendiğinde, okul müdürlerinin güçlendirme yapmaları için MEB'in yapması gerekenlere ilişkin öğretmen görüşlerinde, kişisel gelişim, öğretmen özerkliği, yönetmelik kategorisi altında üç kategorinin ortaya çıktığı görülmektedir. Kişisel gelişime ilişkin öneriler kategorisine ait görüşler arasında en sık tekrar edilen öğretmen görüşü maaş artışı ve kariyer basamakları düzenlemesidir. Bunları ödül çeşidinin artması, mesleki eğitim için ek bütçe, gezi-gözlem etkinlikleri izlemektedir. Öğretmen özerkliğine ilişkin

öneriler kategorisine ait görüşler arasında en sık tekrar edilen öğretmen görüşü kaynak kitap kullanımına izin verilmesi ve öğretim programı esnekliğidir. Yönetmelik öneriler kategorisine ait görüşler arasında en sık tekrar edilen öğretmen görüşü okul müdürlerine yöneticilik eğitimi verilmemesi ve kararlarda öğretmen görüşünün zorunlu olmasıdır. Tüm okul müdürlerine güçlendirme eğitimi verilmesi, yönetici atamalarında liyakat olması bunları izlemektedir.

Okul müdürlerinin güçlendirme yapmaları için MEB'in yapması gerekenlere ilişkin yönetici görüşlerinde ise; yetki artışı, yasa ve yönetmelik kategorisi adında iki kategorinin ortaya çıktığı görülmektedir. Yetki artışı kategorisine ait görüşler arasında en sık tekrar edilen yönetici görüşü okul müdürünün öğretmene izin verebilmesidir. Bunu teşekkür ve takdir belgesi verme yetkisi, okul yönetiminin müdür tarafından seçilmesi izlemektedir. Yasa ve yönetmelik kategorisine ait görüşler arasında en sık tekrar edilen yönetici görüşü finansal kaynak artmasıdır. Bunu hizmet içi eğitim kontenjan artışı, öğretmen performans değerlendirme sisteminin uygulanması, 657'nin revize edilmesi, merkezi yönetimin esnetilmesi takip etmektedir. Aşağıda okul yöneticilerinin güçlendirme yapmaları için MEB'in yapması gerekenlere ilişkin öğretmen ve yöneticilerin görüşlerine yer verilmiştir:

MEB Performans değerlendirme sistemini düzgün bir şekilde işletebilmeli. Öğretmenlerin kariyer basamakları düzenlenmeli. Kendini geliştiren öğretmenle, stabil durumda olan öğretmen ayırt edilmeli. (Kaan).

Öğretmenlere kaynak kitap kullanımı, gezi gözlem, müze ziyareti, bilim evine gitme vb., etkinlikler için özerklik sağlanmalı. Öğrenme ortamı 4 duvar içine tıkkı kalmaktan uzaklaşmalıdır. (Sevgi).

Ödüllendirme sistemi daha kolay işleyebilir olmalı. Teşekkür ve Takdir Belgeleri dışında ödüller de olmalı. İzin almak daha kolay olmalı. Okul müdürü kurum amiri olarak gözükürken izin verme yetkisi bile yok (Cemre).

Eğitim sisteminin merkezden yönetim şekli yüzünden idarecilerin eli kolu bağlanıyor. Hangi etkinliği yapacak olursak olalım, maddi yetersizlikten dolayı tıkanıyoruz. Müdür yardımcılarımız sağolsunlar yardımcı oluyorlar bize ancak çalışmak istediğimiz ekibi kendimiz kurmamız konusunda esneklik olsa, uyum içinde çalışabileceğimiz kişilerle bir ekip olabilesek ne kadar da güzel olur (Önder).

## Sonuç Tartışma ve Öneriler

Çalışma, okul yöneticilerinin uyguladıkları ve uygulamaları gereken güçlendirme stratejileri ile bu stratejileri uygulayamama nedenlerini ortaya çıkarmak amacıyla yapılmıştır. Araştırmanın sonuçlarına göre; okul yöneticileri tarafından uygulanması gereken güçlendirme stratejileri; öğretmenlere fiziksel ve psikolojik destek sağlamak, etkili iletişim kurmak, okul işleyişinde öğretmenleri karara katmak ve mesleklerini icra ederken öğretmenlere özerklik sağlamak başlıkları altında toplanmıştır. Öğretmenlerin üstlerine düşen görevlerini etkili bir şekilde yerine getirebilmeleri ve kendilerini kuruma ait hissedebilmeleri için okul yöneticileri tarafından desteğe ihtiyaçları vardır (Yunus vd., 2021). Çeşitli alanlardaki güçlendirme ile ilgili yapılan çalışmalarda da yakın sonuçlar bulunmuştur. Örneğin Çavuş'un (2006) araştırması güçlendirmenin örgüt başarısını etkilediği; Çetin ve Kırıl'ın (2018) araştırması güçlendirme kavramı için katılımcıların iletişim kurma, dönüt sağlama, ödüllendirme, destek sağlama, değer verme, ihtiyaçları

gözetme, takım ruhu oluşturma, sorumluluk alma, yetki devri kavramlarını kullandıkları; Giderler'in (2015) araştırmasında personelin güçlendirilmesinin sonucu olarak örgütsel bağlılığın, iş tatmininin ve performansın geliştiği; Wilcoxon vd.'nin (2019) araştırmasında güçlendirmenin gelişim, ilerleme ve birlikte çalışma sağladığı ortaya çıkmıştır.

Bu araştırmanın sonuçlarına göre öğretmenlerin büyük çoğunluğu kendilerinin kurum için önemli olduklarının farkındadırlar. Fakat öğretmenler mesleklerini icra ederken özerk olmadıklarını, okulda kararlar alınırken yeteli derecede karara katılmadıklarını ifade etmişlerdir. Öğretmen özerkliği ülkelerin eğitim sistemlerinin farklı yapı özelliklerine, okulların sahip olduğu genel şartlara ve öğretmenin kişisel özelliklerine bağlı olmakla birlikte çok yönlüdür (Çelik & Atik, 2020). Öğretmen özerkliğinin hangi konularda ve ne düzeyde olacağı ülkelere göre farklılıklar gösterebilmektedir. Türkiye'de yapılan eğitim reformlarında öğretmenlerle ilgili, eğitim-öğretim faaliyetlerinde söz hakkı, hareket alanlarının geliştirilmesi, öğretmenlerin karara katılması konusunda çalışma yapılmadığı görülmektedir. Öğretmenler eğitim sistemi içerisinde sadece uygulayıcı değil, karar verici rolünde de sistem içine alınmalıdırlar (Öztürk, 2011). Bu bağlamda öğretmenlerin kişisel özelliklerinin okullarda sağlanacak öğretmen özerkliğine etkisi düşünüldüğünde olumsuz durumların da ortaya çıkabileceği düşünülebilir. Özerkliğin sınırlarının belirlenmesi ve bu durumun yasal bir dayanakşa yapılması da yaşanabilecek muhtemel olumsuzlukları giderebilir.

Öğretmenlerin belirlenen örgütsel hedeflere ulaşabilmesi, nitelikli ve çağı yakalayan nesiller yetiştirebilmesi için işlerini severek, içselleştirerek yapmaları ve mesleklerini icra ederken iş doyumuna ulaşmaları önemlidir (Kauts & Kaur, 2020). Yapılan birçok araştırmada (Babaoğlu & Yılmaz, 2012; Demirtaş & Alanoğlu 2015; Thekedam, 2010; Yin, 2018) süreç içerisinde ve yönetsel kararlar alınacağı zaman fikri sorulan ve karar alma sürecine katılan öğretmenlerin iş doyumlarının arttığı, bu durumda alınan kararların daha kolay uygulanabildiği, eğitim-öğretim etkinliklerinin daha sağlıklı işleyebildiği gibi sonuçlara ulaşılmıştır. Bu nedenle eğitim sisteminin etkililiğinin artırılabilmesi için, okul yöneticileri tarafından alınacak kararlarda öğretmenlerin fikirlerinin sorulması ve uzmanlıklarından yararlanılması hem örgüt içi etkileşimin niteliğinin artması hem de öğretmenlerin işlerini içtenlikle yapmaları konularına olumlu katkı sağlayabilir.

Okul yöneticilerinin öğretmen güçlendirme yapamama nedenlerine ilişkin öğretmen görüşlerinde, kişisel yetersizlikten kaynaklanan nedenler ve yönetsel yetersizlikten kaynaklanan nedenler, yönetici görüşlerinde ise, maddi yetersizlikten kaynaklanan nedenler ve yetkilerinin sınırlı olmasından kaynaklanan nedenler olduğu sonuçlarına ulaşılmıştır. Demirtaş ve Küçük (2014) okul müdürlerinin performansını etkileyen nedenler ile ilgili yaptıkları çalışmalarında, okul müdürlerinin mesleki bilgilerinin ve kişisel özelliklerinin, okul kültürünün ve etkin fiziki koşulların sağlanması gibi faktörlerin okul yöneticilerinin performansını artırdığını, kısıtlı bütçenin, sık aralıklarla mevzuat değişiminin, çalışanlardan kaynaklanan sorunlar gibi durumların ise okul müdürlerinin performansını düşürdüğü sonucu bu çalışma ile benzerlik göstermektedir.

Araştırmadaki okul yöneticilerinin finansal yetersizlikten dolayı güçlendirme yapamamaları sonucu da oldukça önemlidir. Eğitim hizmetlerinin etkililiğinin ve verimliliğinin sürdürülebilir olmasında, eğitim çıktılarının istenilen nitelikleri gösterebilmesinde, okulun yeterli finansal ve insan kaynağının olması gereklidir (Karakütük, 2006). Bununla birlikte eğitime ayrılan finansal kaynağın ne şekilde sağlanacağı, ülkelerin sahip olduğu siyaset felsefesine, yönetim biçimine ve eğitim yönetimi yapısına göre farklılaşmaktadır denilebilir.

Araştırma sonuçlarına göre okul müdürleri, öğretmenlerin istediği fiziki olanakları, araç-gereç temini gibi finansal kaynak gerektiren güçlendirme stratejilerini maddi yetersizlikten dolayı yapamadıklarını ya da istenilen sürede temin edemediklerini ifade etmişlerdir. Çetin ve Kıral (2018) tarafından yapılan araştırmada da benzer sonuçlar elde edilmiştir. Bu konuda devletin eğitim için ayırdığı finans kaynağının artırılması, yerel yönetimler tarafından kullanılan vergilerin bir kısmının zorunlu olarak eğitime aktarılması, okulun bulunduğu mahalledeki işletmelerden destek istenmesi önerilebilir.

Araştırma sonuçlarındaki Milli Eğitim Bakanlığı'nın öğretmen güçlendirme için yapması gerekenlere yönelik öğretmen görüşlerinden biri, okul müdürlerinin yönetici eğitimi almadıkları için güçlendirme yapamaması yönündedir. Bu konuda eğitim sistemini geliştirebilmiş ülkeler, eğitimde etkili öğrenmeyi ve okulların toplumsal işlevlerini sağlayabilmek, olumlu okul iklimi oluşturabilmek gibi amaçlarla okul yöneticilerinin yetiştirilmesi ve seçilmesine önem vermektedirler. Türkiye'de ise okul yöneticisi yetiştirme ve atanma konusu uzun yıllardır tartışılan bir konudur (Memduhoğlu, 2007). Eğitim örgütlerinin amaçlarına uygun olarak işlemlerini sağlamak için, örgütün insan ve madde kaynaklarını okul yöneticilerinin verimli bir şekilde kullanması gereklidir (Lunenburg & Ornstein, 2012). Okul yöneticisinin bu etkililiği yakalayabilmesi, okul yönetimi kuram ve süreçlerini iyi bilmesi ve gerektiğinde bunları uygulayabilmesiyle olanaklıdır (Hoy & Miskel, 2013). Karşılaştığı problemlerde, kuram ve uygulama bağı kurabilmesi için bu alanda akademik eğitim almış olması zorunlu bir haldir (Bursalıoğlu, 2008). Bu durumla ilgili Milli Eğitim Bakanlığı (MEB) ve Yüksek Öğretim Kurumu (YÖK) arasında anlaşma imzalanarak, uzaktan eğitim ve ikinci öğretim programlarında "eğitim yöneticiliği" program sayısı artırılabilir ve okul yöneticilerinin çeşitli eğitimleri almaları zorunlu tutulabilir. Böylelikle tüm okul yöneticilerinin, yönetimin kuramsal bilgisine sahip olması sağlanmış olur.

Araştırmanın bir diğer sonucu okul müdürlerinin gerekli güçlendirmeyi yapabilmeleri için çalışacakları müdür yardımcılarını kendileri seçmeleri, teşekkür belgesi verme prosedürlerinin azaltılması ve 657 sayılı Kanun'un verdiği iş garantisinin sınırlandırılması yönündedir. Öğretmenlerin mesleki motivasyonları, okula bağlılıkları ve mesleki doyumları arasında çok güçlü bir ilişki bulunmaktadır (Mooij, 2008; Schultheiss, 2008). Bu nedenle özlük hakları kısıtlanan öğretmenlerden işlerini severek yapmaları ve motivasyon sağlamaları beklenemez. Bu bağlamda okul müdürlerinin büyük çoğunluğunun önerisi üzere, öğretmenlerin iş garantilerini sınırlandırmak yerine, bu duruma bilimsel olarak performans değerlendirme sistemi kurup başarılı öğretmenleri teşvik etmek önerisi getirilebilir. Böylelikle başarılı öğretmenlerin, güçlendirme



stratejilerinden birisi kullanılarak diđer ođretmenlerden ayırt edilmiř ve desteklenmiř olabilecekleri sylenbilir.

Bu arařtırma ođretmenlerle ve yneticilerle yrtlmřtr. Aynı arařtırma devlet okulları ve zel okullarla yapılarak, sonular karřılařtırılabilir. İlkokullarda yapılan bu alıřma farklı okul trlerindeki ođretmen ve yneticilerle yapılabilir. Bununla birlikte bundan sonraki arařtırmalarda alıřma grubu olarak Yksek đretim Kurumlarındaki yneticiler seilip ođretim yelerine ya da idari personele uygulanan glendirme stratejileri arařtırılıp karřılařtırma yapılabilir.

**Etik Kurul Onayı:** Bu alıřma 2017-2018 akademik yılında yapılmıřtır. O yıllarda etik kurul raporu almak zorunlu olmadıđı iin etik kurul raporu alınmamıřtır. Ama Milli Eđitim Bakanlıđı izni bulunmaktadır.

**Bilgilendirilmiř Onam:** Katılımcılardan bilgilendirilmiř onam alınmamıřtır.

**Hakem Deđerlendirmesi:** Dıř hakem deđerlendirmesi vardır.

**Yazarların Katkısı:** Fikir – B.K.; Tasarım –B.K.; Verilerin Toplanması ve İřlenmesi – B.K., N...; Danıřmanlık – B.K.; Verilerin Analizi ve Yorumu – B.K., N...; Alanyazın Taraması – B.K.; Yazma - B.K., N...; Eleřtirel Deđerlendirme - B.K., N...

**ıkar atıřması:** Yazarlar olarak herhangi bir ıkar atıřması bulunmamaktadır.

**Finansal Aıklama:** Arařtırmamız iin herhangi bir finansal destek almadık.

## Kaynaklar

- Acaray, T. (2010). *Ankara ili ilköğretim ve ortaöğretim okul müdürlerinin öğretileri güçlendirme örüntüleri* (Yayınlanmamış Yüksek Lisans Tezi). Ankara Üniversitesi, Ankara.
- Ahrari, S., Roslan, S., Zaremohzzabieh, Z., Rasdi, R. M., & Samah, A. A. (2021). Relationship between teacher empowerment and job satisfaction: A meta-analytic path analysis. *Cogent Education*, 8(1), 1-23.
- Akbaşı, S. & Diş, O. (2019). Öğretmen görüşleri doğrultusunda lider okul yöneticilerinin yeterlikleri. *Uluslararası Liderlik Çalışmaları Dergisi: Kuram ve Uygulama*, 2(2), 86-102.
- Akçakaya, M. (2004). Örgütlerde uygulanan personel güçlendirme yöntemleri: Türk kamu yönetiminde personel güçlendirme. *Karadeniz Araştırmaları*, 25, 145-174
- Alosaimi, M. D. (2016). *The role of knowledge management approaches for enhancing and supporting education* (Unpublished Doctoral Dissertation). Universite Paris 1, Pantheon-Sorbonne, Paris.
- Altuğ, D. (1997). *Toplam kalite yönetimi anlayışı*. Haberal.
- Avidov-Ungar, O. & Arviv-Elyashiv, R. (2018). Teacher perceptions of empowerment and promotion during reforms. *International Journal of Educational Management*, 32(1), 155-170.
- Aydın, M. (2014). *Eğitim yönetimi*. İİksan.
- Babaoğlu, E. & Yılmaz, F. (2012). İlköğretim okullarında karara katılma. *Mersin Üniversitesi Eğitim Fakültesi Dergisi*, 8, 1-12.
- Balcı, A. (2014). *Etkili okul ve okul geliştirme*. PegemAkademi.
- Barutçugil, İ. (2004). *Organizasyonlarda duyguların yönetimi*. Kariyer.
- Blase, J. & Blase, J. (1996). The micropolitical orientation of facilitative school principals and its effects on teachers' sense of empowerment. *Journal of Educational Administration*, 35(2), 138-164.
- Bursalioğlu, Z. (2008). *Okul yönetiminde yeni yapı ve davranış*. PegemA.
- Cheong, M., Yammarino, F. J., Dionne, S. D., Spain, S. M., & Tsai, C. Y. (2019). A review of the effectiveness of empowering leadership. *The Leadership Quarterly*, 30(1), 34-58.
- Conger, J. A. & Kanungo, R. N. (1988). The empowerment process: Integrating Theory and practice. *Academy of Management Review*, 13(3), 471-482.
- Conway, J. A. & Calzi, F. (1995). The dark side of shared decision making. *Journal of Educational Leadership*, 53(4), 45.
- Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches*. Sage.
- Çavuş, M. F. (2006). *İşletmelerde personel güçlendirme uygulamalarının örgütsel yaratıcılık ve yenilikçiliğe etkileri üzerine imalat sanayinde bir uygulama* (Yayınlanmamış Doktora Tezi). Selçuk Üniversitesi, Konya.
- Çelik, O. T. & Atik, S. (2020). Preparing Teachers to Change: The Effect of Psychological Empowerment on Being Ready for Individual Change. *Çukurova Üniversitesi Eğitim Fakültesi Dergisi*, 49(1), 73-97.
- Çelik, O. T. & Konan, N. (2020). The relationship between school principals' empowering leadership with teachers' self-efficacy and organizational citizenship behaviors. *Education and Science*, 1-21.
- Çelikten, M. & Niyazi C. (2000). Alt düzey personelin güç kaynakları (Erciyes Üniversitesi örneği). *Kuram ve Uygulamada Eğitim Yönetimi*, 22, 269-290.
- Çetin, M. & Kırıl, B. (2018). Okul yöneticilerinin öğretmenleri güçlendirmesine ilişkin yönetici ve öğretmen görüşleri. *Akdeniz Eğitim Araştırmaları Dergisi*, 12(26), 281-310.
- Demirtaş, H. (2014). Okul örgütü ve yönetimi. R. Sarpkaya, (Edt.) *Türk eğitim sistemi ve okul yönetimi*. Ankara: Anı.
- Demirtaş, Z. & Alanoğlu M. (2015). Öğretmenlerin karara katılımı ve iş doyum arasındaki ilişki. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi*, 16(2), 83-100.
- Demirtaş, Z. & Küçük, Ö. (2014). Okul yöneticilerinin performanslarını değerlendirme ölçütleri ve performanslarını düşüren nedenler: Nitel bir araştırma. *Eğitim Bilimleri Dergisi*, 40, 47-67.
- Duman, N. (2014). *Okul yöneticilerinin kullandığı motivasyon faktörleri ve öğretmen görüşleri* (Yayınlanmamış Yüksek Lisans Tezi). Yeditepe Üniversitesi, İstanbul.
- Elma, C. & Demir, K. (2012). *Yönetimde çağdaş yaklaşımlar uygulamalar ve sorunlar*. Anı.
- Ersoy, A. F. (2016). Fenomenoloji. A. Saban ve A. Ersoy (Edts). *Eğitimde nitel araştırma desenleri*. Anı.
- Fidan Toprakçı, D. (2019). *Okul yöneticilerinin öğretmenleri güçlendirme düzeyi* (Yayınlanmamış Yüksek lisans tezi). Aydın Adnan Menderes Üniversitesi, Aydın.
- Foster, K. (1990). Small steps on the way to teacher empowerment. *Educational Leadership*, 38-40.
- Ganiban, R., Belecina, R. R., & Ocampo, J. M. (2019). Antecedents of teacher empowerment. *International Journal for Educational Studies*, 11(2), 89-108.
- Giderler, C. (2015). Sosyal hizmet işletmelerinde personel güçlendirme. *Süleyman Demirel Üniversitesi Vizyoner Dergisi*, 58-88.

- Hallinger, P. & Richardson, D. (1988). Models of shared leadership: Evolving structures and relationships. *Urban Review*, 20(4), 229-245.
- Harpell, J. V. & Andrews, J. J. W. (2010). Administrative leadership in the age of inclusion: Promoting best practices and teacher empowerment. *Journal of Educational Thought*, 44, 189-210.
- Hoy, W. K. & Miskel, C. G. (2013). *Educational administration theory, research, and practice*. McGrawHill.
- Kalağan, G. (2009). *Araştırma görevlilerinin örgütsel destek algıları ile örgütsel sinizm tutumları arasındaki ilişki* (Yayınlanmamış Yüksek Lisans Tezi). Akdeniz Üniversitesi, Antalya.
- Kang, M. M., Park, S., & Sorensen, L. C. (2021). Empowering the frontline: Internal and external organizational antecedents of teacher empowerment. *Public Management Review*, 1-22.
- Karakütük, K. (2006). Yükseköğretim finansmanı. *Milli Eğitim Dergisi*, 17, 219-242.
- Kauts, A. & Kaur, H. (2020). Teacher empowerment as predictor of professional commitment and job satisfaction of teachers working in secondary schools. *Journal of Critical Reviews*, 7(16), 1856-1864.
- Kaya, Z. (2007). *Sınıf Yönetimi*. Pegem Akademi.
- Keser, S. & Kocabaş, İ. (2014). İlköğretim okulu yöneticilerinin otantik liderlik ve psikolojik sermaye özelliklerinin karşılaştırılması. *Kuram ve Uygulamada Eğitim Yönetimi*, 20(1), 1-22.
- Kıral, B. (2015). *Lise yöneticilerinin öğretmenleri güçlendirmesi ve öğretmenlerin kayıtsızlık (sinizm) davranışı ile ilişkisi* (Doktora Tezi). Ankara Üniversitesi, Ankara.
- Kıral, B. (2019). Eğitim yönetiminde öğretmen güçlendirme. N. Cemaloğlu ve M. Özdemir (Edts). *Eğitim yönetimi*. PegemAkademi.
- Kıral, B. (2020). The relationship between the empowerment of teachers by school administrators and organizational commitments of teachers. *International Online Journal of Education and Teaching*, 7(1), 248-265.
- Kıral, B. (2021). Nitel araştırmada fenomenoloji deseni: Türleri ve araştırma süreci. *Eğitim ve Öğretim Araştırmaları Dergisi*, 10(4), 92-103.
- Kıral, E. (2015a). Yönetimde karar ve etik karar verme sorunsalı. *Adnan Menderes Üniversitesi Eğitim Fakültesi Eğitim Bilimleri Dergisi*, 6(2), 73-89.
- Kimwari, M. C., Chirure, H. N., & Omondi, M. (2014). Teacher empowerment in education practice: Strategies, constraints, and suggestions. *Journal of Research & Method in Education*, 4(2), 51-56.
- Koç, H. (2007). Eğitim sisteminin finansmanı. *Gazi Üniversitesi Endüstriyel Sanatlar Eğitim Fakültesi Dergisi*, 29, 39-50.
- Koçel, T. (2014). *İşletme yöneticiliği*. Beta.
- Konan, N. & Çelik, O. T. (2017). Okul Müdürlerinin Güçlendirici Liderliğine İlişkin Öğretmen Algısı. *Bartın Üniversitesi Eğitim Fakültesi Dergisi*, 6(1), 322-335.
- Kraft, M. A. & Dougherty, S. M. (2013). The effect of teacher-family communication on student engagement: Evidence from a randomized field experiment. *Journal of Research on Educational Effectiveness*, 6(3), 199-222.
- Lacks, P. K. (2016). *The relationships between school climate, teacher self-efficacy, and teacher beliefs* (Unpublished Doctoral Dissertation). Liberty University, United Kingdom.
- Ledesma, J. M. & Lalaine M. J. (2015). *Filipino financial customers views on customer empowerment: Report from the field*. <https://www.cgap.org/sites/default/files/Working-Paper-Filipino-Financial-Customers%27-View-on-Customer-Empowerment-May-2015.pdf>. Erişim: 20.01.2018
- Longwell-McKean, P. C. (2012). *Restructuring leadership for 21st century schools: How transformational leadership and trust cultivate teacher leadership* (Unpublished Doctoral Dissertation). University of California, San Diego.
- Lunenburg, F. C. & Ornstein, A. C. (2012). *Educational administration concepts and practices*. Wadsworth.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370-396.
- McGregor, D. (1966). *Leadership and motivation*. M.I.T.
- Melenzyer, B. J. (16-20 November 1990). *Teacher empowerment: The discourse, meanings and social actions of teachers*. The Annual Conference of the National Council of States on Inservice Education, Orlando, Florida.
- Memduhoğlu, H. B. (2007). Türk eğitim sisteminde okulların yönetimi ve okul yöneticilerinin yetiştirilmesi sorunsalı. *Milli Eğitim Dergisi*, 176, 86-97.
- Merriam, S. M. (2009). *Qualitative research: A guide to design and implementation*. John Wiley & Sons Inc.
- Miles, M. B. & Huberman, A. M. (1994). *Qualitative data analysis*. Sage.
- Mooij, J. (2008). Primary education, teachers' professionalism and social class about motivation and demotivation of government school teachers in India. *International Journal of Educational Development*, 28, 508-523.
- Özkalp, E. & Kirel, Ç. (2016). *Örgütsel davranış*. Ekin.
- Öztürk İ. H. (2011). Öğretmen özerkliği üzerine kuramsal bir inceleme. *Elektronik Sosyal Bilimler Dergisi*, 10(35), 82-99.
- Podolsky, A., Kini, T., & Darling-Hammond, L. (2019). Does teaching experience increase teacher effectiveness? A review of US research. *Journal of Professional Capital and Community*, 4(4), 286-308.

- Paynevandy, S. G. (2016). The role of empowerment in organization development. *International Academic Journal of Organizational Behavior and Human Resource Management*, 3(5), 9-16.
- Rangel, V. S., Suskavcevic, M., Kapral, A., & Dominey, W. (2020) A revalidation of the school participant empowerment scale amongst science and mathematics teachers. *Educational Studies*, 46(1), 117-134,
- Reep, B. B. & Grier, T. B. (1992). A review of pilot programs: Teacher empowerment strategies for success. *NASSP Bulletin*, 6(546), 90-96.
- Rehm, M. (1989). Emancipatory vocational education: Pedagogy for the work of individuals and society. *Journal of Education*, 171(3), 109-123.
- Rhoades, L., Eisenberger, R., & Armeli, S. (2001). Affective commitment to the organization: The contribution of perceived organizational support. *Journal of Applied Psychology*, 86(5), 825-836.
- Richards, J. (2005). *Principal behaviors that encourage teachers: Perceptions of teachers at three career stages*. The Annual Meeting of the American Educational Research Association, Montreal, Quebec, Canada.
- Romanish, B. (1993). Teacher empowerment as the focus of school restructuring. *The School Community Journal*, 3(1), 47-60.
- Schultheiss, O. C. (2008). The role of implicit motivation in hot and cold goal pursuit: Effects on goal progress, goal rumination, and emotional wellbeing. *Journal of Research in Personality*, 42, 971-987.
- Short, P. M. (1992). *Dimensions of teacher empowerment*. <http://files.eric.ed.gov/fulltext/ED368701.pdf>. Erişim: 10.12.2014.
- Sprague, J. (1992). Critical perspectives on teacher empowerment. *Communication Education*, 41(2), 181-203.
- Spreitzer, G. M. (1996). Social structural characteristics of psychological empowerment. *The Academy of Management Journal*, 39(2), 483-504.
- Thekedam, J. S. (2010). A Study of job satisfaction and factors that influence it. *Management and Labour Studies*, 35, 407-417.
- Thomas, K. W. & Velthouse, B. A. (1990). Cognitive elements of empowerment: An interpretive model of intrinsic task motivation. *Academy of Management Review*, 15, 666-681.
- Türk Dil Kurumu Sözlüğü [TDK]. (2021). <https://sozluk.gov.tr/> Erişim: 29.06.2021.
- Wan, E. (2005). Teacher empowerment: Concepts, strategies, and implications for schools in Hong Kong. *Teachers College Record*, 107(4), 842-861.
- White, P. A. (1992). Teacher empowerment under ideal school-site autonomy. *Educational Evaluation and Policy Analysis*, 14(1), 69-82.
- Wilcoxon, C., Bell, J., & Steiner, A. (2019). Empowerment through induction: Supporting the well-being of beginning teachers. *International Journal of Mentoring and Coaching in Education*. [www.emerald.com/insight/content/doi/10.1108/IJMCE-02-2019-0022/full/html](http://www.emerald.com/insight/content/doi/10.1108/IJMCE-02-2019-0022/full/html). Erişim: 29.06.2021.
- Yenilmez, K. & Yolcu, B. (2007). Öğretmen davranışlarının yaratıcı düşünme becerilerinin gelişimine katkısı. *Eskişehir Osmangazi Üniversitesi Sosyal Bilimler Dergisi*, 18, 95-105.
- Vrhovnik, T., Maric, M., Znidarsic, J., & Jordan, G. (2018). The influence of teachers' perceptions of school leaders' empowering behaviours on the dimensions of psychological empowerment. *Organizacija*, 51(2), 112-120.
- Yıldırım, A. & Şimşek, H. (2005). *Sosyal bilimlerde nitel araştırma yöntemleri*. Seçkin.
- Yin, J. (2018). Empowering teachers through core reflection: A case in Korea. *Journal of Asia TEFL*, 15(4), 1005-1020.
- Yunus, M., Suakrno, S., & Rosyadi, K. I. (2021). Teacher Empowerment Strategy in Improving the Quality of Education. *International Journal of Social Science And Human Research*, 4(1), 32-36.

**Yazarlar**

**İletişim**

Bilim Uzmanı Naciye CALISICI CELIK

2017 yılında Aydın Adnan Menderes Üniversitesi, sınıf öğretmenliği lisans programından, 2020 yılında Eğitim Yönetimi yüksek lisans programından mezun oldu. Akademik çalışmalarına devam etmektedir.

Aydın Adnan Menderes Üniversitesi  
Efeler/Aydın

E-mail: [naciye.celik@adu.edu.tr](mailto:naciye.celik@adu.edu.tr)

Doç. Dr. Bilgen KIRAL

Aydın Adnan Menderes Üniversitesi Eğitim Fakültesi Eğitim Yönetimi Ana Bilim Dalında öğretim üyesi olarak görev yapmaktadır. 2020 yılından beri Amerika'da Dayton Üniversitesi'nde konuk öğretim üyesi olarak görev yapmaktadır. Çalışma alanları arasında öğretmen güçlendirme, çocuk hakları, değerler eğitimi ve karşılaştırmalı eğitim bulunmaktadır.

Aydın Adnan Menderes Üniversitesi  
Eğitim Fakültesi  
Eğitim Yönetimi ABD  
Efeler/Aydın

E-mail: [bilgen.kiral@adu.edu.tr](mailto:bilgen.kiral@adu.edu.tr)

# Örgütsel Zeka Perspektifinden Öğretmenlerin Yenilikçi Çalışma Davranışlarını Etkileyen Faktörler

Belgin TURA\* Sait AKBAŞLI\*\*

## Atıf için:

Tura, B. ve Akbaşlı, S. (2022). Örgütsel zekâ perspektifinden öğretmenlerin yenilikçi çalışma davranışlarını etkileyen faktörler. *Journal of Qualitative Research in Education*, 29, 203-234, doi: 10.14689/enad.29.8

**Öz:** Araştırmanın amacı, öğretmenlerin yenilikçi davranışlarını etkileyen bireysel ve örgütsel etkenlerin ortaya çıkarılması ve bu etkenlerde örgüt zekasının sonuçlarının incelenip değerlendirilmesidir. Araştırmanın çalışma grubunda Ankara ilinde 2020-2021 öğretim yılında Millî Eğitim Bakanlığı'na bağlı kamu okullarında görev yapan farklı eğitim kademeleri ve farklı branşlardan 20 öğretmen yer almaktadır. Araştırma, nitel araştırma yöntemlerinden temel nitel araştırma deseninde tasarlanmıştır. Araştırmada veri toplama aracı olarak açık uçlu anket formu kullanılmıştır. Verilerin çözümlenmesinde betimsel ve içerik analizinden yararlanılmıştır. Ayrıca katılımcı öğretmenlerin görüşlerini daha net ortaya koymalarını sağlamak için çalışmada doğrudan alıntılara yer verilmiştir. Araştırma sonucunda öğretmen görüşleri doğrultusunda örgüt zekasının öğretmenlerin yenilikçi uygulamalarında etkili olan bireysel ve örgütsel etkenleri harekete geçiren ve güçlendiren sonuçlar ortaya çıkardığı görülmüştür. Bundan dolayı tüm boyutlarıyla örgütsel zekanın öğretmenlerin yenilikçi çalışma davranışları üzerinde olumlu yönlü bir etkiye sahip olduğunu söylemek mümkündür.

**Anahtar Kelimeler:** Yenilikçi çalışma davranışı, örgütsel zekâ, örgütsel zekanın eylemsel alt boyutları, bireysel etkenler, örgütsel etkenler

## Makale Hakkında

Gönderim Tarihi:  
06.12.2021  
Düzeltilme Tarihi:  
12.01.2022  
Kabul Tarihi:  
22.01.2022

## Makale Türü

Araştırma

© 2022 ANI Yayıncılık. Tüm hakları saklıdır.

\* Sorumlu Yazar: Melikşah Ortaokulu, Türkiye, [belgintura@gmail.com](mailto:belgintura@gmail.com)

\*\* Hacettepe Üniversitesi, Türkiye, [sakbasli@gmail.com](mailto:sakbasli@gmail.com)

## Giriş

Sosyal, kültürel ve politik alanlardaki ani değişimlerin, zıtlıkların ve ikilemlerin yaşamın bir gerçeği haline geldiği bilgi çağında tüm toplumsal yapılar gibi eğitim kurumu da küreselleşmenin ve dijitalleşmenin yarattığı değişim ve dönüşüm dalgalarından yoğun bir şekilde etkilenmektedir. Dünyadaki pek çok eğitim sisteminin küreselleşmiş bir dünyanın taleplerini karşılamaya hazır olabilmesi için gereken reform ve dönüşümler, dünya çapındaki birçok ulusal hükümetin temel gündemini meydana getirmektedir. Eğitimde dönüşüm, internet ve dijital dünyanın ortaya çıkmasıyla sürekli olarak artan, değişen ve yenilenen bilgi yığını karşısında bilgiye ulaşma yollarını keşfeden, öğrenmeyi öğrenen, bilgiyi analiz eden, sentezleyen ve edindiği bilgiyi yaşamında problem çözmek ve faydalı ürünlere dönüştürebilmek amacıyla kullanan ve geleceğin akıllı toplumlarının oluşturulmasında önemli bir rol oynayacak olan bireylerin yetiştirilmesi için eğitim örgütlerine yeni yapı ve işleyiş kazandırılmasıdır.

Eğitimde dönüşümün gerçekleştirilmesi için bugün eğitim örgütlerinden beklenen yenilikleri fark etme, takip etme, öncü olma ve uygulayarak yaşama geçirme kısaca eğitimde yenileşmeyi sağlama sorumluluğudur. Önemi sıklıkla dile getirilen yenilikçilik, eğitimde kalite artışı ve başarıyı getirirken aynı zamanda eğitim vasıtasıyla geliştirilerek yaygınlaştırılmaktadır. Eğitim ile yenilikçilik kültürünün toplumlara kazandırılması hem toplumsal refah düzeyinin artırılması hem de yerel ve uluslararası rekabette avantaj sağlanması açısından önemlidir. Bu da ancak yenilikçilik becerilerine sahip, yüksek kalitede insan gücünün yetiştirilmesi ile mümkündür. Eğitim ve yenilikçilik birbirini karşılıklı olarak etkileyen bir niteliğe sahiptir. Bu nedenle eğitim sistemlerinin yenilikçi düşünceyi ve yenilikçilik bilincini geliştiren bir yapıda şekillendirilmesi, 21. yüzyılın değişim ve dönüşüm dalgalarında boğulmak yerine adeta keyifle sörf yapabilecek toplumların yaratılması için bir zorunluluktur.

Politikacılar, iş dünyası ve eğitimciler; tarımsal veya endüstri temelli bir ekonomiye hazırlanmak için tasarlanan eğitim sistemlerinin, öğrencilere 21. yüzyılın bilgi temelli ekonomi ve toplumlarında ihtiyaç duyacakları bilgi ve becerileri sağlamayacağını fark etmişlerdir. Bilgiye dayalı küresel toplumlar içerisinde üretilen bilgi miktarı her 2-3 yılda bir iki katına çıkarken artık ortaokul mezunları, kendi büyükanne ve büyükbabalarının tüm yaşamları boyunca öğrendiklerinden daha fazla bilgiyle karşılaşmaktadırlar (United Nations Educational, Scientific and Cultural Organization-UNESCO, 2002, s. 14-15).

İleri teknoloji ile birlikte gelen bilgi çağının insan toplumu üzerinde yarattığı devrimin beklenmedik önemli bir yan ürünü, çok boyutlu, etkileşimli medya kaynaklarına bağımlı olan, dünya anlayışı ve beklentileri ondan önceki nesillerden çok daha farklı olan bir çocuk neslinin ortaya çıkmasıdır. Teknoloji yoğun küresel bir gelecekte başarılı olmak için, bu çocuklara yönelik yerel öğrenme yeteneklerini ve teknolojik yeterliliği temel alan yeni bir eğitim uygulaması, mevcut geleneksel eğitim yöntemlerinin yerini almak zorundadır (Das, 2015, s. 15). Bu doğrultuda bugün eğitimden beklenen, bir yandan teknolojik gelişmelere uyum gösteren bir yandan da küreselleşmenin yarattığı problemlere yenilikçi çözümler geliştiren bir kurum olarak işlev görmesidir (Tunca, 2012,

s. 20). Böyle bir süreçte öğretmenler, teknolojiyi etkin kullanmaları, öğrencilerin öğrenmelerine uygun öğretim yöntemi ve araçlarını belirlemeleri, etkili öğretim yöntemleri tasarımları ve yeni öğretim stratejileri oluşturmaları sorumluluğunu taşımaktadır (Demiraslan ve Koçak Usluel, 2008, s. 471).

Öğretmenler eğitimin kalitesini artırmada merkezi bir öneme sahip olduklarından öğretmenlerin yenilikçi düşünce ve uygulamaları, 21. yüzyılda eğitimin hassas bir konusu haline gelmektedir. Yenilikçi öğretmenler; alanındaki gelişmelerden düzenli olarak haberdar olan ve kişisel gelişimine önem veren, kullandığı etkili öğrenme-öğretme taktik ve yöntemleri ile öğrencilerin gereksinim duyduğu etkinlikleri çeşitlendirebilen, öğretim ve bilgi sunumunda yeni teknik ve yaklaşımları kullanabilen, farklı yöntemleri deneyerek öğrenci katılımını artırabilen ve edindiği bilgi ve becerileri etkili bir şekilde hayata geçirebilen öğretmenlerdir (Ritchhart, 2004'den akt. Korucu ve Olpak, 2015, s. 115-116). Haerlmans ve Blank (2012, s. 884), eğitimin profesyonelleşmesinin ve öğretmenler tarafından yapılan yeniliklerin, öğrencilerin başarısı ve okulların verimliliği ile olumlu yönde ilişkili olduğunu ifade etmektedir.

Öğretmenlerin yenilik yeteneği, eğitim kurumlarında örgütsel yeniliğin merkezinde yer almaktadır. Yenilik yeteneği, yeni fikirleri, süreçleri ve/veya ürünleri başarılı bir şekilde benimseme veya uygulama yeteneği, diğer bir ifadeyle örgütün yenilik üretme potansiyelidir ve örgütün sahip olduğu kaynak ve yeterliliklere bağlıdır. Yenilik yeteneği açısından en önemli kaynak ve yeterlilikler, örgütsel bilgi ve öğrenmeye ilişkin yeterliliklerdir (Kalkan, 2005, s. 48). Öğretmenlerin yenilik yeteneğini çalışma davranışlarına yansıtarak yenilikçi eğitim ve öğretim süreçlerini gerçekleştirmesi beklenmektedir.

Kavram olarak yenilikçi çalışma davranışı, alanyazında ilk olarak West ve Farr (1989) tarafından rol performansına, gruba ya da örgüte fayda sağlamak amacıyla; bir iş rolü, grup ya da örgüt içinde yeni fikirlerin kasıtlı olarak yaratılması, tanıtılması ve uygulanması olarak tanımlanmıştır (Janssen, 2000, s. 288). Scott ve Bruce (1994, s. 581-582), yenilikçi çalışma davranışını çok aşamalı bir işlem olarak ifade etmektedir. Buna göre, yenilikçi çalışma davranışı, problemin tanımlanması ve yeni ya da benimsenen fikir ya da çözümlerin üretilmesiyle başlamaktadır. Sürecin bir sonraki aşamasında, yenilikçi birey, fikri için destek aramakta ve bir destekçiler grubu oluşturmaya çalışmaktadır. Son aşamada, birey yenilik fikrini bir model ya da prototipe dönüştürmektedir. Dolayısıyla yenilikçi çalışma davranışı, her aşamasında farklı aktiviteler ve farklı bireysel davranışları içeren bir süreçtir. Yenilikçi çalışma davranışı gösteren öğretmenler, mesleki gelişimlerini sürdürebilmekte, çalışma ortamlarını iyileştirebilmekte, performanslarını artırabilmekte ve meslektaşları ya da okulun dışındaki diğer paydaşlar tarafından önerilen iyileştirmeleri benimsemeye istekli olmaktadır (Bos-Nehles, Bondarouk ve Nijenhuis, 2017, s. 382).

Yenilik, özünde zekayı içermektedir. Diğer bir ifadeyle bir yenilik aslında yeni bir fikirdir (Van de Ven, 1986, s. 591). Yenilikçi dehanın yaratıcı kıvılcımı ya da yeniliği tanıyan ve destekleyen örgütsel sistemlerin zekası olmadığında, sorunlara yeni ve yararlı çözümler bulmak da güçleşmektedir. Günümüzün en başarılı girişimleri, zeki girişimler olarak



dikkati çekmektedir (Glynn, 1996, s. 1081). Senge (1991; akt. Erçetin, 2004a, s. 59) bir örgütte ortaya çıkan grup zekasının bireysel zekaları aşması durumunda, bu durumun bireysel gelişmeye katkı sağlayacağını ifade etmiştir. Böyle bir katkı, bireyden gruba, gruptan örgüte birbirini tetikleyen, hızlandıran ve tekrarlanan bir süreci ortaya koymaktadır.

Zekâ kavramı öncelikle bireylerle ilişkilendirilmiş olsa da bazı yazarlar tarafından kolektif bir düzeyde kavramsallaştırılmaya ve ölçülmeye başlanmıştır (Glynn, 1996, s. 1087). Örgütlerde zekâ kavramı ilk kez 1967 yılında Amerikalı bir profesör olan Harold Wilensky tarafından ortaya atılmıştır. Wilensky (1967; akt. Azma, Mostafapour ve Rezaei, 2012, s. 95), örgütlerde toplanan zekaya ilişkin bilgilerin doğru örgütü belirlemek için kullanılabilmesini ifade ederek zekanın örgütün verimliliği ve etkinliği üzerinde büyük bir etkiye sahip olduğunu ve örgütsel kararlara yardımcı olması için kurumsal bilginin özelliklerinin ve ölçümünün düşünülebileceğini ileri sürmüştür.

Veryard (2018, s.1), bu doğrultuda örgütsel zekânın kolektif beceriler olarak kabul edilen karmaşık durumları anlamlandırma ve etkili bir şekilde hareket etme, çevredeki olayları ve işaretleri yorumlama ve bunlara göre hareket etme, işin amacına uygun bilgiyi geliştirme, paylaşma, kullanma, deneyimlerden öğrenme ve yansıtma becerileri ile karakterize edilebileceğini belirtmiştir. Erçetin (2001, s. 33) ise örgütsel zekâ kavramını örgütlerin, sıradan ve düzenli etkinliklere aynı zamanda dinamik küresel bir çevrede beklenmeyen durumlara ilişkin kararlar alabilmelerini sağlayan yetenekler ve bu yetenekleri kullanma potansiyeli olarak tanımlamıştır. Bu yetenekler, Erçetin (2004a, s. 68-74) tarafından örgütsel zekanın eylemsel alt boyutları olarak aşağıda tanımlanmıştır.

- **Değişen Durumlara Uyum Sağlama:** Farklılaşan koşullarda örgütün yeni dengeler oluşturabilmesi, ortaya çıkan çeşitli karışıklıklara karşı ortak kararlarla uygun politika ve stratejiler oluşturup uygulayabilmesidir.
- **Açık Fikirli Olabilme:** Örgütte tüm çalışanların fikrini açıkça söyleyebilmesi, tüm öneri ve görüşlere hoşgörüle bakılan bir ortamın yaratılmasıdır.
- **İşleyişte Esnek ve Rahat Olabilme:** Örgütün işleyişine ilişkin belirlenen kuralların değişebilir nitelikte olması ve çalışanların bu durumun rahatlığını hissetmeleri, çalışanların birbirleriyle sağlıklı bir etkileşim içerisinde olması, iş birliği yapmaları, bürokratik iş ve işlemlerin örgütün hızını azaltmayacak düzeyde yapılması ve çalışanların her konuda tercih yapabilme özgürlüğüne sahip olmalarıdır.
- **Eylem ve Tepkide Çabukluk:** Kararların hızla alınması ve uygulanması gerekliliğinin örgütsel düzeyde algılanmasıdır. Örgütler, kendilerini etkileyen her duruma ve her uyarıcıya bir bütün olarak hızlı bir şekilde uygun ve doğru tepkiyi vererek eylem geliştirebilmelidir.
- **Yenilenebilme:** Örgütün gelişmesini sağlayacak yeni bilgi ve teknolojilerin kullanılmasıdır.

- **Sezebilme ve Öngörülü Olabilme:** Örgütte olmuş ya da olası bir durumu fark etmek, hissetmek, o durumun yansımalarının neler olabileceğini kestirebilmek diğer bir ifadeyle duygusal zekayı örgütsel düzeyde kullanmaktır.
- **Hayal Gücünü Kullanabilme:** Bireysel yaratıcılığın bireysel ve örgütsel gelişim için kullanılmasıdır. Hayal gücünü kullanabilme yeteneği, diğer ilgili yeteneklerle birlikte değerlendirilmelidir. Örneğin; eylem ve tepkide çabukluk, eylem ve tepki geliştirmekle; işleyişte esneklik ve rahatlık, seçenek oluşturmakla; tümü ise hayal gücünü kullanmakla ilgilidir.

Örgütsel zekasını kullanabilen okullar, aynı zamanda etkili okullardır ve bu okullar eğitimsel amaçlarını gerçekleştirmek için mevcut problemlerini yeniden tanımlayarak köklü çözümler üretilmesi için yeni roller ortaya koymaktadırlar (İzci, 2017, s. 71). Okul örgütlerinde örgütsel zekanın geliştirilmesi, bilgi ve öğrenmeyle ilgili kaynakların ve yetkinliklerin kullanımını artırarak öğretmenlerin yenilik yeteneğinin geliştirilmesini ve yenilikçi çalışma davranışları ile gösterilmesini desteklemektedir (Kalkan, 2005, s. 48-49). Dolayısıyla örgütsel zeka, okulların sahip olduğu potansiyeli en doğru şekilde kullanmalarını sağlayarak eğitimsel süreçlerde yenilik ve yaratıcılığın ortaya çıkmasına imkan tanımaktadır.

Kahkha, Pourghaz ve Marziyeh (2015), İran'ın Zahedan kentindeki liselerde görev yapan 103 okul müdürü ile gerçekleştirdiği araştırmasında, örgütsel zeka düzeyi ile yenilik yönetimi ve örgütsel zeka düzeyi ile kariyer gelişimi arasında pozitif yönlü ve anlamlı bir ilişki tespit etmiştir. Ordooi (2016) ise İsfahan kentinin 6 farklı bölgesinde görev yapan 121 lise müdürünün örgütsel zekaya ilişkin algı düzeyleri ile yaratıcılıkları arasında pozitif yönlü ve anlamlı bir ilişki belirlemiştir. Tura ve Akbaşlı (2021), Ankara ilinde kamu ortaokulu ve imam hatip ortaokullarında görevli 328 branş öğretmeni ile gerçekleştirdiği araştırmasında, öğretmenlerin görev yaptıkları okulların örgütsel zekâ düzeyinin yenilikçi çalışma davranışlarını yüksek düzeyde etkilediği sonucuna ulaşmıştır. Diğer taraftan Kalkan (2008), Marmara Bölgesinde faaliyet gösteren 65 firmanın 223 çalışanı ile gerçekleştirdiği çalışmada, firmaların örgütsel zeka düzeyinin örgütsel yenilikçilik üzerinde ve örgütsel yenilikçiliğin ise firma performansı üzerinde etkili olduğunu ortaya koymuştur.

21. yüzyılda öğretmenlerin eğitim ve öğretimde kalite artışını sağlayacak ve sonuçta eğitim sistemini dönüştürebilecek yenilikçi çalışma davranışlarına sahip olması beklenmektedir. Ayrıca öğretmenlerin sergiledikleri davranışların öğrencileri tarafından örnek alındığı da bilinen bir gerçektir. Öğretmenlerin yenilikçi davranış ve uygulamalarının öğrencilerde yenilikçiliğe ilişkin farkındalık ve bilinç oluşturarak, bu yönde bir tutum oluşmasına katkı sağlayacağı düşünülmektedir. Ancak öğretmenlerin eğitim ve öğretim süreçlerinde sergiledikleri yenilikçi çalışma davranışları, bireyin kendisinden, görev yaptığı eğitim kurumundan ve/veya çevresinden kaynaklanan çeşitli etkenlerden etkilenebilmektedir. Bu etkenlerin belirlenmesi ve ayrıca eğitim örgütlerinde yenilik ve yaratıcılığın ortaya çıkarılmasında önemi genel kabul gören örgütsel zekanın bu etkenlerdeki sonuçlarının değerlendirilmesi, ülkemizde öğretmen yenilikçiliğine dair mevcut durumu daha anlaşılır kılacaktır. Örgütsel zeka ve yenilikçiliğe ilişkin incelenen

araştırmalar, nicel araştırma yöntemleri kullanılarak gerçekleştirilmiştir. Ancak öğretmenlerin yenilikçi çalışma davranışlarını etkileyen faktörlerin ve bu faktörler üzerinde örgüt zekasının sonuçlarının ortaya çıkarılması için öğretmen görüşlerinin derinlemesine incelenmesine dolayısıyla nitel araştırma çalışmalarına gereksinim duyulmaktadır.

Bu doğrultuda araştırmanın amacı, öğretmenlerin yenilikçi davranışlarını etkileyen bireysel ve örgütsel etkenlerin ortaya çıkarılması ve bu etkenler üzerinde örgüt zekasının sonuçlarının incelenip değerlendirilmesidir. Problem cümlesi; "Öğretmenlerin yenilikçi davranışlarını etkileyen bireysel ve örgütsel etkenler üzerinde örgüt zekasının sonuçları nelerdir?" şeklinde belirlenen araştırmanın alt problemleri aşağıda yer almaktadır.

- Öğretmenlerin görüşlerine göre yenilikçi çalışma davranışlarını etkileyen bireysel etkenler nelerdir?
- Öğretmenlerin görüşlerine göre yenilikçi çalışma davranışlarını etkileyen örgütsel etkenler nelerdir?
- Öğretmenlerin görüşlerine göre görev yaptıkları okulların örgütsel zeka düzeyinin, yenilikçi çalışma davranışlarını etkileyen bireysel ve örgütsel etkenler üzerindeki sonuçları nelerdir?

## Yöntem

### Araştırmanın Deseni

Araştırmanın çerçevesi nitel araştırma yöntemlerinden "temel araştırma deseni" temel alınarak oluşturulmuştur. Merriam (2009, s. 23)'a göre temel nitel araştırma, felsefi olarak inşacılık, fenomenoloji ve sembolik etkileşimden türetilmiş ve insanların yaşamlarını ve deneyimlerini nasıl anlamlandırdıklarını anlamaya çalışan bir araştırma desendir. Temel nitel araştırma ile insanların deneyimlerini nasıl yorumladıkları, kendi deneyimlerini nasıl inşa ettikleri, deneyimlerine ne anlam yükledikleri veya süreç ortaya çıkarılmaya çalışılır. Tek bir çalışmada deneyim, anlam oluşturma ve süreci keşfetmek de mümkündür. Temel bir nitel araştırma deseni, yalnızca olay ve olgular hakkındaki inançlara, görüşlere, tutumlara veya fikirlere odaklanmaz. İnançlar, görüşler vb. kişinin bulgularının bir parçası olarak ortaya çıkabilir. Ancak bu, temel bir nitel araştırma tasarımı yürütmenin amacı olmamalıdır (Worthington, 2013). Öğretmenlerin yenilikçi çalışma davranışlarını etkileyen bireysel ve örgütsel etkenlerin öğretmenlerin kendi yaşantı ve deneyimleriyle yorumlanması açısından araştırma, temel nitel araştırmanın doğasına uygun düşmektedir.

### Çalışma Grubu

Araştırma, Ankara ilinde 2020-2021 öğretim yılında Millî Eğitim Bakanlığı'na bağlı kamu okullarında görev yapan farklı eğitim kademeleri ve farklı branşlardan

öğretmenler ile yürütülmüştür. Araştırmanın çalışma grubuna dahil olacak öğretmenlerin belirlenmesinde, iki farklı amaçlı örnekleme yöntemine başvurulmuştur. Patton (2014, s. 230)'a göre amaçlı örnekleme seçimindeki temel mantık, araştırmanın daha derinlemesine yapılabilmesi için bilgi zengini durumları seçmektir. Bilgi zengini durumlar, araştırmacının araştırmanın amacı açısından mümkün olduğunda en fazla bilgi sağlayabileceği durumlardır.

Araştırmada kullanılan amaçlı örnekleme yöntemlerinden ilki kartopu örnekleme yöntemidir. Patton (2014, s. 237)'a göre bu yaklaşım, araştırmanın problemine ilişkin en fazla bilgi edinilebilecek birey ya da durumlara ulaşmada kullanılmaktadır. Süreç, "Bu konu hakkında kimler en fazla bilgi sahibidir? Bu konuyla ilgili olarak kimlerle görüşmeliyim?" soruları ile başlamaktadır. Kartopu örneklemede evrene ait birimlerden birinin yardımı ile ikinci birime; ikinci birimin yardımı ile üçüncü birime gidilerek daha fazla kişi dahil edilmekte ve örneklemin genişlemesi sağlanmaktadır. İlgili kişilere yöneltilen sorularla elde edilen isimler ve durumlar bir kartopu gibi büyümektedir. Bir süre sonra belirli isimler sürekli öne çıkmaya başlayarak, görüşülmesi gereken birey sayısı ve ilgilenilmesi gereken durum sayısı azalmaktadır (Yıldırım ve Şimşek, 2016, s. 122). Bu amaçla ilk olarak Millî Eğitim Bakanlığı ARGE Biriminden görüş alınarak çalışma grubu oluşturulmaya başlanmıştır. Buradan hareketle, araştırma kapsamında, eğitimde yenilikçiliğe olumlu olarak yaklaşan, öğretim süreçlerinde daha önce yenilikçi uygulamalar yapmış ya da bu konuda çeşitli projelerde görev almış öğretmenlere ulaşılmaya çalışılmıştır. Çalışma grubunun oluşturulmasında başvuru alan ikinci örnekleme yöntemi ise ölçüt örnekleme yöntemidir. Yıldırım ve Şimşek (2016, s. 122)'e göre ölçüt örnekleme yönteminde temel anlayış, araştırma kapsamında önceden belirlenmiş ölçütleri karşılayan tüm durumlar üzerinde çalışılmasıdır. Örnekleme temel teşkil eden bu ölçütler araştırmacı tarafından oluşturulabileceği gibi daha önceden hazırlanmış bir ölçüt listesi de olabilmektedir. Bu araştırmada kullanılacak ölçüt, katılımcıların eğitimde yenilikçiliğe olumlu olarak yaklaşan, öğretim süreçlerinde daha önce yenilikçi uygulamalar yapmış ya da bu konuda çeşitli projelerde görev almış öğretmenlerden meydana gelmesidir.

Patton (2014, s. 244)'a göre, nitel araştırmalarda örneklem büyüklüğünü belirlemeye ilişkin kesin bir kural bulunmamaktadır. Örneklem büyüklüğü araştırmanın amacına, ne bilinmek istendiğine, sahip olunan zaman ve eldeki kaynaklarla nelerin yapılabileceğine bağlı olarak değişmektedir. Creswell (2013, s. 78) ise fenomenolojik yaklaşımla desenlenen nitel araştırmalarda, örneklem büyüklüğü, 3-4 kişi ile 10-15 kişiden meydana gelen gruplar ile çalışılmasını öngörmektedir. Bu doğrultuda araştırma, 20 yenilikçi öğretmen ile gerçekleştirilmiştir. Araştırma etiği çerçevesinde katılımcı öğretmenler, Ö1'den Ö20'ye kadar rumuzlarla isimlendirilmiştir. Çalışma grubunda yer alan öğretmenlerin on üçü kadın, yedisi erkek iken üçü ilköğretimde, yedisi ortaokulda, üçü imam hatip ortaokulunda, biri anadolu lisesinde, üçü mesleki ve teknik anadolu lisesinde, ikisi bilim ve sanat merkezinde ve biri ise özel eğitim uygulama okulunda görev yapmaktadır. Diğer yandan öğretmenlerin üçü sınıf öğretmeni ve on yedisi ise branş öğretmenidir (beş teknoloji ve tasarım, dört fen bilimleri, dört matematik, bir Türkçe, bir bilişim teknolojileri, bir sağlık hizmetleri ve bir giyim üretim teknoloji ve moda tasarım

öğretmeni). Kıdemleri 5 – 29 yıl ve okullarındaki çalışma süreleri 2 – 23 yıl arasında değişen öğretmenlerin dokuzu lisans, sekizi yüksek lisans ve üçü doktora mezunudur. Katılımcı öğretmenlere dair kişisel bilgiler ve gerçekleştirmiş oldukları çalışmalar makale ekinde yer almaktadır.

## **Verilerin Toplanması**

Araştırmada veri toplama aracı olarak açık uçlu anket formu kullanılmıştır. Büyüköztürk (2005, s. 136)'e göre açık uçlu sorular, katılımcıların serbestçe cevap vermelerinin istenmesi durumunda tercih edilmektedir. Açık uçlu sorular ile katılımcıların araştırma sorularını istedikleri yönde yanıtlamaları ve ifade etmek istediklerini kendi kelimeleri ile ortaya koymaları sağlanmaktadır (Patton, 2014, s. 354). Araştırmada kullanılan açık uçlu anket sorularının hazırlanması için öncelikle kapsamlı bir alanyazın taraması yapılmış ve Erçetin (2004b) tarafından gerçekleştirilen araştırmasında tanımladığı örgütsel zekanın eylemsel boyutlarından yararlanılmıştır. Erçetin (2004b) çalışmasında, örgütsel zekaya ilişkin yetenekleri okullar için tanımlamak ve örgütsel zekanın eylemsel boyutlarını ortaya koymak amacıyla Hacettepe Üniversitesi Eğitim Fakültesi Eğitim Bilimleri Bölümü Eğitim Yönetimi, Teftişi, Planlaması ve Ekonomisi Anabilim dalında lisans üstü eğitim görmekte olan 48 öğrenci ile odak grup çalışması gerçekleştirilmiştir. Araştırmanın sonucunda, örgütsel zekaya ilişkin yeteneklerin okullar için de tanımlanabileceği ve her bir yeteneğin birbiri ile etkileşen, birbirinin oluşumunu sağlayan 7 eylemsel boyuta sahip olduğu belirlenmiştir. Söz konusu eylemsel boyutlar; değişen durumlara uyum sağlama, açık fikirli olabilme, işleyişte esnek ve rahat olabilme, eylem ve tepkide çabukluk, yenilenebilme, sezebilme ve öngörülü olabilme ve hayal gücünü kullanabilmedir. Açık uçlu anket soruları içerisinde örgütsel zekanın her bir eylemsel boyutunu temsil eden sorulara yer verilmiştir. Araştırmadan önce katılımcı öğretmenler ile internet vasıtası ile iletişime geçilmiş ve araştırmaya gönüllü katılım beyanı alınmıştır. Araştırmaya katılan öğretmenlerin kimlik bilgilerinin saklı kalacağı ve sağladıkları verilerin bilimsel çalışmalar dışında kullanılmaması hususu özellikle belirtilmiştir. Eğitimcilerin ahlaki değerlere sahip olmaları ve öğrencilerine de ahlaki değerleri aşılamaları beklenmektedir. Eğitim sistemleri ahlaki olgunluğa sahip ve akademik sahtekarlıktan uzak duran araştırmacılara ihtiyaç duymaktadır. Günümüzde akademik sahtekârlık küresel olarak daha yaygın hale gelmekte olduğundan, araştırmalarda etik ve sahtekârlık davranışını azaltmak hayati bir öneme sahip hale gelmiştir (Akbaşlı, Erçetin ve Kubilay, 2019). Bundan dolayı araştırmada etik kurallara uyulması hususunda oldukça hassas davranılmıştır. Bu kapsamda öğretmenlere çalışmanın gönüllülük esasına dayandığı ve çalışmanın onlara herhangi bir sorumluluk getirmeyeceği bildirilmiştir. Kişisel bilgilerinin ihtimamla korunacağı ve hiçbir yerde paylaşılmayacağı belirtilmiştir. Katılımcı öğretmenlere ayrıca araştırma sonuçlarının tamamen bilimsel amaçlarla kullanılacağı ve istedikleri anda çalışmadan çekilebilecekleri konusunda bilgi verilmiştir. Katılımcı öğretmenlerin talebi üzerine tüm görüşmeler dijital ortamda gerçekleştirilmiş ve araştırmaya ilişkin veriler internet tabanlı dijital veri toplama aracı kullanılarak elde edilmiştir.

## Verilerin Analizi

Katılımcı öğretmenlerden alınan bilgiler kelime işlem programında tekrar yazılarak dijital ortama aktarılmış, her soru için ayrı ayrı inceleme yapılmıştır. Birinci alt amaca ilişkin elde edilen veriler betimsel analize, ikinci ve üçüncü alt amaca ilişkin veriler ise içerik analizine dayalı olarak çözümlenmiştir. Yıldırım ve Şimşek (2016, s. 239)'e göre betimsel analizde veriler, daha önceden belirlenen temalara göre yorumlanmaktadır. Veriler araştırma sorularının ortaya koyduğu temalara göre çözümlenebileceği gibi görüşme ve gözlem süreçlerinde kullanılan sorular ya da boyutlar dikkate alınarak da sunulabilmektedir. İçerik analizi ise hacimli olan nitel bir materyali alarak temel tutarlılıkları ve anlamları belirlemeye yönelik nitel veri indirgeme ve anlamlandırma çabasıdır (Patton, 2014, s. 453). İçerik analizinde temel amaç, toplanan verileri açıklayabilecek kavramlara ve ilişkilere ulaşmaktır. Betimsel analizde özetlenen ve yorumlanan veriler, içerik analizinde daha derin bir çözümlenmeye tabi tutulmakta ve betimsel bir yaklaşımla fark edilmeyen kavram ve temalar bu analiz sonucu ortaya çıkarılmaktadır. Araştırma verilerinin analizinde verilerin tekrar sıklığı dikkate alınarak frekans değerleri belirlenmiştir. Verilerin anlamlandırılmasında hesaplanan frekans değerlerinden yararlanılmıştır. Ayrıca katılımcı öğretmenlerin görüşlerini daha net ortaya koymalarını sağlamak için çalışmada doğrudan alıntılara da yer verilmiştir.

## Geçerlik ve Güvenirlik Çalışmaları

Nitel araştırmaların geçerlik ve güvenilirliklerinin belirlenmesi için yapılan analizler nicel araştırmalardan oldukça farklıdır. Aynı zamanda çok sayıda araştırmacının birbirinden farklı ölçütler geliştirdiği de görülmektedir. Nitel araştırmacılar tekil doğrulardan ziyade farklı bakış açıları ile görüşmelerin yapılmasını önemserler (Patton, 2014; Creswell, 2013). Nitel araştırmalarda araştırmacının statik değil dinamik bir sürecin içerisinde olması nitel araştırmanın önemli özelliklerinden biridir. Yani araştırmacı araştırma süreci içerisinde yeni teknikler geliştirebilir, farklı sorular sorabilir ya da görüşmeleri planladığı şekilde değil de farklı bir şekilde de yapabilir (Yıldırım ve Şimşek, 2016). Araştırma sorularının kapsam geçerliliğini sağlamak amacıyla üç alan uzmanından görüş alınmış ve uzman görüşleri doğrultusunda sorular yeniden düzenlenmiştir. Araştırmanın güvenilirlik hesaplaması için ise Miles ve Huberman (1994) tarafından önerilen güvenilirlik formülü ( $\text{Güvenirlik} = \frac{\text{Görüş Birliği}}{\text{Görüş Birliği} + \text{Görüş Ayrılığı}} \times 100$ ) kullanılmıştır. İçsel tutarlılığı gösteren kodlama denetimine göre kodlayıcılar arası görüş birliğinin en az %80 olması beklenmektedir (Miles ve Huberman, 1994, s. 64). Bu doğrultuda yapılan hesaplama sonucunda araştırmanın güvenirliliği %90 olarak belirlenmiştir.

## Bulgular

Bu bölümde öğretmenlerin yenilikçi çalışma davranışlarını etkileyen bireysel ve örgütsel etkenler ile bu etkenler üzerinde örgüt zekasının sonuçları bağlamında katılımcı öğretmenler ile gerçekleştirilen görüşmelerden elde edilen bulgulara yer verilmiştir.

Araştırmanın birinci alt problemi, öğretmenlerin görüşlerine göre yenilikçi çalışma davranışlarını etkileyen bireysel etkenlerin neler olduğunun belirlenmesidir. Bu amaçla öğretmenlerin yenilikçi çalışma davranışlarını etkileyen bireysel etkenleri ortaya koymaya yönelik olarak araştırmanın katılımcılarına “Yenilikçi uygulamalarınızda etkili olduğunu düşündüğünüz kişisel özellikleriniz nelerdir?” ve “Yenilikçi uygulamalar/etkinlikler yapan bir öğretmen olarak mesleki açıdan sizi yeni uygulama yapmaya yönelten motivasyon kaynakları nelerdir?” soruları yöneltilmiştir. Öğretmenlerin yenilikçi uygulamalarında etkili olduğunu düşündükleri bireysel özellikleri ve mesleki açıdan kendilerini yeni uygulama yapmaya yönelten motivasyon kaynakları Tablo 1’de görülmektedir.

**Tablo 1.**

*Öğretmenlerin Yenilikçi Uygulamalarında Etkili Olduğunu Düşündükleri Bireysel Özellikleri ve Motivasyon Kaynakları*

| <b>Bireysel Özellikler</b>                 | <b>n</b> |
|--|----------|
| Araştırma yapmayı sevme                    | 8        |
| Öğrenme tutkusu                            | 7        |
| Merak                                      | 7        |
| İçsel motivasyon                           | 5        |
| Yaratıcılık                                | 5        |
| Çalışma azmi                               | 5        |
| Sabır                                      | 4        |
| Yönetim ve koordinasyon becerisi           | 4        |
| Mesleğe duyulan sevgi                      | 2        |
| Problem çözme                              | 2        |
| Özgüven                                    | 2        |
| Etkili iletişim                            | 1        |
| Girişimcilik                               | 1        |
| Çok yönlü düşünebilme                      | 1        |
| Teknolojiye yönelik ilgi                   | 1        |
| <b>Motivasyon Kaynakları</b>               | <b>n</b> |
| Teknoloji çağını yakalamak                 | 10       |
| Dersleri eğlenceli hale getirme arzusu     | 5        |
| Yeni nesil öğrencilerin ilgisini çekebilme | 4        |
| Mesleki açıdan yetersizlik hissi           | 2        |
| Öğrencilerin ufkunu genişletme isteği      | 2        |
| 21. Yüzyıl becerilerine aşina olmak        | 1        |

Tablo 1’de de görüldüğü gibi araştırmaya katılan öğretmenlerin yenilikçi uygulamalarında etkili olduğunu düşündükleri bireysel özellikleri arasında araştırma yapmayı sevme (n=8), öğrenme tutkusu (n=7) ve merak (n=7) katılımcılar tarafından en fazla ifade edilen özelliklerdir. Ö5 rumuzlu öğretmen bu durumu, “Araştırmayı seviyorum. Meraklıyım ve yeni şeyler öğrenmek ve uygulamaktan hoşlanıyorum” şeklinde

açıklamıştır. İçsel motivasyon (n=5), yaratıcılık (n=5) ve sebat (n=5) ise öğretmenler tarafından ağırlıklı olarak belirtilen diğer bireysel özellikler olarak belirlenmiştir. Etkili iletişim (n=1), girişimcilik (n=1), çok yönlü düşünebilme (n=1) ve teknolojiye yönelik ilgi (n=1) ise öğretmenlerin yenilikçi uygulamalarında etkili olarak en az ifade ettikleri bireysel özellikleridir. Öğretmenleri yeni uygulamalar yapma konusunda harekete geçiren motivasyon kaynağı olarak ise katılımcıların yarısı (n=10) teknoloji çağını yakalama gereksinimini belirtmiştir. Ö8 rumuzlu öğretmen bu duruma ilişkin olarak *“Çağı yakalamak. Değişen ve gelişen dünyanın gerisinde kalmadan öğrencilerimi gerçek hayata hazırlamak istiyorum”* ifadesinde bulunmuştur. Ayrıca katılımcılardan 5’i dersleri eğlenceli hale getirme arzusunu ifade ederken 4 katılımcı ise yeni nesil öğrencilerin ilgisini çekebilme isteğini, yeni uygulamalara yönelik motivasyon kaynakları arasında göstermiştir. Katılımcı öğretmenlerin yeni uygulamalara yönelik en az ifade ettikleri motivasyon kaynakları ise mesleki açıdan yetersizlik hissi (n=2), öğrencilerin ufkunu genişletme isteği (n=2) ve 21. Yüzyıl becerilerine aşina olmak (n=1) olarak görülmüştür.

Araştırmanın ikinci alt problemi, öğretmenlerin görüşlerine göre yenilikçi çalışma davranışlarını etkileyen örgütsel etkenlerin neler olduğunun belirlenmesidir. Bu amaçla öğretmenlerin yenilikçi çalışma davranışlarını etkileyen örgütsel etkenleri ortaya koymaya yönelik olarak araştırmanın katılımcılarına *“Yeni uygulamalarınıza okulda hangi iş görenlerden ne tür tepkiler alırsınız?”*, *“Yeni uygulamalarınıza okulda ve okul dışında hangi iş görenlerden/kimlerden ne tür destek/yardım alırsınız?”* soruları yöneltilmiştir. Öğretmenlerin sorulara yönelik vermiş oldukları cevaplara ilişkin tema ve alt temalar Tablo 2’de yer almaktadır.

Araştırmaya katılan öğretmenlerin gerçekleştirdikleri yenilikçi uygulamalar ile ilgili olarak 15 katılımcı okul yönetimi, öğretmenler ve diğer işgörenlerden olumlu tepkiler aldığını belirtmiştir. Ö7 rumuzlu öğretmen yenilikçi uygulamalarına yönelik olarak okul müdürü ve öğretmenlerin yaklaşımını *“Okul müdürümüz de şanslıyız ki mükemmeliyetçi eğitim öğretim odaklı çalışana destekleyen bir müdürdür. Ayrıca zümre arkadaşlarım ve başka branşlardan arkadaşlar da isteklidir. Uygulama yapılacaksa sorun çıkarmadan yardımcı olurlar”* şeklinde ifade etmiştir. Araştırmaya katılan 5 katılımcı ise genel durumun aksine okulda yenilikçi uygulamaları karşısında bazı yönetici ve öğretmenlerden olumsuz tepkiler aldıklarını ifade etmiştir. Ö6 rumuzlu öğretmen bu durumu *“Branş arkadaşlarınızın tepkisi oluyor. Çünkü siz bir şey yapıyorsanız onlar da yapmak zorunda hissediyor ve size niye yapıyorsun tepkisi veriyorlar. Hatta bazı branş arkadaşlarımla engellemelerine de maruz kaldım. Mesela sizin proje grubunuzdan öğrencileri sizle çalışmamama konusunda yönlendirebiliyorlar. Yönetici okulda sizin çalışma yapmanızı engellemeye çalışıyor. O dönemde öğretmen arkadaşlarımla bana okul müdürü senin çalışmanı istemiyor hala neden çabalıyorsun dediğini hatırlıyorum. Aslında ben çalışmalarımı okul müdürü için değil öğrenciler için yapıyordum”* ifadesi ile ortaya koymuştur.



Tablo 2.

## Öğretmenlerin Yenilikçi Uygulamalarında Destek Aldıkları Kişi ve Kurumlar

| Tema                                 | Alt Tema                              | n         |
|--------------------------------------|---------------------------------------|-----------|
|                                      |                                       | <b>15</b> |
| Okul Yöneticileri                    | Araç gereç, malzeme temini            | 9         |
|                                      | Finansal destek                       | 2         |
|                                      | İzin vb. işlemleri kolaylaştırma      | 4         |
|                                      |                                       | <b>9</b>  |
| Okuldaki Öğretmenler                 | Proje, etkinliklere yardım ve katılım | 9         |
|                                      |                                       | <b>7</b>  |
| Veliler                              | Araç gereç temini                     | 1         |
|                                      | Proje, etkinliklere yardım ve katılım | 6         |
|                                      |                                       | <b>6</b>  |
| Öğrenciler                           | Proje, etkinliklere yardım ve katılım | 6         |
|                                      |                                       | <b>6</b>  |
| Üniversiteler                        | Eğitim desteği                        | 4         |
|                                      | Araç gereç, malzeme temini            | 2         |
|                                      |                                       | <b>5</b>  |
| TÜBİTAK                              | Proje desteği                         | 5         |
|                                      |                                       | <b>4</b>  |
| Diğer Okullar/Bilsemeler             | Araç gereç, malzeme temini            | 1         |
|                                      | Teknolojik destek                     | 3         |
|                                      |                                       | <b>4</b>  |
| Belediyeler                          | Proje desteği                         | 2         |
|                                      | Araç gereç, malzeme temini            | 2         |
|                                      |                                       | <b>2</b>  |
| Millî Eğitim Bakanlığı               | Proje desteği                         | 2         |
| İl ve İlçe Millî Eğitim Müdürlükleri | Proje desteği                         | 2         |
|                                      |                                       | <b>2</b>  |
| Ulusal Ajans                         | Proje desteği                         | 2         |
| Diğer Bakanlıklar                    | Proje desteği                         | 2         |
| Sosyal Medya                         | Fikir alışverişi                      | 2         |
| Özel Şirketler                       | Yazılım ve eğitim desteği             | 1         |

Araştırmaya katılan öğretmenler yenilikçi uygulamalarında en fazla okul yöneticilerinden (n=15), okullarındaki diğer öğretmenlerden (n=9), velilerinden (n=7) ve

öğrencilerinden (n=6) destek aldıklarını belirtmiştir. Katılımcı öğretmenler, okul yöneticilerinden; araç gereç ve malzeme temini, finansal destek ve izin vb. bürokratik işlemlerin kolaylaştırılması konularında destek almaktadırlar. Ö12 rumuzlu öğretmen "Materyaller konusunda idarecim çok destekleyici. Zaten yenilikçilik okulumda kurum misyonu olduğundan proje temelli ve yenilikçi her türlü fikir her anlamda desteklenmektedir" şeklindeki ifadesi ile okul yöneticilerinin ve yöneticilerin önderliğinde ortaya çıkan kurumsal misyonun, öğretmenlerin yenilikçi uygulamaları üzerindeki etkisinin ne denli önemli olduğunu ortaya koymaktadır. Öğretmenler, okullarında görev yapan diğer öğretmenlerden, velilerinden ve öğrencilerinden ise yoğun bir şekilde yenilikçi proje ve etkinliklerinde yardım ve bu etkinliklere katılım konusunda destek aldıklarını açıklamışlardır. Projeler, yenilikçi uygulama ve etkinlikler genellikle ekip çalışmasını gerekli kılmaktadır. Bundan dolayı ortaya çıkan bu sonucun mantıklı olduğu düşünülmektedir.

Araştırmaya katılan öğretmenler yenilikçi uygulamalarında en fazla okul örgütü içerisinden destek almakla birlikte okul örgütünün dışındaki kurumlardan da çeşitli destekler sağladıklarını ifade etmişlerdir. Buna göre katılımcı öğretmenler; üniversiteler (n=6), Türkiye Bilimsel ve Teknolojik Araştırma Kurumu (TÜBİTAK) (n=5) diğer okullar/bilsemeler (n=4) ve belediyelerden de (n=4) yenilikçi uygulamalarında yararlanmaktadırlar. Öğretmenler üniversitelerden eğitim desteği ve araç gereç, malzeme temin etmekte, TÜBİTAK proje destekleri ile eğitim ve hibe olanakları sağlamaktadır. Öğretmenler, diğer okullar/bilsemeler ile belediyelerden de aynı şekilde araç gereç, malzeme temini ve teknolojik yazılım ve programların kullanılması konusunda yardımlar ve hibe desteklerinden faydalanmaktadırlar.

Araştırmaya katılan öğretmenlerin yenilikçi uygulamalarında en az destek aldığı kurumlar ise özel şirketler (n=1) olarak belirlenmiştir. Bu durumun, araştırmaya katılan öğretmenlerin kamu okullarında görev yapmalarından dolayıyla farklı kurumlardan destek alma durumunda yine devlet kurumlarına yönelmelerinden kaynaklanıyor olabileceği düşünülmektedir.

Öğretmenlerin yenilikçi çalışma davranışlarını etkileyen örgütsel etkenleri ortaya koymaya yönelik olarak araştırmaya katılan öğretmenlere ayrıca görev yaptıkları okulların fiziksel koşullarının yeterliliğinin belirlenmesi bağlamında "Okulunuzun fiziki koşullarının yenilikçi uygulamalarınız için yeterli olduğunu düşünüyor musunuz?" ve "Eğer yeterli olduğunu düşünmüyorsanız hangi hususlarda yetersizlik olduğunu düşünüyorsunuz?" soruları yöneltilmiştir. Öğretmenlerin okulların fiziksel koşullarına yönelik vermiş oldukları cevaplara ilişkin tema ve alt temalar Tablo 3'de yer almaktadır.

Yenilikçi uygulamalar geliştirmede görev yaptıkları okulların fiziksel koşullarının yeterliliği konusunda araştırmaya katılan öğretmenlerin yarısı (n=10) fiziksel koşulları yeterli bulurken katılımcıların diğer yarısı ise (n=10) yetersiz olduğunu belirtmiştir. Okullarının fiziksel koşullarını yetersiz olarak değerlendiren öğretmenler bu yetersizlikleri; teknolojik donanım ve alt yapı eksiklikleri (n=7), branşına ait tasarım beceri atölyesinin bulunmaması (n=3) ve kalabalık sınıflar (n=2) olarak açıklamıştır. Ö8 rumuzlu öğretmen yaşanan fiziki yetersizliklere ilişkin olarak "Teknolojik alt yapı,

*bilgisayar destek noktası ve okulun mevcudunun çok kalabalık olması yetersizlik nedenlerinin başında geliyor” derken Ö17 rumuzlu öğretmen ise “Kendi branşıma uygun atölye maalesef yok. Bu anlamda idare ve diğer zümre arkadaşlarımdan bunun için bir gayret de göremiyorum” şeklindeki ifadesi ile fiziki yetersizliğin yanı sıra yaşanan soruna ilişkin okul yönetimi ve öğretmenlerin de duyarsız kaldıklarını ortaya koymuştur.*

### Tablo 3.

#### Öğretmen Görüşlerine Göre Okulların Fiziksel Koşullarının Yeterliliği

| Tema     | Alt Tema  | n  |
|----------|---|----|
| Yeterli  |   | 10 |
| Yetersiz |   | 10 |
|          | Teknolojik donanım ve alt yapı eksiklikleri         | 7  |
|          | Branşına ait tasarım beceri atölyesinin bulunmaması | 3  |
|          | Kalabalık sınıflar                                  | 2  |

Araştırmanın üçüncü alt problemi, öğretmenlerin görüşlerine göre görev yaptıkları okulların örgütsel zekâ düzeyinin, yenilikçi çalışma davranışlarını etkileyen bireysel ve örgütsel etkenler üzerindeki sonuçlarının belirlenmesidir. Bu amaçla araştırmaya katılan öğretmenlere örgütsel zekanın 7 eylemsel alt boyutuna (değişen durumlara uyum sağlama, açık fikirli olabilme, işleyişte esnek ve rahat olabilme, eylem ve tepkide çabukluk, yenilenebilme, sezebilme ve öngörülü olabilme, hayal gücünü kullanabilme) ilişkin düşüncelerine yönelik sorular yöneltilmiştir. Araştırmadan elde edilen bulgulara aşağıda yer verilmiştir.

Örgütsel zekanın değişen durumlara uyum sağlama boyutuna ilişkin olarak katılımcılara okulda öğretmenlerin eğitim ve öğretim ile ilgili kararlara katılımı durumuna ve bu durumun yenilikçi uygulamaları üzerindeki etkilerine yönelik soru yöneltilmiştir. Öğretmenlerin okulda kararlara katılım durumunun yenilikçi uygulamaları üzerindeki etkilerine ilişkin görüşlerine yönelik tema ve alt temalar Tablo 4’te yer almaktadır.

Araştırmaya katılan öğretmenlerin okulda eğitim ve öğretime ilişkin kararlara katılmaları konusunda 15 katılımcı söz sahibi olduklarını belirtirken 5 katılımcı ise okulda kararlara katılım gösteremediklerini ifade etmiştir. Yine katılımcılardan 15’i okulda kararlara katılımın yeni fikir ve uygulamaları üzerinde etkili olduğunu belirtmiştir. Okulda eğitim ve öğretim ile ilgili kararlara katılım durumunun öğretmenlerin yeni fikir ve uygulamaları üzerinde ortaya çıkardığı etkiler Tablo 4’te listelenmiştir. Öğretmenlerin okulda kararlara katılmaları en fazla motivasyon artışı (n=6) üzerinde etkili olmaktadır. Katılımcıların okul yönetimi tarafından desteklendiklerini hissetmeleri (n=2) ve kuruma olan güvenlerinin artması (n=2), öğretmenlerin yenilikçi uygulamalarında onlara cesaret veren etkenler olarak görülmektedir. Ö15 rumuzlu öğretmen “Fikir alışverişi yapılarak ve orta yollar bulunarak alınan kararlar personel üzerinde her zaman olumlu etki yaratır. Ben de yeni fikirlerimi daha kolayca, çekinmeden ortaya atabiliyorum. Arkadaşlarımdan ne tür destek alabileceğimi de belirtebiliyorum” şeklindeki ifadesi bu durumu açıkça göstermektedir. Öğretmenlerin kararlara katılmaları konusunda en az

ifade edilen görüşler ise işe olan inancı arttırması (n=1), görev performansını arttırması (n=1) ve öğretmenin özerkliğini desteklemesi (n=1) olarak ifade edilmiştir.

**Tablo 4.**

*Kararlara Katılım Durumunun Öğretmenlerin Yenilikçi Uygulamaları Üzerindeki Etkileri*

| Tema                                 | Alt Tema                             | n |
|--------------------------------------|--------------------------------------|---|
| Kararlara katılmada söz sahibi       | Yüksek mesleki motivasyon            | 6 |
|                                      | Okul yönetimi tarafından desteklenme | 2 |
|                                      | Kuruma güven artışı                  | 2 |
|                                      | Yeni fikirler için ortam             | 2 |
|                                      | İş birliği fırsatları                | 2 |
|                                      | İşe olan inanç artışı                | 1 |
|                                      | Görev performansı artışı             | 1 |
|                                      | Özerkliği destekleme                 | 1 |
| Kararlara katılmada söz sahibi değil |                                      | 5 |

Öğretmenlerin eğitim ve öğretim ile ilgili kararlara katılımının yenilikçi uygulamaları üzerindeki etkileri, öğretmenlerin yenilikçi uygulamalarında etkili olduğunu düşündükleri bireysel etkenleri harekete geçiren ve güçlendiren bir durum yaratmaktadır. Örneğin; katılımcı öğretmenlerin ifade ettikleri bireysel özellikleri arasında yer alan motivasyon, yaratıcılık, problem çözme, özgüven ve mesleğe duyulan sevgi kararlara katılımın sonuçları ile aynı eksende yer almakta ve örgüt zekasının sonuçları olarak değerlendirilmektedir. Bununla birlikte kararlara katılımın iş birliği fırsatlarını ortaya çıkarması; öğretmenlerin proje ve etkinliklerinde okul yönetimi, öğretmenler, veliler ve öğrenciler ile ortak çalışma ve iş birliklerinde önemli bir örgütsel etken olarak görülmektedir.

Örgütsel zekanın açık fikirli olabilme boyutuna ilişkin olarak araştırmaya katılan öğretmenlere okulda fikirlerini açıkça ifade edebilme ve bu durumun yenilikçi uygulamaları üzerindeki etkilerine yönelik soru yöneltilmiştir. Öğretmenlerin okulda fikirlerini açıkça ifade edebilme durumunun yenilikçi uygulamaları üzerindeki etkilerine ilişkin görüşlerine yönelik tema ve alt temalar Tablo 5'te yer almaktadır.

Araştırmaya katılan öğretmenlerin tamamına yakını (n=18) okulda fikirlerini açıkça ifade edebildiklerini belirtmişlerdir. Katılımcı 17 öğretmen ise bu durumun yeni fikir ve uygulamaları üzerinde etkili olduğunu ifade etmiştir. Okulda öğretmenlerin fikirlerini açıkça ifade edebilme durumunun öğretmenlerin yeni fikir ve uygulamaları üzerinde ortaya çıkardığı etkiler Tablo 5'te listelenmiştir. Katılımcı öğretmenler fikirlerini açıklayabildiklerinde bunun yeni fikirlerin ortaya çıkmasını sağladığını (n=9), planlanan çalışmaların/uygulamaların daha sağlıklı ilerlemesini sağladığını (n=3), özgüvenlerini arttırdığını (n=3), problemlerin etkili bir şekilde çözülmesini sağladığını (n=2) ve öğrenciler için en doğru kararları alabildiklerini (n=1) ifade etmiştir. Ö7 rumuzlu

öğretmen konuya ilişkin olarak “Fikir hürriyetinin olduğu ortamlarda saygı çerçevesinde tartışmalar yürütülebilir, karşılıklı uzlaşmaya varabilirsiniz. Fikrinizin mantık çerçevesinde kabul edileceğini bildiğiniz durumlarda yeni fikirler ortaya atmanız daha kolay olur. Böylece daha kolay ilerlersiniz” ifadesi ile durumun önemini net bir şekilde ortaya koymuştur.

### Tablo 5.

#### Fikirlerini İfade Edebilme Durumunun Öğretmenlerin Yenilikçi Uygulamaları Üzerindeki Etkileri

| Tema                           | Alt Tema                                   | n |
|--------------------------------|--|---|
| Fikirleri açıkça ifade etme    | Yeni fikirlerin ortaya çıkması             | 9 |
|                                | Planlanan çalışmaların sağlıklı ilerlemesi | 3 |
|                                | Özgüven artışı                             | 3 |
|                                | Problemlerin etkili bir şekilde çözülmesi  | 2 |
|                                | Öğrenciler için en doğru kararları alma    | 1 |
| Fikirleri açıkça ifade edememe |  | 2 |

Araştırmaya katılan öğretmenlerin görüşlerine dayanarak örgütsel zekanın açık fikirli olabilme boyutunun okulda yeni fikirlerin ortaya çıkarılması ve uygulanabilmesi için net bir zemin hazırladığını söylemek mümkündür. Aynı zamanda öğretmenlerin fikirlerini açık bir şekilde ifade edebilmeleri, yenilikçi uygulamalarında etkili olduğunu düşündükleri bireysel etkenler arasında yer alan özgüven ve problem çözme becerilerini harekete geçirici bir rol de üstlenmektedir. Bu doğrultuda Ö15 rumuzlu öğretmenin ifadesi oldukça çarpıcıdır. “Yeni fikir ve uygulamalarımı hiç çekinmeden hem idarecilerimle hem öğretim arkadaşlarımla hem velilerimle hem de öğrencilerimle paylaşabiliyorum. Şimdiye kadar kabul edilmeyen bir fikrim olmadı. Bu da kendime olan güvenimi arttırıyor”.

Örgütsel zekanın işleyişte esnek ve rahat olabilme boyutuna ilişkin olarak öğretmenlere okul yönetiminin eleştirisi, görüş ve önerilere karşı hoşgörülü olabilme durumuna ve bu durumun yenilikçi uygulamaları üzerindeki etkilerine yönelik soru yöneltilmiştir. Okul yönetiminin, öğretmenlerin eleştirisi, görüş ve önerilerine karşı hoşgörülü olabilme durumunun öğretmenlerin yenilikçi uygulamaları üzerindeki etkilerine ilişkin görüşlerine yönelik tema ve alt temalar Tablo 6’da yer almaktadır.

Araştırmaya katılan 15 öğretmen okul yönetiminin eleştirisi, görüş ve önerilere karşı hoşgörülü olduğunu belirtirken 5 öğretmen okul yönetiminden bu hoşgörülü davranışı görmediklerini ifade etmiştir. Katılımcı öğretmenlerden 14’ü ise bu durumun yeni fikir ve uygulamaları üzerinde etkili olduğunu söylemiştir. Okul yönetiminin eleştirisi, görüş ve önerilere karşı hoşgörülü davranma durumunun öğretmenlerin yeni fikir ve uygulamaları üzerinde ortaya çıkardığı etkiler Tablo 6’da görülmektedir. Katılımcılar okul yönetiminin, eleştirisi, görüş ve önerileri hoşgörü ile karşıladıklarında okulda farklı

fikirlerin ortaya çıkmasına imkân sağlayan demokratik bir ortamın oluştuğunu (n=7), proje ve uygulamalarını daha pozitif bir ortam içerisinde gerçekleştirdiğini (n=4), motivasyonlarının arttığını (n=2), sorunlara çok daha hızlı çözüm üretebildiklerini (n=1) ve kendilerini çok daha rahat ifade edebildiklerini (n=1) ifade etmiştir. Dolayısıyla okul yönetiminin kendilerine yöneltilen eleştiri, görüş ve önerilere karşı hoşgörülü bir tavır sergilemesi okul içerisinde olumlu bir atmosfer yaratarak yenilikçi çalışma davranışlarının önünü açmaktadır. Ö5 rumuzlu öğretmen *“Okul yönetiminin yeni fikir ve uygulamaların destekçisi olması ve farklı fikirlerin ortaya atılmasını sağlayan bir ortam oluşturması öğretmenlerin yenilikçi uygulamalar geliştirmesinde çok etkilidir”* ve Ö15 rumuzlu öğretmenin *“Olumlu eleştiriler zaten sorun yaratmaz. Önemli olan olumsuz eleştirileri de aynı şekilde kabul edebilmek ve bunu kişisel ya da kurumsal gelişim için kullanabilmektir. Bugüne kadar çalıştığım her okul yönetimi her türlü olumsuz eleştiri de değerlendirmiştir. Bu sayede yeni fikir ve uygulamalar da zamanında ve olması gerektiği gibi yürütülür ve sonuçlandırılır”* şeklindeki ifadeleri bu durumu açıkça ortaya koymaktadır.

#### Tablo 6.

#### Okul Yönetiminin Eleştiri, Görüş ve Önerilere Karşı Hoşgörülü Davranma Durumunun Öğretmenlerin Yenilikçi Uygulamaları Üzerindeki Etkileri

| Tema   | Alt Tema   | n |   |
|--|--|---|---|
| Okul yönetimi eleştiri, görüş ve önerilere karşı hoşgörülü | Farklı fikirlerin ortaya çıkmasına imkân sağlayan demokratik ortam yaratma | 7 |   |
|  | Proje ve uygulamaları pozitif ortamda gerçekleştirme                       | 4 |   |
|  | Motivasyonu artırma  | 2 |   |
|  | Sorunlara daha hızlı çözüm üretme  | 1 |   |
|  | Kendini rahat ifade edebilme   | 1 |   |
|  | Okul yönetimi eleştiri, görüş ve önerilere karşı hoşgörülü değil           |   | 5 |

Örgüt zekasının işleyişte esnek ve rahat olabilme boyutu, olumlu okul ikliminin yaratılmasında ve yeni fikirlerin önünün açılmasında okullara önemli bir alt yapı sunmaktadır. Okul yönetimi tarafından yaratılan hoşgörü ortamı, öğretmenlerin yenilikçi uygulamalarında etkili olduğunu düşündükleri bireysel etkenler arasında yer alan motivasyon ve problem çözme becerilerini harekete geçirici bir etki de yaratmaktadır. Diğer taraftan katılımcıların yenilikçi uygulamalarında etkili olduğunu düşündükleri örgütsel etkenler arasında sıraladıkları ve okul yönetiminin, öğretmenlerin yenilikçi uygulamalarına destek olarak sağladıkları araç gereç, malzeme temini, finansal katkılar ve özellikle de izin vb. bürokratik işlemlerde gerçekleştirdikleri kolaylaştırmalar, aynı

zamanda örgütsel zekâ etkeni olarak işleyişte esnek ve rahat olabilme boyutu ile ilişkili görülmektedir.

Örgütsel zekanın eylem ve tepkide çabukluk boyutuna ilişkin olarak katılımcılara okulda ortaya çıkan problemlere karşı zamanında, hızlı ve etkili çözümlerin üretilebilme durumuna ve bu durumun yenilikçi uygulamaları üzerindeki etkilerine yönelik soru yöneltilmiştir. Okulda ortaya çıkan problemlere karşı zamanında, hızlı ve etkili çözümlerin üretilebilme durumunun öğretmenlerin yenilikçi uygulamaları üzerindeki etkilerine ilişkin görüşlerine yönelik tema ve alt temalar Tablo 7’de yer almaktadır.

**Tablo 7.**

*Okulda Ortaya Çıkan Problemlere Karşı Zamanında, Hızlı ve Etkili Çözüm Üretebilme Durumunun Öğretmenlerin Yenilikçi Uygulamaları Üzerindeki Etkileri*

| Tema   | Alt Tema  | n |
|--|---|---|
| Problemlere zamanında, hızlı ve etkili çözümler üretme | Zaman kaybını engelleme                                   | 7 |
|  | Yeni fikirlerin uygulanabilirliğini artırma               | 2 |
|  | Farklı konulara geçebilme                                 | 2 |
|  | Sorunlara müdahale edebilme                               | 1 |
|  | Eğitim öğretim işlerine odaklanma                         | 1 |
|  | Bürokratik engellere takılmama                            | 1 |
|  | Kuruma olan güven artışı                                  | 1 |
|  | Motivasyon artışı   | 1 |
|  | Problemlere zamanında, hızlı ve etkili çözümler üretememe |   |

Araştırmaya katılan 15 öğretmen, okulda ortaya çıkan problemlere karşı zamanında, hızlı ve etkili çözümlerin üretilebildiğini belirtirken 5 öğretmen ise aksi yönde görüş bildirmiştir. Katılımcılardan 14’ü ise bu durumun yeni fikir ve uygulamaları üzerinde etkili olduğunu söylemiştir. Okulda ortaya çıkan problemlere zamanında, hızlı ve etkili çözümler üretilebilmesinin öğretmenlerin yeni fikir ve uygulamaları üzerinde ortaya çıkardığı etkiler Tablo 7’de görülmektedir. Araştırmaya katılan öğretmenlerin 7’si ortaya çıkan problemlere yönelik hızlı ve etkili çözümler üretebilmenin zaman kaybını engellediğini söylemiştir. Ö15 rumuzlu öğretmen “*Hızlı ve etkili çözümler üretilmesi zaman kaybını engelliyor. Etkinliklerin, uygulamaların zamanında ve düzenli biçimde ilerlemesini sağlıyor*” ifadesi ile okulun işleyişinde zamanın ve zaman yönetiminin önemini ortaya koymuştur. Katılımcılardan 2’si ise problemlere hızlı ve etkili çözümler getirilmesinin yeni fikirlerin uygulanabilme olanağını arttırdığını belirtirken 2 katılımcı sorunlar hızlı bir şekilde çözüldüğü için ilgilenilmesi gereken diğer konulara geçebildiklerini ifade etmişlerdir. Ö11 rumuzlu öğretmen “*Problemlere hızlı çözüm üretmek yenilikçi fikirlerimizin uygulanabilirliğini destekliyor*” şeklindeki açıklaması ile

problemlere hızlı ve etkili müdahalenin yeni fikirlere ve yeni konulara alan açtığını göstermiştir. Sorunların derinleşmeden müdahale edilebilmesi (n=1), eğitim ve öğretim işlerine daha fazla odaklanabilme (n=1), bürokratik engellere takılmadan ilerleyebilme (n=1), kuruma olan güvenin artması (n=1) ve motivasyonu arttırması (n=1) ise öğretmenler tarafından en az ifade edilen etkiler olarak ortaya çıkmıştır.

Araştırmaya katılan öğretmenlerin görüşlerinden de anlaşılacağı üzere eylem ve tepkide çabukluk, zamanın doğru kullanımı ve etkili zaman yönetimini sağlarken aynı zamanda yeni fikir ve uygulamalara da imkân ve alan sağlamaktadır. Örgütsel zekanın eylem ve tepkide çabukluk boyutu, örgütsel etkenler üzerinde sonuçlandığı kadar öğretmenlerin güven ve motivasyon gibi yenilikçi uygulamalarında etkili olduğunu düşündükleri bireysel etkenleri de açığa çıkaran bir etki ortaya koymaktadır.

Örgütsel zekanın yenilenebilme boyutuna ilişkin olarak öğretmenlere okulun yeni teknoloji ve uygulamalara kolaylıkla uyum sağlayabilme durumuna ve bu durumun yenilikçi uygulamaları üzerindeki etkilerine yönelik soru yöneltilmiştir. Okulun yeni teknoloji ve uygulamalara kolaylıkla uyum sağlayabilme durumunun öğretmenlerin yenilikçi uygulamaları üzerindeki etkilerine ilişkin görüşlerine yönelik tema ve alt temalar Tablo 8'de yer almaktadır.

### Tablo 8.

#### *Okulun Yeni Teknoloji ve Uygulamalara Kolaylıkla Uyum Sağlamasının Öğretmenlerin Yenilikçi Uygulamaları Üzerindeki Etkileri*

| Tema  | Alt Tema  | n |
|---|---|---|
| Yeni teknoloji ve uygulamalara uyum sağlama | Yenilikçi uygulamaların niteliğini artırma      | 7 |
|   | İşlerin hızlı ve doğru ilerlemesini sağlama     | 4 |
|   | Yeni çalışmalara istek ve heyecanı artırma      | 2 |
|   | İşleri kolaylaştırma                            | 1 |
|   | Yeni teknoloji ve uygulamalara uyum sağlayamama | 5 |

Araştırmaya katılan 15 öğretmen görev yaptıkları okulların yeni teknoloji ve uygulamalara kolaylıkla uyum sağladığını söylerken 5 öğretmen ise okulda bu uyumun kolay gerçekleşmediğini belirtmiştir. 14 Katılımcı ise okulun yeni teknoloji ve uygulamalara kolaylıkla uyum sağlamasının yeni fikir ve uygulamaları üzerinde etkili olduğunu ifade etmiştir. Okulun yeni teknoloji ve uygulamalara kolaylıkla uyum sağlamasının öğretmenlerin yeni fikir ve uygulamaları üzerinde ortaya çıkardığı etkiler Tablo 8'de görülmektedir. Araştırmaya katılan öğretmenler okullarının yeni teknoloji ve uygulamalara kolaylıkla uyum sağlamasının yenilikçi uygulamalarının niteliğini arttırdığını (n=7), "Okulum geçen yıl proje uygulayan okul kapsamına alındı. Dünyanın



şartlarına hızlı uyum sağlıyoruz. Mesela pandemi başlar başlamaz maske üretmeye başladık. Sonra bu maskelerin niteliğini artırdık. Bu açıdan iyi bir okulda çalıştığımı söyleyebilirim” (Ö6 rumuzlu öğretmen), işlerin daha hızlı ve doğru bir şekilde ilerlemesini sağladığını (n=4), “Teknolojik uygulamalara hakimiyet işlerimizin daha hızlı ve sağlam ilerlemesini sağlıyor” (Ö3 rumuzlu öğretmen) ve yeni çalışmalara ilişkin istek ve heyecanı arttırdığını (n=2), “Teknoloji hayatımızın odak noktasında bulunur, mesela web 2 tasarımlarıyla zenginleştirilmiş programlar çocuklarda başarı ve istek duygusunu uyandırır” (Ö7 rumuzlu öğretmen) ifade etmiştir. Bir öğretmen ise okulun yeni teknoloji ve uygulamalara kolaylıkla uyum sağlamasının okulda işleri kolaylaştırdığını ifade etmiştir.

Yenilenebilme boyutu, yenilikçi uygulamalar için okulda teknik ve teknolojik bir zemin hazırlarken aynı zamanda öğretmenlerde de yeni fikirlerin ortaya çıkması için entelektüel bir alt yapı sağlamaktadır. Ö11 rumuzlu öğretmen “Zaten yenilikçi fikirlerimiz teknolojik ve fiziki alt yapı ile hayata geçirilebiliyor. Mesela yeni bir yapay zekâ sınıfı kuruldu bize. Yapay zekâ ile ilgili proje üretebilmemiz bu sayede mümkün olabilecek” şeklindeki ifadesi bu duruma bir örnek teşkil etmektedir. Diğer taraftan öğretmenlerin yenilikçi uygulamalarında etkili olduğunu düşündükleri bireysel etkenler arasında yer alan araştırma yapmayı sevme, öğrenme tutkusu ve merak doğrudan bir örgütsel zekâ etkeni olarak öğretmenlerin yenilenme ihtiyacını yansıtmaktadır.

Örgütsel zekanın sezebilme ve öngörülü olabilme boyutuna ilişkin olarak katılımcılara okul yönetiminin okulda yaşanması olası çatışmaları önceden tahmin edip gerekli müdahalede bulunabilme durumuna ve bu durumun yenilikçi uygulamaları üzerindeki etkilerine yönelik soru yöneltilmiştir. Okul yönetiminin okulda yaşanması olası çatışmaları önceden tahmin edip gerekli müdahalede bulunabilme durumunun öğretmenlerin yenilikçi uygulamaları üzerindeki etkilerine ilişkin görüşlerine yönelik tema ve alt temalar Tablo 9’da yer almaktadır.

Araştırmaya katılan 14 öğretmen okul yönetiminin okulda yaşanması olası çatışmaları önceden tahmin edip gerekli müdahalede bulunabildiklerini söylerken 6 öğretmen aksi yönde görüş bildirmiştir. Öğretmenlerden 7’si ise bu durumun yeni fikir ve uygulamaları üzerinde etkili olduğunu ifade etmiştir. Araştırmaya katılan öğretmenlerden 5’i okul yönetiminin bu tutumunun okulda çalışmaların iş birliği içerisinde sürmesini sağladığını belirtirken 3 öğretmen çalışmaların sorunsuz bir şekilde tamamlandığını ve 1 öğretmen ise huzurlu bir çalışma ortamı yaratıldığını söylemiştir.

Sezebilme ve öngörülü olabilme boyutu örgüt içerisinde beklenen ya da beklenmeyen olası durumların önceden görülüp müdahale edilmesini sağlayarak örgütte işleyişin sorunsuz devam etmesine ve iş birliği ortamının sürdürülmesine imkân tanımaktadır. Ö11 rumuzlu öğretmenin “Yenilikçi uygulamalarda iş birliği çok önemli ama fikirlerde çatışmalar yaşanabiliyor. Üstesinden geldiğinde iş birliği ortamına geri dönüyor” şeklindeki ifadesi bu durumun önemini açıkça göstermektedir. Örgütsel zekanın sezebilme ve öngörülü olabilme boyutu, iş birliği ve ekip çalışmasını harekete geçirerek, öğretmenlerin yenilikçi uygulamalarında önemli bir örgütsel etken olarak ortaya çıkmaktadır.

**Tablo 9.**

*Okul Yönetiminin Okulda Yaşanması Olası Çatışmaları Önceden Tahmin Edip Gerekli Müdahalede Bulunabilmesinin Öğretmenlerin Yenilikçi Uygulamaları Üzerindeki Etkileri*

| Tema   | Alt Tema   | n  |
|--|--|----|
| Çatışmaları tahmin edip müdahalede bulunma   | Çalışmaların iş birliği içerisinde sürmesini sağlama | 5  |
|  | Çalışmaları tamamlama                                | 3  |
|  | Huzurlu çalışma ortamı yaratma                       | 1  |
|  |  | 14 |
| Çatışmaları tahmin edip müdahalede bulunmama |  | 6  |

Örgütsel zekanın hayal gücünü kullanabilme boyutuna ilişkin olarak katılımcılara okulda karşılaşılan sorunlara dair yaratıcı çözümler üretme konusunda öğretmenlerin okul yönetimi tarafından teşvik edilmesi durumuna ve bu durumun yenilikçi uygulamaları üzerindeki etkilerine yönelik soru yöneltilmiştir. Okulda karşılaşılan sorunlara dair yaratıcı çözümler üretme konusunda öğretmenlerin okul yönetimi tarafından teşvik edilmesi durumunun öğretmenlerin yenilikçi uygulamaları üzerindeki etkilerine ilişkin görüşlerine yönelik tema ve alt temalar Tablo 10'da yer almaktadır.

**Tablo 10.**

*Okul Yönetimi Tarafından Okulda Karşılaşılan Sorunlara Yönelik Yaratıcı Çözümler Üretmek İçin Teşvik Edilmenin Öğretmenlerin Yenilikçi Uygulamaları Üzerindeki Etkileri*

| Tema                                     | Alt Tema                          | n  |
|--|-----------------------------------|----|
| Okul yönetimi tarafından teşvik edilme   | Yaratıcılığı geliştirme           | 8  |
|  | Motivasyonu artırma               | 5  |
|  | Ufku genişletme                   | 3  |
|  | Yeni çalışmalara cesareti artırma | 2  |
|  | İş tatminini artırma              | 1  |
|  | Aidiyet duygusunu arttırma        | 1  |
|  | İletişimi güçlendirme             | 1  |
|  |                                   | 16 |
| Okul yönetimi tarafından teşvik edilmeme |                                   | 4  |

Araştırmaya katılan öğretmenlerden 16'sı görev yaptıkları okullarda karşılaşılan sorunlara yönelik yaratıcı çözümler üretmek üzere okul yönetimi tarafından teşvik edildiklerini ifade etmiştir. Katılımcılardan 4'ü ise bu teşviki göremediklerini belirtmiştir. Araştırmada yer alan 15 katılımcı okulda karşılaşılan sorunlara yaratıcı çözümler üretmek üzere okul yönetimi tarafından teşvik edilmelerinin öğretmenlerin yeni fikir ve

uygulamaları üzerinde etkili olduğunu söylemiştir. Araştırmaya katılan öğretmenler, sorunlara ilişkin yaratıcı çözümler üretmek üzere okul yönetimi tarafından teşvik edildiklerinde yaratıcılıklarının geliştiğini (n=8), motivasyonlarının arttığını (n=5), ufkunun, bakış açılarının genişlediğini (n=3) ifade etmişlerdir. Ö6 rumuzlu öğretmen bu durumu “Desteklendiğinizde büyük bir şevkle çalışıyorsunuz ve daha yaratıcı çözümler bulabiliyorsunuz” şeklinde açıklamıştır. İş tatmininin artması (n=1), okula olan aidiyet duygusunun artması (n=1) ve okulda iletişimi güçlendirmesi (n=1) ise öğretmenler tarafından en az dile getirilen etkenler olarak ortaya çıkmıştır.

Hayal gücünü kullanabilme boyutu, yenilikçiliğin en önemli unsuru olan yaratıcılığı açığa çıkaran ve öğretmenlerin özellikle yaratıcı düşünme becerilerini işe koşturan bir örgütsel zekâ etkenidir. Örgüt zekasının tüm boyutları ile ilişkili olan bu boyut, yaratıcılığı, motivasyonu, araştırma, öğrenme, merak duygusunu harekete geçirici etkisi ile öğretmenlerin yenilikçi uygulamalarında etkili olduğunu düşündükleri bireysel etkenleri; iş tatmini, örgütsel aidiyet ve örgütsel iletişimi güçlendirici yönü ile de örgütsel etkenleri ortaya çıkaran bir sonuç özelliği göstermektedir.

### Tartışma, Sonuç ve Öneriler

Günümüzde tüm örgütlerde olduğu gibi eğitim örgütleri içinde bilgi çağına uyum sağlayarak ayakta kalabilmeleri ve diğer örgütlerle rekabet edebilmeleri açısından hayati bir unsur olan yenilik faaliyeti, fikir üretme, fikrin desteklenmesi, gerçekleştirilmesi ve yayılması adımlarından oluşan ve yenilikçi çalışma davranışlarını meydana getiren bir süreçtir. Eğitim örgütlerinde yenilik süreçlerinin her aşaması öğretmenler ve okul toplumunun çaba ve gayretlerini gerekli kıldığı için onların yenilik gerçekleştirme konusundaki motivasyonlarının ve bu motivasyonlara etkide bulunan unsurların belirlenmesi özelde örgütsel yeniliğin ve genelde ise eğitim sisteminde yenileşmenin sağlanması için önemli bir unsurdur. Bu kapsamda araştırma, öğretmenlerin yenilikçi çalışma davranışlarını etkileyen bireysel ve örgütsel etkenler ile bu etkenler üzerinde örgüt zekasının sonuçları bağlamında yapılandırılmıştır. Araştırmaya katılan öğretmenlerle yapılan çalışmada elde edilen bulgular doğrultusunda aşağıda yer alan sonuçlara ulaşılmıştır.

Araştırmaya katılan öğretmenlerin yenilikçi uygulamalarında etkili olduğunu ifade ettikleri bireysel özellikleri; araştırma yapmayı sevme, öğrenme tutkusu, merak, içsel motivasyon, yaratıcılık ve sebat üzerinde yoğunlaşmaktadır. Benzer şekilde Messmann ve Mulder (2011) merakı, Borasi ve Finnigan (2010) sebat göstermeyi, Messmann ve Mulder (2011), Loogma, Kruusvall ve Ümarik (2012) ve Suharyati (2017) ise motivasyon düzeyini öğretmenlerin yenilikçi çalışma davranışlarını etkileyen bireysel etkenler olarak belirlemişlerdir. Motivasyon, bireylerin örgüt içerisindeki davranışlarının yönünü, çabasının düzeyini ve engeller karşısındaki direncini belirleyen psikolojik güçlerdir. Çalışanlar, örgütün hedeflerine ulaşmasına yardımcı olacak ya da engelleyecek yönde motive olabilirler (Demir, 2019, s. 295). Okulda başarıya motive olmuş bir öğretmen, bu hedefine ulaşana kadar çabalama ve gerekli davranışları göstermeye devam

edecektir. Araştırmada öğretmenleri yeni uygulamalar yapma konusunda harekete geçiren motivasyon kaynakları; çağrı yakalama, bilgi ve teknoloji çağına ayak uydurma, dersleri daha eğlenceli hale getirme, yeni nesil öğrencilerin ilgisini çekebilme isteği olarak tespit edilmiştir. Öğretmenleri harekete geçiren bu unsurların onların içsel motivasyonlarından kaynaklandığı açıkça görülmektedir. İçsel olarak motive olan öğretmenler, yaptıkları işe değer vermekte, başarı hissini ve ilhamını bizzat öğrencilerinden ve mesleğinden almaktadırlar.

Araştırmaya katılan öğretmenler gerçekleştirdikleri yenilikçi uygulamalar ile ilgili olarak okul yönetimi, öğretmenler ve diğer işgörenlerden olumlu tepkiler aldığını ifade etmiştir. Katılımcılar, yenilikçi uygulamalarında en fazla okul yöneticilerinden, okullarındaki diğer öğretmenlerden, velilerinden ve öğrencilerinden destek almaktadırlar. Öğretmenler, okul yöneticilerinden araç gereç ve malzeme temini, finansal destek ve izin vb. bürokratik işlemlerin kolaylaştırılması konularında, okullarında görev yapan öğretmenlerden, velilerinden ve öğrencilerinden ise yenilikçi proje ve etkinliklerinde yardım ve bu etkinliklere katılım konusunda destek almaktadır. Bu doğrultuda Binnewies ve Gromer (2012), öğretmenlerin yenilikçi davranış süreçleri olarak kabul edilen yeni fikir üretme, bu fikirleri geliştirme ve uygulama süreçlerinde okul yönetiminin ve iş arkadaşlarının desteğinin önemli bir şekilde etkili olduğu ve okul yönetiminin sağladığı desteğin öğretmenlerin iş yerinde yaratıcı fikirler geliştirme motivasyonunu artırdığını belirlemiştir. Aynı şekilde Kurtuluş (2012), okul yönetiminin desteğini öğretmenlerin yenilikçiliğini etkileyen bir faktör olarak tespit etmiştir.

Araştırmaya katılan öğretmenler, yenilikçi uygulamalarında en fazla okul örgütü içerisinde destek almakla birlikte üniversiteler, TÜBİTAK, diğer okullar/bilsemeler ve belediyeler olmak üzere okul örgütünün dışındaki kurumlardan da çeşitli destekler sağladıklarını ifade etmiştir. Araştırmaya katılan öğretmenlerin yarısı görev yaptıkları okulların fiziksel koşullarını yenilikçi uygulamaları açısından yeterli bulurken diğer yarısı ise yetersiz olarak değerlendirmiştir. Nitekim Çelik (2006) araştırmasında, ilköğretim okullarında değişimin ve yeniliklerin engelleri arasında fiziki kaynak yetersizliklerini önemli bir faktör olarak göstermiştir.

Araştırma kapsamında öğretmenlerin örgütsel zekanın 7 eylemsel alt boyutuna yönelik düşünceleri de değerlendirilmiştir. Örgütsel zekanın değişen durumlara uyum sağlama boyutuna yönelik olarak öğretmenler okulda kararlara katılım konusunda düşüncelerini açıklamışlardır. Karar alma, bir sorunun çözümüne ilişkin olası yollardan en uygun olanın seçilmesidir (Erdoğan, 2000, s. 55). Demokratik ve zeki örgütlerde çalışanlar kendilerini ilgilendiren ve yaptıkları işe etki edecek konularla ilgili görüşlerini sunma ve verilecek kararlara katılma hakkına sahiptir. Araştırmaya katılan öğretmenler, okulda eğitim ve öğretime ilişkin kararlara katılabildiklerini ve bu durumun yenilikçi uygulamaları üzerinde etkili olduğunu belirtmiştir. Öğretmenlerin okulda kararlara katılmaları en fazla motivasyon artışı, okul yönetimi tarafından desteklendiklerini hissetmeleri ve kuruma olan güvenlerinin artması sonucunu ortaya çıkarmaktadır. Yenilikçi örgütler, çevrelerinden gereksinim duyduğu bilgiyi alabilecek ve bunu içeride örgüt üyeleri tarafından paylaşım ve tartışma yolu bir yeniliğe dönüştürebilecek esnek

yapılara sahip olmalıdır (Uzkurt, 2010, s. 45). Bu nedenle kararlara katılım, okul örgütlerinde yeni fikir ve uygulamaların önünü açan bir etken olarak ortaya çıkmaktadır.

Örgütsel zekanın açık fikirli olabilme boyutuna yönelik olarak öğretmenler okulda fikirlerini ifade edebilme konusunda görüşlerini açıklamışlardır. Örgütlerde sessizlik, çalışanların örgütte iyileşme ve gelişme adına görevsel ve/veya davranışsal konularla ilgili görüş ve düşüncelerini bilinçli olarak esirgemesi ve sessizleşmesidir (Çakıcı, 2007, s. 149). Örgütsel sessizlik, okullarda demokratik yönetimin engellenmesi, olumsuz bir okul iklimi oluşması ve verimliliğin düşmesi sonuçlarını ortaya çıkarabilmektedir. Bu nedenle okullarda sessizliğin önlenmesine yönelik olarak demokratik bir ortam oluşturulması, bilgilendirme yapılması ve öğretmenlerin görüşlerini açıkça ifade edebilecekleri ortamlar oluşturulması önerilmektedir (Ayduğ, Himmetoğlu ve Turhan, 2017, s. 1120). Araştırmaya katılan öğretmenlerin tamamına yakını okulda fikirlerini açıkça ifade edebildiklerini ve bu durumun yeni fikir ve uygulamaları üzerinde etkili olduğunu ifade etmişlerdir. Öğretmenlerin okulda fikirlerini açıkça ifade edebilmeleri; yeni fikirlerin ortaya çıkması, planlanan çalışmaların/uygulamaların daha sağlıklı ilerlemesi ve özgüvenlerinin artması ile sonuçlanmaktadır.

İşleyişte esnek ve rahat olabilme boyutu kapsamında araştırmaya katılan öğretmenler, okul yönetiminin eleştirisi, görüş ve önerilere karşı hoşgörülü olduğunu ve bu durumun yeni fikir ve uygulamaları üzerinde etkili olduğunu söylemiştir. Katılımcılar okul yönetiminin, eleştirisi, görüş ve önerilerini hoşgörü ile karşıladıklarında okulda farklı fikirlerin ortaya çıkmasına imkân sağlayan demokratik bir ortamın oluştuğunu, proje ve uygulamalarını daha pozitif bir ortam içerisinde gerçekleştirdiğini ve motivasyonlarının arttığını ifade etmiştir. Araştırmada, işleyişte esnek ve rahat olabilme boyutunun, olumlu okul ikliminin yaratılmasında ve yeni fikirlerin önünün açılmasında okullara önemli bir alt yapı sunduğu sonucuna varılmıştır. Benzer şekilde Chang, Chuang ve Bennington (2011) araştırmasında, örgütsel iklim ile yenilikçi ve yaratıcı öğretim arasında anlamlı bir ilişki tespit etmiştir. Araştırma, yeniliği destekleyen okul ikliminin yenilikçi ve yaratıcı öğretimi teşvik ettiğini göstermektedir. Örgüt iklimi, örgüte kimliğini kazandırarak çalışanların davranışlarını etkileyen ve çalışanlar tarafından algılanan niteliktir (Sezgin ve Sönmez, 2017, s. 179). Başarılı eğitim uygulamaları, etkin bir biçimde birlikte yaşamasını bilen, mutlu, güven içinde, gayretli öğretmen ve okul yöneticilerinin bulunduğu çalışma ortamlarının oluşturulması ile gerçekleşmektedir (Peker, 1978'den akt. Dağlı, 2018, s. 7).

Eylem ve tepkide çabukluk boyutu doğrultusunda araştırmaya katılan öğretmenler, okulda ortaya çıkan problemlere karşı zamanında, hızlı ve etkili çözümlerin üretilebildiğini belirtmiştir. Katılımcılar, ortaya çıkan problemlere yönelik hızlı ve etkili çözümler üretebilmenin zaman kaybını engellediğini, yeni fikirlerin uygulanabilme olanağını arttırdığını ve sorunlar hızlı bir şekilde çözüldüğü için ilgilenilmesi gereken diğer konulara geçebildiklerini ifade etmiştir. Aynı şekilde Carungay ve Tsuruoka (2002) araştırmasında zaman baskısını yenilikçiliği motive eden etkenler arasında değerlendirmiştir. Zaman, olayların geçmişten bugüne gelip, geleceğe doğru birbirini takip ettiği kesintisiz bir süreç ve harekete anlam kazandıran temel unsurdur. Zaman, bireylerin sahip olduğu en değerli varlık olmakla birlikte birçok insan, değeri

ölçülemeyen zamanı tesadüfler ve şans faktörleri ile kullanmaktadır. Oysa tasarruf edilemeyen, sadece tüketilip kaybedilen ve geri getirilmesi mümkün olmayan zamanın, etkili ve verimli kullanılması gerekmektedir (Gürbüz ve Aydın, 2012, s. 16-17). Zaman yönetimi aslında bir öz yönetimdir; yaşadığımız olayların kontrolünü sağlamak, bireyin kendisini yönlendirerek olayları yönetmesidir (Güçlü, 2001, s. 89).

Yenilenebilme boyutu kapsamında katılımcılar, görev yaptıkları okulların yeni teknoloji ve uygulamalara kolaylıkla uyum sağladığını açıklamıştır. Katılımcılar, okullarının yeni teknoloji ve uygulamalara kolaylıkla uyum sağlamasının yenilikçi uygulamalarının niteliğini arttırdığını, işlerin daha hızlı ve doğru bir şekilde ilerlemesini sağladığını ve yeni çalışmalara ilişkin istek ve heyecanı arttırdığını ifade etmiştir. Nitekim Loogma, Kruusvall ve Ümarik (2012), araştırmasında, öğretmenlerin BİT yeterliliklerinin yenilikçilik için bir öngörücü olduğu ve e-öğrenme ilgili yeterliliklerin gelişimi ile yenilikçiliğin yakından ilişkili olduğu sonucuna varmıştır. Bilgi iletişim teknolojileri (BİT) yeterliği, özellikle teknolojik yeniliklerin geliştirilmesi, benimsenmesi ve yayılması konusunda öğretmenlerin yenilikçi davranışları üzerinde belirleyici bir faktördür. Öğretim sürecinde gerekli bilgi ve becerilere ulaşmak için öğretmenler, teknolojiyi takip etmek ve bilgi iletişim teknolojilerini etkin kullanmak durumundadır. BİT, bugün okulların temel bir işlevidir ve öğretmenlerden bu teknolojileri kullanmaları beklenmektedir (Akbaşlı, Taşkaya, Meydan ve Şahin, 2012, s. 114).

Sezebilme ve öngörülü olabilme boyutuna ilişkin olarak araştırmaya katılan öğretmenler, okul yönetiminin okulda yaşanması olası çatışmaları önceden tahmin edip gerekli müdahalede bulunabildiklerini belirtmiştir. Çatışma, birbirleriyle bir şekilde bağlantılı olan bireylerin aralarında bir şeyin uygun olmadığını, denk düşmediğini algılamalarına dayalı bir etkileşimdir. Etkileşim sürecindeki taraflar arasındaki ilişkilerde, etkinliklerde ortaya çıkan uyumsuzluk ve tutarsızlıklar iki taraf arasında çatışmayı ortaya çıkarır. Örgütlerde çatışmaların önüne geçmek tüm çabalara rağmen kolay değildir. Bireylerin bilgi ve tecrübelerinin, ilgi alanları ve yeteneklerinin birbirlerinden oldukça farklı olması çatışma ortamlarını meydana getirmektedir. Bu nedenle okul yöneticilerinin çatışmalara her an hazır olmaları gereklidir, çünkü okul ortamındaki güçler ve gruplar daha akıcı olduğundan, ufak sürtüşmeler bile çatışmalara yol açabilmektedir (Gökyer, 2017, s. 391-392). Araştırmaya katılan öğretmenler, okul yönetiminin okulda yaşanması olası çatışmaları önceden tahmin edip gerekli müdahalede bulunmalarının okulda çalışmaların iş birliği içerisinde sürmesini sağladığını, çalışmaların sorunsuz bir şekilde tamamlandığını ve huzurlu bir çalışma ortamı yaratılması sonucunu ortaya çıkardığını ifade etmiştir. Benzer şekilde Tomic ve Brouwers (1999) araştırmasında, öğretmenlerin yeni fikir geliştirme sürecinde meslektaşlarından destek aldıklarını ortaya koyarak iş birliğinin yenilikçi uygulamalar açısından önemini ortaya koymuştur.

Hayal gücünü kullanabilme boyutu ile ilgili olarak araştırmaya katılan öğretmenler, görev yaptıkları okullarda karşılaşılan sorunlara yönelik yaratıcı çözümler üretmek üzere okul yönetimi tarafından teşvik edildiklerini söylemiştir. Katılımcılar, sorunlara ilişkin yaratıcı çözümler üretmek üzere okul yönetimi tarafından teşvik edildiklerinde yaratıcılıklarının geliştiğini, motivasyonlarının arttığını, ufkunun, bakış açılarının genişlediğini ifade etmiştir. Nitekim Borasi ve Finnigan (2010) araştırmasında, yaratıcı

problem çözenin, yenilikçi davranışlar üzerinde etkili bir faktör olduğunu belirtirken Ucus ve Acar (2018) ise öğretmenlerin yaratıcı sınıf davranışları ile yenilikçi davranışları arasında pozitif yönlü, anlamlı bir ilişki bulunduğunu ortaya koymuştur. Yaratıcılık, problemleri veya bilgi eksikliğini algılama, buna yönelik hipotezler oluşturma, bu hipotezleri test etme, değiştirme ve sonuçları iletme sürecidir (Torrance, 1977, s. 7). Yaratıcılıkla ilişkili bir kavram olan yaratıcı düşünme; gözlem, bilgi, tecrübe ya da düşüncelerin yeni bir düşünce ve kavram üretecek şekilde ilişkilendirilmesidir. (Yıldırım, 2002, s. 38). Tüm yenilikler, yaratıcı düşünce ile başlamaktadır. Yaratıcılık, herhangi bir alanda yeni ve faydalı fikirlerin üretimi iken yenilikçilik, bir topluluktaki yaratıcı fikirlerin başarılı bir uygulamasıdır. Bireyler ve toplumlar açısından yaratıcılık, yenilikçilik için bir başlangıç noktasıdır. Yaratıcılık, tüm yeniliklerin tohumudur ve bir toplum içindeki yeniliklere yönelik olarak bireylerin algılarının (insanların fikirlerinin uygulanması), o toplumda yeni fikirler üretme motivasyonunu etkilemesi oldukça muhtemeldir (Amabile, Conti, Coon, Lazenby ve Herron, 1996, s. 1154-1155).

Görüldüğü üzere araştırmada ele alınan örgütsel zekâ etkenleri öğretmenlerin yenilikçi uygulamalarında etkili olduğunu düşündükleri bireysel ve örgütsel etkenleri harekete geçiren ve güçlendiren sonuçlar ortaya çıkarmaktadır. Bundan dolayı tüm boyutlarıyla örgütsel zekanın öğretmenlerin yenilikçi çalışma davranışları üzerinde olumlu yönde bir etkiye sahip olduğunu söylemek mümkündür. Araştırmanın sonuçlarına dayalı olarak aşağıdaki öneriler geliştirilmiştir.

Okullarda yenilikçi davranışlara zemin hazırlayan bir ortamın yaratılmasının okul yöneticisinin sorumluluğunda olduğu gerçeğinden hareketle okul yöneticilerinin yenilikçilik ve örgütsel zekâ ekseninde liderlik davranışlarının kazandırılması yönünde yetiştirilmesi sağlanmalıdır. Okullarda örgütsel zekâ ve boyutlarının tüm paydaşlar tarafından doğru bir şekilde anlaşılması ve geliştirilmesi yönünde okul yönetimi ve tüm personelin katılımıyla çalışma yapılmalıdır. Bu doğrultuda okul yöneticileri, okulda öğretmenlerin yenilikçi uygulamalarında etkili olan bireysel özelliklerini güçlendiren ve örgütsel şartları, yeni fikir ve uygulamalar için uygun hale getirecek düzenlemeleri, yönetim kadrosu ve paydaşları ile birlikte gerçekleştirmelidir. Bu amaçla okul yöneticileri öncelikle öğretmenlere odaklanmalı ve ihtiyaç duydukları yönetim desteğini arkalarında hissetmelerini sağlamalıdır. Ayrıca zeki ve yenilikçi bir okul örgütünün oluşturulmasında öğretmenler arasında bilgi paylaşımı, işbirliği ve ortak çalışmaların desteklenmesi, acil olmayan konularda kararların okul yönetimi ve öğretmenlerle birlikte alınması, okulda karşılaşılan problemlerin çözümüne yönelik beyin fırtınası, pareto analizi vb. problem çözüme tekniklerinin kullanılarak öğretmenlerin katılımı ile çözüm aranması, ortaya çıkan fikirlerin projeye dönüştürülerek okul kaynaklarının yanı sıra proje desteklerinin ve kurumsal işbirliklerinin araştırılması gibi çalışmalarla okulda öğrenen bir örgüt ve yenilikçi bir iklimin yaratılması önemli sonuçlar doğuracak eylemler olarak görülmektedir.



**Etik Kurul Onayı:** Bu arařtırmada, Hacettepe Üniversitesi Senatosu Etik Komisyonundan arařtırmaya dair uygunluk kararını ieren Etik Komisyonu Onay Bildirimi Belgesi alınmıřtır (Tarih: 24 Kasım 2020, Sayı: 35853172-101.02.02).

**Bilgilendirilmiř Onam:** Arařtırmaya dahil olmadan nce tm katılımcılardan bilgilendirilmiř onam alınmıřtır.

**Hakem deęerlendirmesi:** Dıř hakem deęerlendirmesi yapılmıřtır. **Hakem deęerlendirmesi:** Dıř hakem deęerlendirmesi yapılmıřtır.

**Yazarların Katkıları:** Arařtırmanın Tasarımı ve Uygulaması – B.T, S.A.; Veri Toplama ve Analiz, ve Makale Taslaęının Hazırlanması – B.T, S.A.; Fikri İerięin Eleřtirel Gzden Geirilmesi ve Makalenin Son Halinin Onayı – B.T, S.A.;

**ıkar atıřması:** Yazarlar arasında herhangi bir ıkar atıřması yařanmamıřtır.

**Finansal Aıklama:** Bu alıřma iin herhangi bir finansal destek alınmamıřtır.



## Kaynaklar

- Akbaşı, S., Taşkaya, S., Meydan, A. & Şahin, M. (2012). Teachers and computer technology: supervisors' views. *International Journal of Research in Social Sciences*, 2(2), 113-124.
- Akbaşı, S., Erçetin, Ş.Ş. & Kubilay, S. (2019). Relationship between prospective teachers' deontic justice attitudes and academic dishonesty tendencies. *South African Journal of Education*, 39(3), 1-12.
- Amabile, T., Conti, R., Coon, H., Lazenby, J. & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, 39(5), 1154-1184.
- Ayduğ, D., Himmetoğlu, B. ve Turhan, E. (2017). Öğretmenlerin örgütsel sessizliğe ilişkin görüşlerinin nitel bir araştırma ile incelenmesi. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi*, 17(3), 1120-1143.
- Azma, F., Mostafapour, M. & Rezaei, H. (2012). The application of information technology and its relationship with organizational intelligence. *Procedia Technology*, 1, 94-97.
- Binnewies, C., & Gromer, M. (2012). Creativity and innovation at work: The role of work characteristics and personal initiative. *Psicothema*, 24(1), 100-105.
- Borasi, R., & Finnigan, K. (2010). Entrepreneurial attitudes and behaviors that can help prepare successful change-agents in education. *The New Educator*, 6(1), 1-29.
- Bos-Nehles, A., Bondarouk, T., & Nijenhuis, K. (2017). Innovative work behaviour in knowledge-intensive public sector organizations: The case of supervisors in the Netherlands fire services. *The International Journal of Human Resource Management*, 28(2), 379-398.
- Büyüköztürk, Ş. (2005). Anket geliştirme. *Türk Eğitim Bilimleri Dergisi*, 3(2), 133-151.
- Carungay, R., & Tsuruoka, Y. (2002). Innovativeness in secondary science teachers of the Philippines. *Journal of Science Education in Japan*, 26(3), 227-234.
- Chang, C., Chuang, H., & Bennington, L. (2011). Organizational climate for innovation and creative teaching in urban and rural schools. *Quality & Quantity*, 45(4), 935-951.
- Creswell, J. (2013). *Nitel araştırma yöntemleri: beş yaklaşıma göre nitel araştırma ve araştırma deseni*. M. Bütün & S.B. Demir (Çev. Edt.) Ankara: Siyasal Kitabevi.
- Çakıcı, A. (2007). Öğütlerde sessizlik: sessizliğin teorik temelleri ve dinamikleri. *Çukurova Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 16(1), 145-162.
- Çelik, M. (2006). *İlköğretim okullarında değişimin ve yeniliklerin uygulanmasını engelleyen faktörlerin öğretmen ve yönetici algılarına göre belirlenmesi (Gaziantep ili merkez ilçeleri örneği)*. (Yüksek Lisans Tezi). Gaziantep Üniversitesi Sosyal Bilimler Enstitüsü Eğitim Bilimleri Anabilim Dalı, Gaziantep.
- Dağlı, A. (2018). *Teoriden uygulamaya örgütsel iklim* (3 b.). Ankara: Pegem Akademi.
- Das, M. (2015). Innovative practices in teacher education: An Overview. *International Research Journal of Interdisciplinary & Multidisciplinary Studies (IRJIMS)*, 1(4), 15-18.
- Demir, K. (2019). Motivasyon. N. Cemaloğlu ve M. Özdemir (Edt.). *İçinde, Eğitim yönetimi* (s. 295-314). Ankara: Pegem.
- Demiraslan, Y., & Koçak Usluel, Y. (2008). ICT Integration processes in Turkish schools: using activity theory to study issues and contradictions. *Australasian Journal of Educational Technology*, 24(4), 458-474.
- Erçetin, Ş. (2001). *Örgütsel zeka*. Ankara: Nobel Yayın Dağıtım.
- Erçetin, Ş. (2004a). *Örgütsel Zeka ve örgütsel aptallık*. Ankara: Asil Yayın Dağıtım.
- Erçetin, Ş. (2004b). Okullarda örgütsel zekanın eylemsel boyutları. *Türk Eğitim Bilimleri Dergisi*, 2(1), 1-13.
- Erdoğan, İ. (2000). *Okul yönetimi ve öğretim liderliği* (2 b.). İstanbul: Sistem Yayıncılık.
- Glynn, M. (1996). Innovative genius: A framework for relating individual and organizational intelligences to innovation. *Academy of Management Review*, 21(4), 1081-1111.

- Gökyer, N. (2017). Örgütsel çatışma. S. Özdemir, & N. Cemaloğlu (Edt.). İçinde, *Örgütsel davranış ve yönetimi* (s. 391-420). Ankara: Pegem Akademi.
- Güçlü, N. (2001). Zaman yönetimi. *Kuram ve Uygulamada Eğitim Yönetimi*(25), 87-106.
- Gürbüz, M. ve Aydın, A. (2012). Zaman kavramı ve yönetimi. *Kahramanmaraş Sütçü İmam Üniversitesi Sosyal Bilimler Dergisi*, 9(2), 1-20.
- Haelermans, C., & Blank, J. (2012). Is a schools' performance related to technical change? – A study on the relationship between innovations and secondary school productivity. *Computers & Education*, 59(3), 884-892.
- İzci, İ. (2017). *Okul yöneticilerinin örgütsel zeka ve performans değerlendirme algıları arasındaki ilişki*. (Doktora Tezi). Çanakkale Onsekiz Mart Üniversitesi Eğitim Bilimleri Enstitüsü Eğitim Bilimleri Anabilim Dalı Eğitim Yönetimi ve Denetimi Bilim Dalı, Çanakkale.
- Janssen, O. (2000). Job demands, perceptions of effort–reward fairness and innovative work behaviour. *Journal of Occupational and Organizational Psychology*, 73(3), 287-302.
- Kahkha, A., Pourghaz, A., & Marziyeh, A. (2015). Examining the relationship of organizational intelligence with innovation management and career advancement in an organization. *Journal of Behavioral and Brain Science*, 5(10), 395-404.
- Kalkan, V. (2005). Organizational intelligence: antecedents and consequences. *Journal of Business & Economics Research*, 3(10), 43-54.
- Kalkan, V.D. (2008). *Örgütsel zekanın yenilik yeteneğine ve firma performansına etkileri*. (Doktora Tezi). Gebze Yüksek Teknoloji Enstitüsü Sosyal Bilimler Enstitüsü, Gebze.
- Korucu, A. ve Olpak, Y. (2015). Öğretmen adaylarının bireysel yenilikçilik özelliklerinin farklı değişkenler açısından incelenmesi. *Eğitim Teknolojisi Kuram ve Uygulama*, 5(1), 111-127.
- Kurtuluş, M. (2012). *Eğitimde İnovasyon: Öğretmen ve Öğrencilerin İnovasyona Bakışı ve Yeterliliğinin Sorgulanması*. (Yüksek Lisans Tezi). Gebze Yüksek Teknoloji Enstitüsü Sosyal Bilimler Enstitüsü Strateji Bilimi Anabilim Dalı, Gebze.
- Loogma, K., Kruusvall, J. & Ümarik, M. (2012). E-learning as Innovation: Exploring Innovativeness of the VET Teachers' Community in Estonia. *Computers & Education*, 58(2), 808–817.
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.
- Messmann, G., & Mulder, R. (2011). Innovative work behaviour in vocational colleges: Understanding how and why innovations are developed. *Vocations and Learning*, 4, 63-84.
- Miles, M., & Huberman, A. (1994). *qualitative data analysis. an expanded sourcebook*. (2 b.). California: Sage.
- Ordoie, M. (2016). Evaluation of organizational intelligence on creative of high school principals in the academic year 2013-2014. *International Journal of Humanities and Cultural Studies (IJHCS)*, 3(2), 1410-1423.
- Patton, M. (2014). *Nitel Araştırma ve değerlendirme yöntemleri*. M. Bütün, S.B. Demir (Çev. Edt.) B. Tarman ve M. Yiğit, (Çev.). Ankara: Pegem Akademi.
- Scott, S., & Bruce, R. (1994). Determinants of innovative behavior: a path model of individual innovation in the workplace. *Academy of Management Journal*, 37(3), 580-607.
- Sezgin, F. ve Sönmez, E. (2017). Örgüt kültürü ve iklimi. S. Özdemir ve N. Cemaloğlu (Edt.) içinde, *Örgütsel davranış ve yönetimi* (s. 179-226). Ankara: Pegem Akademi.
- Suharyati, H. (2017). Interaction of Relationship between Job Motivation with Teacher Innovativeness in Improving Education. *Journal of Education, Teaching and Learning*, 2(2), 228-232.
- Tomic, W. & Brouwers, A. (1999). Where do teachers get their ideas from? *Creativity and Innovation Management*, 8(4), 262-268.
- Torrance, E. (1977). *Creativity in the classroom: What research says to the teacher*. Washington, D.C.: National Education Association.
- Tunca, N. (2012). *İlköğretim öğretmenleri için mesleki değerler ölçeğinin geliştirilmesi ve ilköğretim öğretmenlerinin mesleki değerlerinin belirlenmesi*. (Doktora Tezi). Anadolu Üniversitesi Eğitim Bilimleri Enstitüsü, Eskişehir.

- Tura, B. ve Akbaşlı, S. (2021). Örgütsel zekâ düzeyinin öğretmenlerin yenilikçi çalışma davranışları üzerindeki etkisi. *OPUS–Uluslararası Toplum Araştırmaları Dergisi*, 18(43), 6790-6805. doi: 10.26466/opus.937986.
- Ucus, Ş., & Acar, İ. (2018). Teachers' innovativeness and teaching approach: The mediating role of creative classroom behaviors. *Social Behavior and Personality*, 46(10), 1697-1711.
- UNESCO. (2002). *Information and communication technologies in teacher education: A planning guide*. United Nations Educational, Scientific and Cultural Organization. Retrieved 25.04.2020 from <https://unesdoc.unesco.org/ark:/48223/pf0000129533>
- Uzkurt, C. (2010). İnovasyon yönetimi: İnovasyon nedir, nasıl yapılır ve nasıl pazarlanır? *Ankara Sanayi Odası Yayın Organı*, 36-51.
- Van de Ven, A. (1986). Central problems in the management of innovation. *Management Science*, 32(5), 590-607.
- Worthington, M. (2013). Differences between phenomenological research and a basic qualitative research design. Retrieved from, 1149861.
- Yıldırım, A. ve Şimşek, H. (2016). *Sosyal bilimlerde nitel araştırma yöntemleri* (10 b.). Ankara: Seçkin.
- Yıldırım, R. (2002). *Yaratıcılık ve yenilik*. İstanbul: Sistem.

**Yazarlar**

Belgin TURA, öğretmen, Hacettepe Üniversitesi Eğitim Yönetimi Teftişi Planlaması ve Ekonomisi Bölümünde doktora öğrencisidir. İlgi alanları arasında eğitimde yenilikçilik, zeka ve nitel araştırma bulunmaktadır.

Sait AKBAŞLI, Hacettepe Üniversitesi Eğitim Bilimleri Bölümü, Eğitim Yönetimi Anabilim Dalı öğretim üyesidir. Çalışma alanları arasında okul yöneticiliği ve eğitim deneticiliği, öğretmen yetiştirme, hayat boyu öğrenme, eğitim politikaları yer almaktadır.

**İletişim**

Belgin TURA, Melikşah Ortaokulu, Ankara.

E-posta: [belgintura@gmail.com](mailto:belgintura@gmail.com)

Prof.Dr. Sait AKBAŞLI, Hacettepe Üniversitesi, Eğitim Fakültesi Ankara.

E-posta: [sakbasli@gmail.com](mailto:sakbasli@gmail.com)

## EK: KATILIMCI KODLARI

**Ö1**, erkek, ortaokulda fen bilimleri öğretmeni, kıdemi 5 yıl, okulundaki çalışma süresi 3 yıl, lisans mezunu, görev yaptığı okulunda çeşitli STEM uygulamaları ve eTwinning projeleri gerçekleştirmektedir.

**Ö2**, erkek, imam hatip ortaokulunda fen bilimleri öğretmeni, kıdemi 5 yıl, okulundaki çalışma süresi 5 yıl, lisans mezunu, görev yaptığı okulunda çeşitli STEM uygulamaları ve eTwinning projeleri gerçekleştirmektedir.

**Ö3**, kadın, ortaokulda teknoloji ve tasarım öğretmeni, kıdemi 12 yıl, okulundaki çalışma süresi 5 yıl, doktora mezunu, görev yaptığı okulunda uluslararası projeler (NASA, ASU, ESA, ESO, JAXA) ve TÜBİTAK başta olmak üzere üniversite tabanlı projeler gerçekleştirmiştir.

**Ö4**, kadın, ilkokulda sınıf öğretmeni, kıdemi 12 yıl, okulundaki çalışma süresi 5 yıl, yüksek lisans mezunu, görev yaptığı okulunda eTwinning projeleri gerçekleştirmektedir.

**Ö5**, erkek, imam hatip ortaokulunda matematik öğretmeni, kıdemi 13 yıl, okulundaki çalışma süresi 2 yıl, doktora mezunu, görev yaptığı okulunda ERASMUS projesi yürütmektedir.

**Ö6**, erkek, mesleki ve teknik anadolu lisesinde bilişim teknolojileri öğretmeni, kıdemi 14 yıl, okulundaki çalışma süresi 4 yıl, yüksek lisans mezunu, görev yaptığı okulunda yurtdışı odaklı projeler (AIRBUS ile Avrupa Okul Ağı ortaklığı) yürütmüştür. Scientix Elçiliği yapmıştır.

**Ö7**, erkek, ortaokulda fen bilimleri öğretmeni, kıdemi 14 yıl, okulundaki çalışma süresi 7 yıl, yüksek lisans mezunu, görev yaptığı okulunda eTwinning projeleri gerçekleştirmektedir.

**Ö8**, kadın, anadolu lisesinde matematik öğretmeni, kıdemi 14 yıl, okulundaki çalışma süresi 8 yıl, yüksek lisans mezunu, görev yaptığı okulunda matematikte animasyon, kodlama ve sayısal problemleri çözmede yeni uygulamalar projeleri gerçekleştirdi.

**Ö9**, kadın, ortaokulda Türkçe öğretmeni, kıdemi 15 yıl, okulundaki çalışma süresi 6 yıl, lisans mezunu, görev yaptığı okulunda Beslenme Dostu Okul, Okul Sağlığı, Kardeş Okul, Başkent Öğretmen Atölyeleri Projelerinin okul koordinatörlüğünü gerçekleştirdi.

**Ö10**, kadın, imam hatip ortaokulunda matematik öğretmeni, kıdemi 16 yıl, okulundaki çalışma süresi 4 yıl, lisans mezunu, görev yaptığı okulunda STEM uygulamaları gerçekleştirdi. TÜBİTAK tarafından düzenlenen yarışmalarda proje danışmanlığı ve rehberlik yaptı.

**Ö11**, kadın, bilim ve sanat merkezinde teknoloji ve tasarım öğretmeni, kıdemi 16 yıl, okulundaki çalışma süresi 2 yıl, yüksek lisans mezunu, görev yaptığı okulunda Teknofest-Tubitak Projeleri ile Gençlik ve Spor Bakanlığı Projesinde görev aldı.

**Ö12**, kadın, bilim ve sanat merkezinde matematik öğretmeni, kıdemi 20 yıl, okulundaki çalışma süresi 2 yıl, doktora mezunu, görev yaptığı okulunda ERASMUS projesi yürütmektedir.

**Ö13**, kadın, ilkokulda sınıf öğretmeni, kıdemi 21 yıl, okulundaki çalışma süresi 15 yıl, lisans mezunu, görev yaptığı okulunda STEM ve Kodlama ile ilgili uluslararası etkinliklere katıldı, eTwinning projeleri ile ilgili webinarlarda görev aldı, eTwinning projeleri gerçekleştirmektedir.

**Ö14**, erkek, ortaokulda teknoloji ve tasarım öğretmeni, kıdemi 21 yıl, okulundaki çalışma süresi 13 yıl, lisans mezunu, görev yaptığı okulunda öğrencilerin hazırbulunuşluklarını arttıran konu anlatımları ve örnekleri ile öğrencilerin dikkatini çekerek ilgilerini arttırıp derse hazır hale getiren projeler gerçekleştirdi. Çeşitli sosyal medya platformları üzerinden Teknoloji ve Tasarım öğretmenlerine yönelik bilgi, tecrübe ve doküman paylaşımı yapmaktadır.

**Ö15**, kadın, ortaokulda fen bilimleri öğretmeni, kıdemi 22 yıl, okulundaki çalışma süresi 8 yıl, lisans mezunu, görev yaptığı okulunda çeşitli STEM uygulamaları ve eTwinning projeleri gerçekleştirmektedir.

**Ö16**, erkek, özel eğitim uygulama okulunda teknoloji ve tasarım öğretmeni, kıdemi 22 yıl, okulundaki çalışma süresi 11 yıl, lisans mezunu, görev yaptığı okulunda ERASMUS projesinde görev aldı. Kodlama eğitimleri gerçekleştirdi.



**Ö17**, kadın, ortaokulda teknoloji ve tasarım öđretmeni, kıdemi 23 yıl, okulundaki alıřma süresi 6 yıl, yüksek lisans mezunu, görev yaptıđı okulunda eřitli STEM uygulamaları ve eTwinning projeleri gerekleřtirdi.

**Ö18**, kadın, ilkokulda sınıf öđretmeni, kıdemi 24 yıl, okulundaki alıřma süresi 23 yıl, lisans mezunu, görev yaptıđı okulunda eřitli STEM uygulamaları ve eTwinning projeleri gerekleřtirdi.

**Ö19**, kadın, mesleki ve teknik anadolu lisesinde sađlık hizmetleri öđretmeni, kıdemi 27 yıl, okulundaki alıřma süresi 14 yıl, yüksek lisans mezunu, görev yaptıđı okulunda ERASMUS projeleri gerekleřtirdi halen proje yürütücülüđü devam ediyor.

**Ö20**, kadın, mesleki ve teknik anadolu lisesinde giyim üretim teknoloji ve moda tasarım öđretmeni, kıdemi 29 yıl, okulundaki alıřma süresi 6 yıl, yüksek lisans mezunu, görev yaptıđı okulunda ERASMUS projesi gerekleřtirdi. IPA projesi yürütücülüđü deneyimine sahiptir.

# Determination of Primary School Teachers' Mathematical Gender Stereotypes and Examination of Their Reflection on Students\*

Ozge NURLU USTUN\*\* Naciye AKSOY\*\*\*

## To cite this article:

Nurlu-Ustun, O., & Aksoy, N. (2022). Determination of primary school teachers' mathematical gender stereotypes and examination of their reflection on students. *Journal of Qualitative Research in Education*, 29, 235-264. doi: 10.14689/enad.29.9

**Abstract:** This study aims to investigate primary school teachers' mathematical gender stereotypes and to discover whether these stereotypes, if any, are reflected on students. The study was designed as a multiphase mixed methods study. Accordingly, in the quantitative and qualitative stages of the study, different sample groups including both fourth-grade teachers and fourth-grade students in Ankara were studied. Teachers' Gender Stereotype Scale toward Mathematics, observation form, Students' Gender Stereotype Questionnaire and Mathematics Achievement Test were sequentially used to collect data. The data were analyzed by Mann Whitney U test and content analysis. Results demonstrate that in comparison to the teacher who has neutral gender related beliefs toward mathematics, the teacher with strong traditional mathematical gender stereotypes favouring their male students. However, results show that students do not internalise their teachers' mathematical gender stereotypes, and, hence, there is reflection of teachers' gender stereotypes on students' mathematical achievements. By carrying out longitudinal studies, it should be followed at which educational level students begin to acquire such gendered perspectives, which academic fields and professions they choose, and thus the effects of teacher characteristics on students should be revealed more comprehensively.

**Keywords:** Equity in mathematics education, gender stereotypes in mathematics, Mathematics achievement

## Article Info

Received:  
16 June. 2021

Revised:  
10 Aug. 2021


Accepted:  
20 Jan. 2022


## Article Type

Research

© 2022 ANI Publishing. All rights reserved.

\* This study is derived from the Doctoral Dissertation completed by the first author under the supervision of the second author at Gazi University Institute of Educational Sciences in 2018.

\*\*  Corresponding Author: Erzincan Binali Yildirim University, Turkey, [ozgenurlu@hotmail.com](mailto:ozgenurlu@hotmail.com)

\*\*\*  Gazi University, Turkey, [naciye@gazi.edu.tr](mailto:naciye@gazi.edu.tr)



## Introduction

The starting point of this study is the fact of male domination in mathematics. Even though Carl Friedrich Gauss regarded mathematics as the queen of the sciences and assigned it a female characteristic, many people agree that the female nature and mathematical thought are incompatible (Koblitz, 2002). However, in Turkey at least, there are no statistically significant differences in the mathematical achievement of boys and girls at primary (Ergun, 2003; Kulunk-Akyurt, 2019; Sari & Ekici, 2018), and secondary school (Akhan, 2015; Ayvaz, 2013; Yilmaz, 2015; Yucel & Koc, 2011) levels. The examination determines student competence to attain higher education, named Higher Education Institution Examination (YKS) 2018 that boys are just slightly more likely to secure the top grades. Still, the differences are small and not viewed as significant. In stark contrast to these results, students' choice to study in mathematics-related fields remains highly gendered in Turkey. For example, the number of male students entering mathematics-related fields in Turkey is much higher than females. Male enrolment to Information and Communication Technologies departments is almost four times more than female students.

Similarly, male students prefer Engineering, Manufacturing and Construction departments, approximately two and a half times more than females. When it comes to the fields of Arts and Humanities, the picture changes and female domination can be seen clearly (OSYM, 2018). This gender disparity in specific fields can be seen in more men than women working in mathematics-related occupations.

Some researchers have emphasized biological differences in mathematical ability between women and men to explain gender differences in mathematics and mathematics-related occupations (Baron-Cohen et al., 2005; Chapman et al., 2006), while others believe that studies examining the effects of biological differences between women and men on mathematical ability provide contradictory and insufficient results (Ceci et al., 2009). According to Caplan and Caplan (2005), no significant gender differences in mathematical ability have ever been proven. When such differences are found, they are based on factors related to individual experiences. Suppose biological differences in mathematical ability do not necessarily force women out of mathematics and fields closely related to mathematics. In that case, some researchers have instead, focused on the question of what kind of experiences do young women have that cause them to leave mathematics in classroom settings (Keller, 2007).

As Philipp (2007) states, to understand students' experiences within the classroom, it is important to understand teachers as a central factor. Therefore, researchers have focused on teachers' traditional gender stereotypes in mathematics related to the belief

that males are more capable and successful in mathematics (Beilock et al., 2010), how these gender stereotypes influence their interactions with students in mathematics classrooms and affect their students' mathematical achievement, and whether these stereotypes are passed on to students. Studies have shown that teachers stereotype mathematics as a masculine domain (Keller, 2001), consider boys to be more capable than girls (Kurtz-Costes et al., 2008), believe that boys have more developmental resources in mathematics than girls, attribute girls' failure to low ability rather than lack of effort than boys, rate mathematics as a more difficult subject for girls than for boys (Tiedemann, 2000), and believe that girls need more explanations than boys (Chionidou-Moskofoglou & Chatzivasiliadou-Lekka, 2008). Keller (2001) asserts that teachers' mathematical gender stereotypes affect teacher-student interaction. Studies have explored that when teachers who maintain mathematical gender stereotypes ask a question, they often select boys over girls to answer questions posed (Mittelberg et al., 2011), therefore, boys are provided more opportunities to receive feedbacks than girls (Chionidou-Moskofoglou & Chatzivasiliadou-Lekka, 2008). In addition, teachers can transfer mathematical gender stereotypes to students through their classroom interaction (Keller, 2001). Keller and Dauenhimer (2003) found that teachers and students stereotype mathematics as a male domain and teachers' stereotypes significantly affect their students' stereotypes, mathematical achievement, self-efficacy and interest.

Due to the importance of mathematics as a selection criterion for further education steps and the most prestigious occupations (Keller & Dauenhimer, 2003; Martinot & Désert, 2007; Roman, 2004), teachers' mathematical gender stereotypes and their influences on mathematics classrooms and students have been studied as a starting point of maintaining gender equality, especially in western cultures. However, it is well known that sexist behaviours and attitudes are prevalent among teachers in Turkey (Esen, 2015; Sayilan, 2012). These sexist behaviours and attitudes show a wide range of variety. Some of them are the intervention of looks and turn out, accusation and pressure of friendships with the opposite sex, not giving girls the opportunity to respond and ignoring their questions during classroom discussions, sortation of course content, order of seating, and organization of tasks regarding students' gender (Tan, 2008). Nevertheless, there is no evidence of Turkish teachers' mathematical gender stereotypes and their reflection on teacher-student interactions in mathematics classrooms and students. Therefore, this study focuses on teachers' mathematical gender stereotypes to explore their stereotypes' reflections on teacher-student interaction in mathematics classrooms and students.

To achieve this aim, the following broader research questions are addressed:

1. How do teacher-student interactions in the classrooms of teachers who hold traditional and neutral gender related beliefs about mathematics?



2. Do teachers' mathematical gender stereotypes influence students' gender beliefs about mathematics?
3. Do teachers' mathematical gender stereotypes influence students' mathematics achievement by gender?

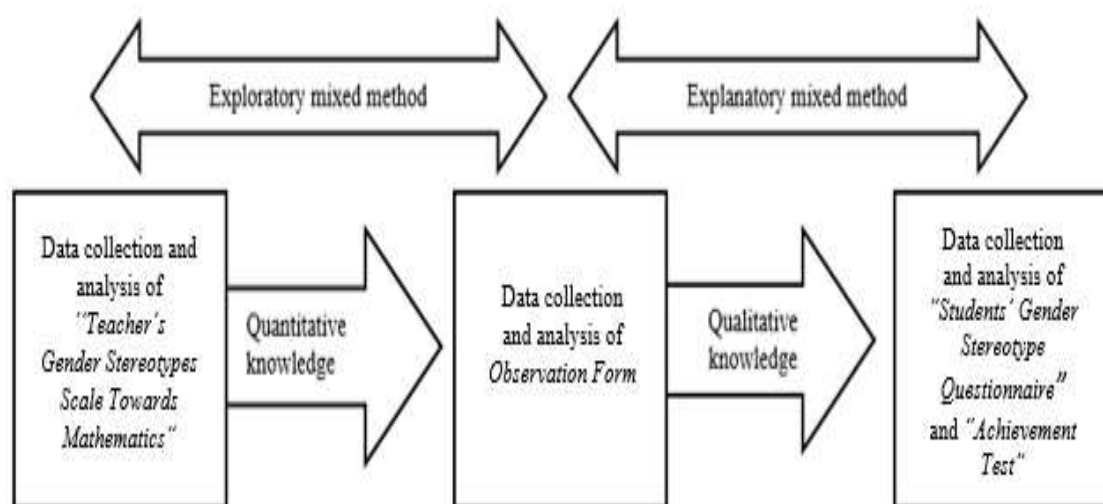
## Method

### Research Design

Multiphase mixed methods study design (Creswell, 2017) is used in this study. As it is shown in Figure 1, both explanatory and explanatory mixed method research designs are utilized together in the research. Data is gathered through a serail of phases. A survey is conducted and then classroom observations are used. Later, a questionnaire and an achievement test are applied to students. For the first, in the quantitative phase, teachers' gender stereotype in mathematics is determined. Later, in the follow-up, qualitative phase, teachers' classroom practices are addressed. Then, again in the quantitative phase, these teachers' students' mathematics achievement and stereotypes in mathematics are investigated.

**Figure 1.**

*Multistages Feature of the Research*



### Participants

In this study, different sampling strategies are utilized. Firstly, Teachers' Gender Stereotype Scale towards Mathematics is administered to 393 4th grade primary school teachers (299 females and 94 males) in 60 schools from each central county of Ankara,

Turkey to reveal teachers' mathematical gender stereotypes and determine the further participant group of teachers. Secondly, one teacher having the strongest traditional mathematical gender stereotype beliefs (Ms. Nevin –nickname-) and one teacher having the most gender-neutral beliefs about mathematics (Ms. Nilgun –nickname-) are chosen as cases for the qualitative phase of the study based on their scores on Teachers' Gender Stereotypes Scale Towards Mathematics. Thirdly, students of these two teachers (30 females and 16 males) are participated in the study to take a mathematical achievement test and gender stereotype questionnaire to find out their mathematics scores and stereotypical beliefs about mathematics. Finally, from each classroom, 6 students (gender x achievement) are determined regarding their gender and achievement level to make student-teacher interaction observation.

## Data Collection and Procedure

### Teachers' gender stereotype scale towards mathematics

The Teachers' Gender Stereotype Scale Towards Mathematics developed by the first Nurlu (2017) was used to determine teachers' gender stereotypes in mathematics. The scale has two different forms and 34 items in total. Total score which can be taken from the scale is 170. Girls Form is constituted by items showing the superiority of girls to boys in mathematics, such as "Girls are more successful than boys in predicting how to solve mathematical problems". On the other hand, Boys Form has items that show the superiority of boys to girls, as "Boys understand mathematical problems more easily than girls do". Items of each form are produced based on the literature and exploratory and confirmatory factor analysis are established. The Cronbach Alpha value of Boys Form is found as .884, and of Girls Form is calculated as .91.

The Scale is administered to 393 fourth grade teachers in 60 primary schools. Firstly, the schools are determined randomly. Then, with official permission of the Ministry of National Education, 4th grade teachers are met one by one to explain the research's aim and request their consent. Teachers willing to participate in the study but do not have enough time to fill the scale during the day are given the researcher's phone number to send photos on some applications.

### Observation form

The researchers develop an observation form by utilizing Teacher-Child Dyadic Interaction System observation instrument (Brophy & Good, 1970). The observation form focuses on three areas in the teacher-student interaction: teacher-initiated interactions, student-initiated interactions and feedbacks given by teachers.

A sample of analysis of each code is given below:

### **Teacher initiated interactions**

Teacher initiated interactions are related to the direct questions asked to a particular student. These questions are also examined in terms of Bloom's cognitive domain taxonomy. In this study, the first three steps (knowledge, comprehension and application) of Bloom's cognitive domain taxonomy are considered low order questions. The last three steps (analysis, synthesis and evaluation) are high order questions. An example is given below:

So, second place value after comma? Emre (most achieving male), raise your head. My dear Emre, second place value after comma? Ok, do you remember? Which place value is it?

This teacher-initiated interaction was coded as a low order question asked to a male student.

### **Student-initiated interactions**

Student-initiated interactions are investigated under two codes: public and private interactions. Public interactions involve some contacts with teachers initiated by students that everyone hears in the classroom such as calling out an answer or asking a question. An example of student initiated public interaction is given below:

The question of "Is there anything smaller than mm?" was asked by a female student in the classroom. This example was coded as a female student-initiated public interaction because the question is asked by a girl and loudly that everyone in the classroom can hear it. Private interactions involve individual contacts with the teacher-initiated by students, such as showing an answer they have written down in their notebooks.

### **Feedbacks**

Teacher feedback is explored with the codes evaluating the answer (correct, that's right or wrong, etc.), giving no response, rephrasing the question or giving a hint, asking for the correct answer, praising the correct answer, and criticising (you would know that if you had been paying attention, etc.). Below are some examples of teacher feedback:

Yes, it is pretty good (Fatma).

This feedback given by the teachers was coded as praising the right answer of a female student.

Observations take almost 10 hours for each classroom and are carried out until reaching the saturation point to ensure credibility. These took place between 5-19 December 2016 in Ms. Nevin's classroom, and on 21 March-13 April 2017 in Ms. Nilgun's classroom. During observations, the researcher takes an appropriate row that does not block students from seeing their teachers or the blackboard and does not interfere in their classes.

In the beginning of the study, it was planned that a video camera would record observations. However, some obstacles such as not being able to convince school administration, teachers and parents, convincing school administration, teachers, and

parents are confronted. Thus, observational data are based on the taped recordings and the researcher's notes.

### **Mathematical achievement test and Students' gender stereotype questionnaire**

In this study, the Mathematical Achievement Test developed for 4th grade students based on the 2009 mathematics program by Fidan (2013) is used to determine students' mathematical achievement. The test was developed for numbers with the highest number of learning outcomes among four learning areas (numbers, geometry, measurement, data) in the primary school mathematics curriculum. The test consists of 24 items. The KR-20 reliability coefficient is 0.95; the mean difficulty is 0.59 and the discriminant value is 0.65.

Comparing the renewed 2015 and 2009 mathematics curriculum, we find that there is no significant difference in the learning area of numbers in which the test was developed. In addition, interviews with teachers showed that this program change was not reflected on their students. Teachers stated that their students are subject to the 2009 program at the application of the study (2016-2017 academic year). Thus this test was preferred because it is suitable for 4th grade students. Its validity and reliability studies have been carried out and it can be applied under the supervision of the researchers.

Students' Gender Stereotype Questionnaire developed by Steele (2003) examines the gender of students' drawings provided in response to two stories of which characters are children. One of them is really good at math, and the other is good at literature. The stories do not give any information or reference about the gender of the characters.

The stories, originally in English, are translated into Turkish by the researchers. Then, they are examined by an instructor who is an expert in literacy and Turkish education and fluent in English language. After required corrections were made, the opinions of 3 other experts in Primary Education, Turkish Education and Mathematics Education were taken and a final version of the questionnaire was reached.

Data of these two instruments are gathered together from students and data collection process takes one and a half periods. It asked teachers to determine an appropriate date to apply the test and the questionnaire. Data are obtained on 1-5 May 2017. Firstly, the test is given to the students. After ensuring that all students have completed the test, students will be shown the blank page and asked to open it. The short stories on the questionnaire are read aloud one at a time and students are asked to draw the characters from the stories on the page. Because the characters students draw are the focus of the research, students are asked to give their drawings a name. Therefore, the determination of characters' gender becomes easier.

## Data Analysis

### Teachers' gender stereotype scale towards mathematics

Data gathered from the scale is analyzed with SPSS and descriptive statistics. The five-point Likert scale is coded as strongly disagree=1, disagree=2, little bit agree=3, agree=4 and strongly agree=5, thus responses can be directly scored.

### Observational data

Observational data is analyzed by utilizing basic content analysis technique. By this technique "many words of the text are classified into much fewer categories" (Drisko & Maschi, 2016, p. 22). Observational data are transcribed in detail on a Microsoft Word document. These transcriptions are read several times to determine which events recorded during the observations needed to be placed under which code or category. To provide transferability, observational data are described in detail and observation notes are given. Direct quotations are chosen. Observational findings are demonstrated through frequency tables. Also, to provide validation, the data are cross verified with data gained through, achievement test, and the students' gender stereotype questionnaire. In addition, to ensure confirmability, 30% of all the observational data are coded by two independent researchers. Using Hubermann's formula (1994), inter-coder reliability is calculated and it is found that they have shown 88% similarity. To provide dependability, an external researcher evaluates whether the data support the findings, interpretation and conclusion.

### Mathematics achievement test and Students' gender stereotype questionnaire

Mann Whitney-U test is carried out to explore whether there is a significant mathematical achievement difference between girls and boys. SPSS is used for the analysis of to analyse the quantitative data collected by means of using Mathematical Achievement Test and Students' Gender Stereotype Questionnaire. Data from the test and questionnaire are coded for the preparation to decrease the risk of errors. The achievement score is generated by coding the correct answer 1, and the wrong answer 0.

The questionnaire is based on a students' drawings. These drawings are coded by separating into three categories. Students who draw a girl in the literacy story and a boy in the mathematics story have traditional mathematical gender stereotypes. Students drawing a boy in the literacy story and a girl in the mathematics story are considered to have non-traditional gender stereotypes. Students who draw the same gender for both stories are considered as having gender neutral beliefs about mathematics. Data gathered from the questionnaire are entered into the SPSS and descriptive statistics procedures are utilized.

## Ethical Considerations

Participants' rights and values are considered throughout the research project. Firstly, it is applied to Ankara Directorate of National Education to evaluate the potential risks and benefits of the research, and any permission was obtained to carry out the study in primary schools in Ankara province. This permission is regarded as a prerequisite to ask teachers for their voluntary participation. All participants have informed the aim of the research and details how data gathered from them are used. For example, participants are told that their names or any identifying information are not mentioned in the study, but when it is needed, pseudonyms are used. Also, it is said that raw data are held in encrypted files in the researchers' private computers.

Students participating in the study are asked to fill mathematical achievement test and gender stereotype questionnaire without their name and tin the mathematical achievement test and gender stereotype questionnaire without their name. Additionally, participants are provided with the researchers' phone numbers and they are told that they can get in contact with. They are told that they can contact the researchers if they find themselves feelingeel uncomfortable about anything they have divulged or any behaviour displayed during the study. They are informed that test results are not shared with their teachers or parents. It is also emphasized that all participants have a right to withdraw from the study at any time.

## Findings

### Teachers' Gender Stereotype Scale Towards Mathematics Findings

To determine teachers' gender stereotype in mathematics, the *Teachers' Gender Stereotype Scale towards Mathematics* is administered. Results of the scale are illustrated in Table 1.

**Table 1.**

*Summary of Descriptive Statistics for Teachers' Gender Stereotypes towards Mathematics*

|            | N   | Minimum | Maximum | M     | Sd    |
|------------|-----|---------|---------|-------|-------|
| Boys Form  | 393 | 29      | 77      | 52,82 | 10,04 |
| Girls Form | 393 | 28      | 75      | 46,57 | 7,34  |

As shown in Table 1, participant teachers have mathematical gender stereotypes in both traditional and non-traditional ways.

The maximum score of the Scale's Boys Form that teachers got is 77, but the teacher with the highest score does not accept the participation. Ms. Nevin's score is 74 and she



accepts the participation. Therefore, she is regarded as the teacher who demonstrates the strongest traditional gender stereotype in mathematics.

The minimum score of the total scale is evaluated because Boys Form shows the degree of perceived masculinity of mathematics but not gives any information of stereotypical belief about mathematics as a female domain. For instance, a participant having the lowest score from Boys Form could have a neutral belief or even non-traditional gender stereotypes. To make it clear, both Girls and Boys Forms are evaluated to reveal the teacher with most neutral belief toward mathematics. The minimum score in total of the Scale that teachers got is 57, however the teacher with the lowest score is not willing to participate in the study. Ms. Nilgun's score is 68 and she accepts the participation. Therefore, she is regarded as the teacher who has the most neutral gender related beliefs in mathematics.

## **Observation Findings**

Reflections of Ms. Nevin and Ms. Nilgun's beliefs about mathematical gender stereotypes on teacher-student interactions in mathematics classrooms are explored.

### **Teacher initiated interactions**

It is aimed to explore how the numbers and quality of teachers' questions are shaped regarding students' genders and academic achievement levels. Interactions by Ms. Nevin are presented in Table 2.

As it is seen in Table 2, Ms. Nevin asks more questions to male students than females at high and medium achievement levels. However, it is not the same for the lower achievers. At the low achievement level, the female student takes more questions than the male. When considering the characteristics of the questions, male students at high and medium achievement take more questions at both high and low order levels. Even though the female student with low achievement takes more questions at the remembering step, the same number of high order questions are asked to both the female and male student.

**Table 2.**

*Frequency Values of Interactions Initiated by Ms. Nevin*

| Questions                   | High achievers |      | Medium achievers |      | Low achievers |      |
|-----------------------------|----------------|------|------------------|------|---------------|------|
|                             | Female         | Male | Female           | Male | Female        | Male |
| <b>High Order Questions</b> | Evaluating     | 0    | 0                | 0    | 0             | 0    |
|                             | Synthesising   | 1    | 2                | 1    | 0             | 1    |
|                             | Analysing      | 4    | 5                | 0    | 2             | 3    |
| <b>Low Order Questions</b>  | Applying       | 2    | 12               | 3    | 7             | 5    |
|                             | Understanding  | 0    | 0                | 0    | 0             | 0    |
|                             | Remembering    | 6    | 2                | 1    | 3             | 6    |
|                             | Total          | 13   | 21               | 5    | 12            | 15   |

It is seen that male students have a priority in terms of interactions initiated by Ms. Nevin. For example, to the whole classroom, Ms. Nevin asked the analyzing question of “How old is a person born when the Turkish Grand National Assembly (TBMM) was founded?”. Some students bring their notebooks to show the answer, but the most achieving male student has not finished the answer yet. Ms. Nevin says the following words:

Yusuf, my son, why do not you bring? No, I am waiting for Yusuf. Hang on a minute, do not bring, please. I am waiting for Yusuf. First, Yusuf brings, then we can continue. Come on Yusuf.

Additionally, it is observed that Ms. Nevin frequently warns male students to engage with the lesson.

Sait, have you solved it?

Sait, you are up in the clouds

Only one time, she warns same achievement level female student with these words:

Bilge, Bilge has never brought (notebook)

Moreover, involving a discipline problem also becomes a learning opportunity for males in Ms. Nevin’s mathematics classes. For example, the boy with low achievement engages in some minor disruptive behaviour and talks to the deskmate (Furkan).

Furkan, stand up. What are those in your hands? Throw them. We are dying here to teach something; you are engaging different things. Multiply 12 with 5 in a short way. Sait, you multiply (He does not answer). Because, you talked. Sait, find the half what I say? Multiply with 10. Sait?

Interactions initiated by Ms. Nilgun are presented in Table 3.



**Table 3.**

*Frequency Values of Interactions Initiated by Ms. Nilgun*

| Questions                   | High achievers |      | Medium Achievers |      | Low achievers |      |    |
|-----------------------------|----------------|------|------------------|------|---------------|------|----|
|                             | Female         | Male | Female           | Male | Female        | Male |    |
| <b>High Order Questions</b> | Evaluating     | 0    | 0                | 0    | 0             | 0    | 0  |
|                             | Synthesising   | 1    | 1                | 2    | 1             | 2    | 0  |
|                             | Analysing      | 0    | 0                | 0    | 0             | 0    | 0  |
| <b>Low Order Questions</b>  | Applying       | 2    | 1                | 3    | 3             | 0    | 2  |
|                             | Understanding  | 4    | 3                | 3    | 5             | 5    | 5  |
|                             | Remembering    | 1    | 4                | 4    | 3             | 10   | 6  |
|                             | Total          | 8    | 9                | 12   | 12            | 17   | 13 |

It is seen in Table 3, that the number of questions asked in Ms. Nilgun’s mathematics classes does not significantly differentiate regarding the gender of students. However, students' number of questions rises from students with higher achievers to the lower ones. When examining the characteristics of the questions, even it is possible to say that there is a balanced distribution, it is seen that lower achievers take more remembering level questions. It is observed that Ms. Nilgun asks more questions to students with low achievement students with low achievement questions.

Ms. Nilgun treats students similarly regardless of their genders. For example, when she realizes her students are distracted, she encourages all of them to concentrate. Her behaviours toward the male student with high achievement and to the female student with low achievement are as follows:

Second place value after comma? Emre (most achieving male), raise your head. My dear Emre, second place value after comma? Do you remember? Which place value is it? Tenths, ok what was 7 here?

2 whole  $\frac{1}{3}$  plus 3 whole  $\frac{1}{3}$ . We need to add the wholes and write as a whole. 2 plus 3 makes 5. By adding numerators, we write on the top of the number, 1 plus 1, yes my dear Sule (low achieving female), look at here. What does make 1 plus 1? 2.

Additionally, regardless of students' gender or achievement level, Ms. Nilgun insists on students’ learning when they feel unconfident or leave the question unanswered. The following dialogue shows how she insists that the boy with medium achievement learns.

- I am too bad.

- You are not bad, you will learn. There is nothing like I am too bad. Come to the blackboard, keep calm.

It is observed that she displays similar treatment to the girl with low achievement:

- Sule, how many centimetres was in a meter?
- ...
- Come to the blackboard (teacher holds a meter).

According to classroom observations, the number and characteristics of interactions initiated by teachers are differentiated regarding students' gender, based on teachers' mathematical gender stereotypes. It is seen that the teacher with strong gender related beliefs toward mathematics generally asks more question to male students. Additionally, in the teacher's mathematics classes, male students often ask high order questions. It is a possibility to think that the expectation of males' superiority in mathematics ability cause them to take more questions. Moreover, in interactions initiated by the teacher, where male students are the focus of the classes, they are encouraged to join the lessons. They are expected to have higher-order thinking abilities and their learning is prioritized as important. On the other hand, it is observed that the number and characteristics of the questions that the teacher having neutral mathematical gender stereotypes asked, are distributed evenly with regards to the gender of students. According to observation results, the teacher invites her students to join the lesson and insists on learning regardless of their genders.

## **Feedbacks**

It aims to examine how the frequency and characteristics of feedback given by teachers are shaped regarding gender. Feedbacks given by Ms. Nevin are presented in Table 4. Even though there are no clear differences between male and female students' right answers praise, it is observed that male students get more praise and encouragement to learn the right answers. As shown in Table 4, when Ms. Nevin evaluates her students' answers, it is seen that her feedbacks to female students is twice that of male students. However, Ms. Nevin ignores the correct answers of female students by half more times than male students and does not provide feedback. Additionally, when female students give a wrong answer or leave the question unanswered, they are criticised criticized more than male students. On the other hand, wrong answers and unanswered questions of male studentmale students' wrong answers and unanswered questions are directed to find the right answer by providing a clue more than female students.

**Table 4.**

*Frequency Values of Feedbacks Given by Ms. Nevin*

|   | Female Students |        |     |       | Male Students |        |     |       |
|---|-----------------|--------|-----|-------|---------------|--------|-----|-------|
|   | High            | Medium | Low | Total | High          | Medium | Low | Total |
| Evaluating the answer                       | 15              | 2      | 4   | 21    | 3             | 6      | 1   | 10    |
| Not giving feedback to wrong answer         | 0               | 2      | 3   | 5     | 2             | 2      | 0   | 4     |
| Not giving feedback to unanswered question  | 0               | 0      | 2   | 2     | 2             | 0      | 2   | 4     |
| Not giving feedback to right answer         | 7               | 2      | 2   | 11    | 1             | 5      | 0   | 6     |
| Criticising to wrong answer                 | 0               | 0      | 1   | 1     | 0             | 1      | 0   | 1     |
| Criticising to unanswered question          | 1               | 1      | 1   | 3     | 0             | 0      | 0   | 0     |
| Providing a clue for a wrong answer         | 1               | 0      | 0   | 1     | 2             | 2      | 3   | 7     |
| Providing a clue for an unanswered question | 0               | 0      | 1   | 1     | 7             | 0      | 4   | 11    |
| Inquiring the right answer                  | 3               | 0      | 0   | 3     | 1             | 2      | 1   | 4     |
| Praising the right answer                   | 7               | 2      | 1   | 10    | 10            | 1      | 0   | 11    |

Ms. Nevin provided more effective feedbacks for her male students in mathematics classes. If her male students cannot answer, even the answer is related with another course, she gives prior knowledge to encourage her students in finding the right answer.

We are making a relation between two different subjects. We know War of Independence. Was not Turkish Grand National Assembly (TBMM) founded before War of Independence? Ataturk embarked Samsun. 19th May 1919. Then he came to Ankara. Of course, he would make these meetings to officialize, he would make the Independence War officially. No one fights if there is nothing official. I mean it must be depended on somewhere. This must be an institution. He founded the TBMM. When did he found it? On your national holiday. You are always in a trouble on these dates.

On the other hand, it was observed that Ms. Nevin directed her female students to find unanswered questions only once. However, the explanation she provided to a female student also comprised of little criticism. For example, she teaches how to multiply with 50 in a short way. When a female student with low achievement does not answer, her reaction follows:

Bilge, you have 4 apples. If I ask you to give me half of them, how many will you give? What is the half of 4?

After the explanation, the student finds the answer, however Ms. Nevin's following words shows that she actually criticizes the student:

Did you get it, Bilge? Bilge, you are not focused. You have never been concentrated. This is not a thing you cannot get. Force your brain, little bit force your brain.

Male students do not receive this kind of. In fact, Ms. Nevin does not criticize her male students. Only once did, she criticizes a male student with medium achievement when he does not answer. However, the criticism comprises of glorifies his intelligence:

Don't you know multiplication table? Yesterday, what did we do, Mert? We put the ice into water, then measured it. I become like an ice, too. You are a smart boy; you should understand what I mean.

On the other hand, female students are criticised for their wrong answers:

My dear, why do you subtract from it? Children, people do not become younger after ten years, become older. You will not subtract. Bilge, do you become older or younger after ten years. What are you going to be? You will become older. The world donot turn back.

Additionally, it is observed that Ms. Nevin's praises towards male students is more comprehensive and descriptive than towards female when they make close estimations, follow the lesson or keep the notebook orderly:

Well done Yusuf, bravo. Can you come please, bring your notebook? Look at here, how beautiful his writing. Yusuf, come to the blackboard, solve the problem.

However, her praises towards female students is quite superficial:

Yes, Ayse, well done

According to observations, feedbacks given by Ms. Nevin are shown in Table 5.

As demonstrated in Table 5, Ms. Nilgun's feedbacks do not significantly differentiate based on the gender of students. It is observed that her feedbacks are quite similar regardless of the gender of students. Similar feedbacks are given for students from both genders even with different achievement levels. For example, a clue for a wrong answer provided by Ms. Nevin for a female student with low achievement follows:

- My dear Sule, how can I measure the width of the row?
- With chalk.
- With what? With centimetre, millimetre, meter or kilometre?

**Table 5.**  
*Frequency Values of Feedbacks Given by Ms. Nilgun*

|   | Female Students |        |     |       | Male Students |        |     |       |
|---|-----------------|--------|-----|-------|---------------|--------|-----|-------|
|   | High            | Medium | Low | Total | High          | Medium | Low | Total |
| Evaluating the answer                       | 8               | 8      | 9   | 25    | 5             | 8      | 9   | 22    |
| Not giving feedback to wrong answer         | 0               | 0      | 0   | 0     | 0             | 0      | 0   | 0     |
| Not giving feedback to unanswered question  | 0               | 0      | 0   | 0     | 1             | 0      | 0   | 1     |
| Not giving feedback to right answer         | 0               | 4      | 0   | 4     | 1             | 2      | 0   | 3     |
| Criticising to wrong answer                 | 0               | 0      | 1   | 1     | 0             | 0      | 0   | 0     |
| Criticising to unanswered question          | 0               | 0      | 3   | 3     | 1             | 0      | 1   | 2     |
| Providing a clue for a wrong answer         | 0               | 2      | 4   | 6     | 1             | 0      | 3   | 4     |
| Providing a clue for an unanswered question | 0               | 0      | 3   | 3     | 3             | 1      | 1   | 5     |
| Inquiring the right answer                  | 1               | 1      | 3   | 5     | 0             | 4      | 4   | 8     |
| Praising the right answer                   | 0               | 0      | 4   | 4     | 0             | 0      | 0   | 0     |

Similar feedback is given for a male student with medium achievement to help him find the right answer:

- My dear Arda, 60 centimetres, convert it to the millimetre.
- I divide to 10.
- Divide? 1 centimetre becomes 10 millimetres. Does it increase or decrease? Our number is increased, right? If each space is 10, 10, 20, 30, 40, should I need to count like that? How can we calculate?

Ms. Nilgun criticizes her students in a similar way when they cannot answer the questions. For example, she calls her high achievement male student to the blackboard and asks the following question:

- Ok, 1, what is the place value of 1, Emre?
- ...

- On the whole part my dear, what is the place value of that 3? When you think about that 3, which place value? Emre, you are super, if this is difficult for you (!). I am saying 231, what is the place value of 1?

A similar situation happened with a female student with low achievement:

- Ok, I will measure length of the eraser. Which unit of measurement should I use, Sule?
- ...
- Ok, quit to play with that note book.

Even Ms. Nilgun gives very similar feedbacks to her students regardless of their genders, she often praises her low achievement female student by using that kind of expressions:

- Well done you, well done.

It seems like there is an agreement in the class to motivate and encourage the low achievement female student. It is observed that for the right answer given by the female student with low achievement, her classmates applaud without any encouragement for the right answer given by the female student with low achievement. It is possible to consider that another factor rather than gender of the student can be effective to this situation.

Classroom observational results reveal that the teachers' quality and quantity of feedback are shaped based on their perceptions about mathematical gender stereotypes.

### Student initiated interactions

Student initiated interactions in Ms. Nevin's classroom are presented in Table 6.

**Table 6.**

*Frequency Values of Interactions Initiated by Ms. Nevin's Students*

|                              |                       | High Achievement |      | Medium Achievement |      | Low Achievement |      |
|------------------------------|-----------------------|------------------|------|--------------------|------|-----------------|------|
|                              |                       | Female           | Male | Female             | Male | Female          | Male |
| <b>Academic Interactions</b> | Public interactions   | 24               | 5    | 0                  | 5    | 0               | 0    |
|                              | Personal interactions | 9                | 3    | 3                  | 3    | 1               | 1    |
|                              | Total                 | 33               | 8    | 3                  | 8    | 1               | 1    |

As shown in Table 6, in Ms. Nevin's classroom, the female student with high achievement initiates more academic interviews. It is also observed that the male student of medium achievement is more active than the girl in the same achievement level, however students with low achievement have less academic interactions and this does not differentiate based on genders of these students.

In the Ms. Nevin’s mathematics classrooms, students initiate interactions by commenting on the difficulty of a problem, predicting or excitedly saying the answer of a problem, or running to the blackboard to solve the problem without permission. Additionally, bringing their notebook to the teacher to show their answer is regarded as personal interaction. The female student with high achievement is observed as the student who initiates most for both interactions, personal or public.

Student initiated interactions in Ms. Nilgun’s classroom is presented in Table 7.

**Table 7.**

*Frequency Values of Interactions Initiated by Ms. Nilgun’s Students*

|                              |                       | High Achievement |      | Medium Achievement |      | Low Achievement |      |
|------------------------------|-----------------------|------------------|------|--------------------|------|-----------------|------|
|                              |                       | Female           | Male | Female             | Male | Female          | Male |
| <b>Academic Interactions</b> | Public interactions   | 0                | 0    | 0                  | 3    | 1               | 0    |
|                              | Personal interactions | 0                | 0    | 0                  | 0    | 0               | 1    |
|                              | Total                 | 0                | 0    | 0                  | 3    | 1               | 1    |

As can be seen from Table 7, students in Ms. Nilgun’s classroom generally do not tend to initiate interactions. It is observed that the male student in the medium achievement level initiates interaction.

According to classroom observations, Ms. Nilgun’s students initiate public, academic interactions for reasoning about problems, evaluating others answers, and asking questions that are not in the scope of the curriculum such as “*Is there anything smaller than mm?*”. It is observed that students bring their notebooks to their teachers to show their answers as the personal interactions initiated by students.

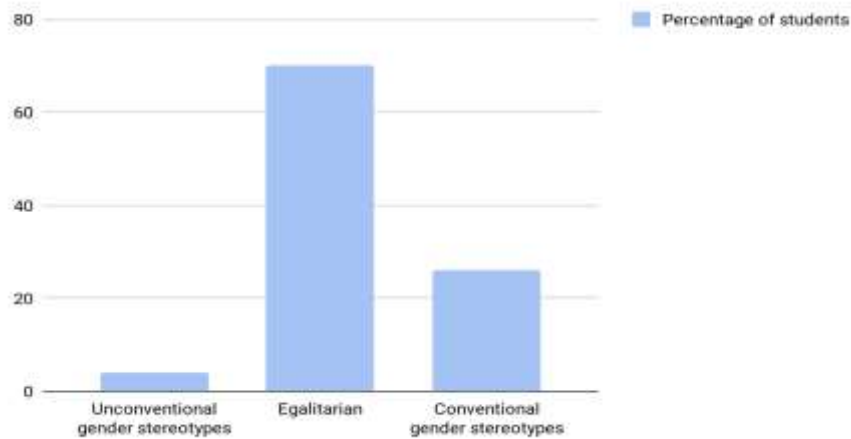
### **Students’ Gender Stereotype Questionnaire Findings**

To reveal how teachers’ mathematical gender stereotypes shape their students’ gendered beliefs about mathematics, Gender Stereotype Questionnaire (Steele 2003) is applied to students.

The results of Gender Stereotype Questionnaire applied to Ms. Nevin’s students are shown in Figure 2.

Figure 2.

Summary of the Descriptive Statistics of the Students' Gender Stereotype Questionnaire

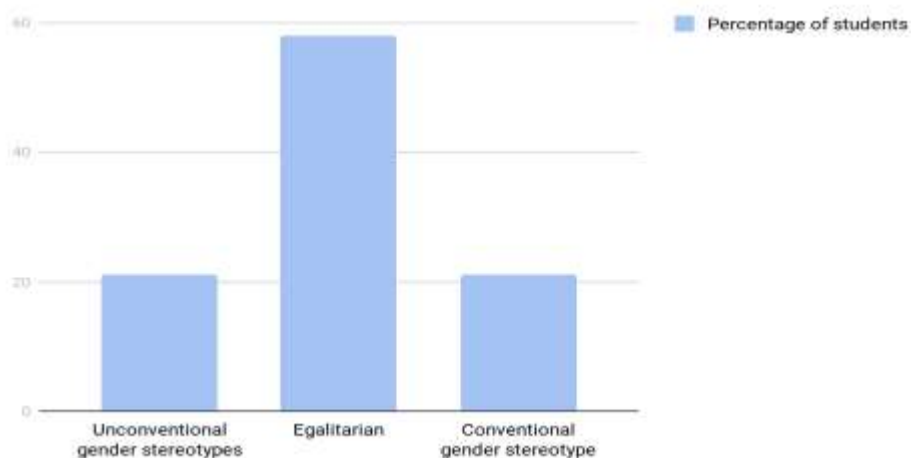


Results of the Gender Stereotype Questionnaire applied to Ms. Nilgun's students are presented in Figure 3.

This figure shows that 4% of Ms. Nevin's students have unconventional gender stereotypes. On the other hand, 26% of them have conventional gender stereotype. When investigating drawings of students who have neutral beliefs, it is seen that almost all of them draw their own gender for both mathematically and literally talented child. 70% of them do not have gendered beliefs toward mathematics.

Figure 3.

Summary of the Descriptive Statistics of the Gender Stereotype Questionnaire



As shown in Figure 3, 21% of Ms. Nilgun's students have unconventional gender stereotypes. Students who have conventional gender stereotypes are 21% of them. 58%



of the students have neutral gender-related beliefs toward mathematics. When considering these students' drawings, it is seen that almost all of them draw their gender for the character of both stories.

The results gained from Students' Gender Stereotype Questionnaire that applied to students to explore students gender-related beliefs toward mathematics reveal that most of the students have egalitarian beliefs toward mathematics in both classrooms that the study was conducted.

### Mathematics Achievement

In this study, the Mathematics Achievement test is used to determine students' achievements and gender differences in mathematics achievement.

In Ms. Nevin's classroom, it is seen that female students' achievement mean is 16.06; male students' mean is 11.66. To explore whether there is a significant difference between male and female students' mathematics achievement, Mann Whitney U Test is run.

#### Table 8.

*U-Test Results of Students' Mathematics Achievement Scores Regarding to Gender in Nevin Teacher's Classroom*

| Gender | N  | Mean Rank | Sum of Ranks | U     | P    |
|--------|----|-----------|--------------|-------|------|
| Female | 15 | 16,07     | 241,00       | 59,00 | ,130 |
| Male   | 12 | 11,42     | 137,00       |       |      |

According to Table 8, Ms. Nevin's female students are more successful than male classmates. However, it is seen that this difference between female and male students' achievements is not statistically significant,  $U=59.00$ ,  $p > .05$ .

In Ms. Nilgun's classroom, it is seen that the mean value of female students' achievement is 18.40, male students' achievement 18.50. Mann Whitney U Test is run to determine if there are gender differences in students' mathematics achievement.

As shown in Table 9, the mathematics achievement of Ms. Nilgun's male students is higher than female ones. However, this difference in students' mathematics achievement is not statistically significant,  $U=29.00$ ,  $p > .05$ .

**Table 9.**

*U-Test Results of Students' Mathematics Achievement Scores Regarding to Gender in Nilgun Teacher's Classroom*

| Gender | N  | Mean Rank | Sum of Ranks | U     | P    |
|--------|----|-----------|--------------|-------|------|
| Female | 15 | 10.07     | 1511.00      | 29.00 | .920 |
| Male   | 4  | 9.75      | 39.00        |       |      |

Mathematics Achievement Test results reveal minor gender differences in mathematics achievement in both classrooms. In Ms. Nevin’s classroom, female students have higher achievement than boys while in Nilgun’s classroom, male students are more successful. Nevertheless, it is found that these differences are not statistically significant.

### Discussion and Conclusion

This mixed-method design study aimed to investigate primary school teachers’ mathematical gender stereotypes and discover their reflections on these gender stereotypes of their students. Education is a critical tool to provide gender equality. Democratic structures and processes should be created in schools and education should be constructed to actualize gender equality (Kalayci & Hayirsever, 2014). However, the present study finds that teachers have mathematical gender stereotypes. Results show that teachers’ interactions with students and feedback are all differentiated by extending their mathematical gender stereotypes. However, this does not reflect the students’ adoption of these stereotypes and mathematics achievement.

Teachers play a vital role in transferring gender stereotypes to new generations (Beilock, et al., 2010; Gunderson et al., 2012; Myhill & Jones, 2006, Tan, 2008) in various ways. One of these ways is the gendered attitudes teachers display during teacher-student interaction in classrooms (Duffy et al., 2001; Jones & Wheatley, 1990). This study shows that teachers’ gendered or egalitarian beliefs toward mathematics shape the nature of teacher-student interactions in the classroom. In the class of the teacher who has mathematical gender stereotypes, male students are the focus of the lesson and often encouraged to engage in the lesson, their learning is a priority and discipline problems return to them as learning opportunities. In parallel, regarding this result, researchers suggest that the interactions of teachers having gender stereotypes about mathematics are focused on male students and that the questions asked, feedbacks (Chionidou-Moskofoglou & Chatzivasiliadou-Lekka, 2008) and disciplinary warnings provided are directed towards male students (Mittelberg et al., 2011).

In addition, it is observed that the teacher with mathematical gender stereotypes gives more effective and frequent feedback to their male students. Male students’ answers were evaluated more accurately, and preliminary information about the questions male

students could not answer was provided in more detail. It is seen that even the teacher is criticizing their male students, she emphasizes male students' intelligence and praise them with more comprehensive and powerful messages. Similarly, Becker (1981) states that teachers usually prefer male students when it comes to interactions such as the right to answer, ask open and challenging questions, insist on learning, give praise and criticism, encourage, help individually, and joke in mathematics class. According to Sadker, Sadker, and Klein (1991), male students attract their teachers' attention more than females, receiving more praise and critical feedback. Dweck, Davidson, Nelson, and Emma (1978), state that male students' correct answers, on the other hand female students' harmonious behaviours are usually praised by their teachers. It is claimed that this situation reinforces the behavior of being 'good' in female students and increases the perception of 'I am smart' in males (Golombok & Fivush, 1994). In this regard, it would be appropriate to mention the self-fulfilling prophecy. For example, social persuasion, which is defined as verbally persuading the individual that he has the necessary skills, is known as one of the sources of self-efficacy (Bandura, 1997, p. 110). It is possible to think that the mathematical self-efficacy of male students who have created a perception of being intelligent by praising their academic achievements will increase. Moreover, it can be assumed that students whose success is praised will also have a positive attitude towards the course. Considering the positive effects of affective variables such as self-efficacy and attitude on mathematics achievement (Yildirim, 2011; Yucel & Koc, 2011), it can be said that teachers who have mathematical gender stereotypes construct a mechanism that confirms their beliefs through their feedback.

Besides, results of the study reveal that higher order questions are mostly asked to male students by the teacher who have mathematical gender stereotypes. Considering that teachers believe that male students are genetically superior

in mathematics (Mittelberg et al., 2011), that they think that mathematics is a more difficult domain for female students than for males at the same achievement level, that they estimate that male students have more developmental sources in mathematics (Tiedemann, 2002), that they have more interest and self-efficacy (Keller, 2001), it is obvious that they ask higher order questions for male students.

Researchers suggest that even though female students are willing to answer questions as many times as males, they can take fewer questions in the classroom of teachers who have mathematical gender stereotypes. Moreover, it is also mentioned that in these teachers' classrooms, male students are more active as an initiator of teacher-student interactions (Mittelberg et al., 2011). However, in this study, it is found that there is no difference in the number and quality of interactions initiated by students of the teacher who has gender stereotypes about mathematics and the teacher with neutral gender related beliefs toward mathematics. Considering that the exposed gender stereotypes have a negative effect on the participation of the classroom activities (Swinton et al., 2011), it is surprising that female students are actively an initiator of teacher-student interaction in the classroom of the teacher with strong mathematical gender stereotypes.

It is well known that teachers can transfer their gender stereotypes to students through teaching-learning activities (Keller, 2001). This study finds that academic interactions and feedbacks provided by the teacher with strong mathematical gender stereotypes have a feature in support of male students. Nevertheless, female students are the initiators of at least the same amount of interaction as their male friends, regardless of their teacher's mathematical gender stereotypes, points out that the students do not adopt these stereotypes. It is determined that most of the students do not have mathematical gender stereotypes in both classrooms. However, this opinion is in contrast with the results of some research finding that students even in kindergarten are aware of gender stereotypes (Blakemore, 2003; McKown & Weinstein, 2003; Ruble et al., 2006; Yagan Guder & Guler Yildiz, 2016). Therefore, it is hard to think that 4th grade students participating in the study, are not, as yet, aware of gender stereotypes. Additionally, it is revealed that students from 1st grade believe that boys are better at mathematics than girls (Lummis & Stevenson, 1990). There is the existence of gender stereotype among 4th and 3rd graders (Muzzatti & Agnoli, 2007).

On the other hand, researchers mention in-group favouritism bias as a frequently confronted phenomenon in the age group that the study applied (Martinot & Desert, 2007; Rowley et al., 2007). They argue that 10 years old students' awareness of mathematical gender stereotypes are quite clear, but the situation becomes uncertain when it comes to themselves (Martinot et al., 2012). Steele (2003) finds out that female students in the primary school draw a male when asked to draw an adult mathematician and a female when asked to draw a child mathematician. Thus, students are aware of these stereotypes but tend to evaluate their group systematically as better than the other group or groups. This behaviour, which is defined as in-group favouritism bias (Hewstone et al., 2002), may be the reason of the participant students' egalitarian view of mathematical gender stereotypes. Because, when the drawings of the students having egalitarian beliefs toward mathematics are examined, it is seen that they depict the characters in both stories in their own gender. Similarly, Martinot and Desert (2007), in their study conducted with 4th grade students, reveal that female students evaluate girls and male students considered boys as better in mathematics. In this case, it can be concluded that students may be aware of traditional mathematics gender stereotypes but do not internalize these stereotypes by making a positive discrimination towards the group they are in.

It is determined that in both classrooms, the study conducted, students' mathematical achievement does not significantly differentiate regarding with gender. Reviewing the studies that examine gender differences in mathematics achievement, it is seen that some of them found male students (Schwery et al., 2016; Van de Gaer et al., 2008) and some of them found female students more successful (Felson & Trudeau, 1991). In fact, as parallel to this study's results, some studies concluded that mathematics achievement does not differ according to gender (Akhan & Bindak, 2017; Devine et al., 2012; Hyde et al., 2008; Hyde et al., 2009). It is possible to suppose that the date of the research, the age of the participants, and the culture in which the research is carried out have an impact on the results. The results of meta-analysis studies indicate that gender

differences in mathematics achievement from past to present are less visible (Li et al., 2017; Linberg et al., 2010). In addition, it is seen that girls' mathematical achievement decreases from primary school towards the high school and college ages (Hyde et al., 2008; Leahey & Guo, 2001).

Moreover, the study conducted with Trends in International Mathematics and Science Study (TIMSS) data reveals that the relationship between mathematics achievement and gender significantly differs from one culture to the another (Penner, 2008). All these results indicate that the reason for the lower mathematics performance of female students compared to that of male students depends on the cultural gender stereotypes to which they are exposed and on the internalisation and adoption of these stereotypes day after day. Likewise, researchers indicate that the gender stereotypes play a determining role on their achievement by effecting their affective characteristics such as self-efficacy, attitude and interest (Casad et al., 2017). However, this study reveals that most of the students do not adopt mathematical gender stereotypes. Therefore, it is possible to assume that affective factors having an impact on mathematics achievements are not harmed with a sexist perspective. In this regard, it is seen that students' mathematical achievement does not differ regarding gender.

Although the literature suggests that teachers' mathematical gender stereotypes play a crucial role in mathematics achievement by differentiating their expectations of success for girls and boys (Gunderson et al., 2012), impacting their instructional processes (Keller, 2001; Mittelberg et al, 2011), and leading students to adopt these stereotypes (Doyle & Voyer, 2016; Gunderson et al., 2012; Zhao et al., 2016), the results of this study show that the female teacher with mathematical gender stereotypes does not transmit these stereotypes to her students and is not a determining factor in her students' mathematical achievement. Researchers suggest that the gender identity defined as the subjective sense of being a woman or a man (Dokmen, 2017) is affected by the mathematical gender stereotypes of the students. In other words, the students with low sense of gender identity have weak mathematical gender stereotypes and they are affected less than others from these stereotypes (Kiefer & Sekaquaptawa, 2007; Schmader, 2002). This study shows that the students being exposed to mathematical gender stereotypes and the students being in an egalitarian classroom environment have a similar result for both mathematical gender stereotypes and mathematical achievement scores regarding gender. This result could be related to the possible lower gender identity of students.

On the other hand, although teachers are known to play an important role in constructing mathematical gender stereotypes and conveying them to the next generations, it should be underlined that they are not alone. It would be appropriate to mention the parental factor. Researchers suggest that parental beliefs determine children's academic performance, motivation, and perceptions of competence in lessons (Tomasetto et al., 2011). The mathematical gender stereotypes that families have are important for the attitude, belief, and success children develop regarding mathematics (Denner et al., 2016; Tomasetto et al., 2015). Moreover, researchers indicate that performance of female students deteriorates under mathematical gender stereotypes,

however, a mothers' rejection of these stereotypes decreases girls' vulnerability to stereotype threat (Tomasetto et al., 2011). The mathematical gender stereotypes that parents have affect their children's mathematical success and professional expectations. Wilder (2013) suggests that there is a strong relationship between parents' expectation of success for their children and their interventions in children's academic development, and these interventions increase children's academic achievements. Besides, some additional courses and private tuitions that parents with high expectation of success for their children provided, it is not surprising that children who are aware of these expectations. However, they are exposed to a gendered attitude in the classroom, may behave very differently from these stereotypes. Indeed, in the research, parents may be a reason for female students in the teachers' classroom with strong mathematical gender stereotypes, to intensely engage in teacher-student interaction and be as successful as male students.

In addition, it should be noted that this study is limited to 4<sup>th</sup> grade primary school teachers and their students. It is found that there is not a reflection of teachers' gender stereotypes on 4<sup>th</sup> grade students. It should be determined that by feeding from what kind of sources, students might have adopted gender equality in mathematics and these sources should be supported. It should be revealed that through these which kind of affective and sociological factors, students do not internalize mathematical gender stereotypes, at least in this age group, even though they are exposed to these stereotypes. By carrying out longitudinal studies, it should be followed at which educational level students begin to acquire such gendered perspectives, which academic fields and professions they choose. Thus, the effects of teacher characteristics on students should be revealed more comprehensively. In addition, it is possible to consider that the data collection tools may cause this result. Therefore, more extended period ethnographic studies should be organized to examine whether students have mathematical gender stereotypes or not. Also, participants are limited with two teachers and their students. The study can be conducted with a larger group.

**Ethics Committee Approval:** This study is derived from the doctoral dissertation completed by the first author under the supervision of the second author at Gazi University, Institute of Educational Sciences in 2018. Ethical committees were established at universities in 2020. Therefore, ethics committee approval was not received for the study.

**Informed Consent:** An informed consent was obtained from all participants prior to their inclusion in the study.

**Peer-review:** Externally peer-reviewed.

**Authors' Contributions:** Concept – O.N.U., N.A.; Design – O.N.U., N.A.; Supervision – N.A.; Data Collection and Processing – O.N.U.; Analysis and Interpretation – O.N.U., N.A.; Literature Review – O.N.U.; Writing – O.N.U.; Critical Review – All authors.

**Conflict of Interests:** The authors have no conflict of interest to disclose.

**Financial Disclosure:** The authors declared that this study has received no financial support.

## References

- Akhan, S. (2015). *Ortaokul ogrencilerinin matematik basarisinin matematik tutumu, okul kulturu ve bazi demografik degiskenlerle iliskisinin incelenmesi [A research on the relation of the math attitude, school culture and some demographic variables with the math achievement of secondary school students]*. (Master's Thesis), Gaziantep Universitesi, Gaziantep.
- Akhan, S., & Bindak, R. (2017). Bazi kisisel degiskenlerin ortaokul ogrencilerinin matematik basarisi uzerindeki etkisi: Bir regresyon modeli [The effect of some individual variables on secondary school students' math achievement: A regression model]. *Ihlara Egitim Arstirmalari Dergisi*, 2(2), 5-17.
- Ayvaz, M. (2013). *Ortaokul ogrencilerinin zihinsel donusturma stratejilerinin matematik basarisi, sinif duzeyi ve cinsiyet degiskenleri baglaminda incelenmesi [Examination of strategies used by primary school students in solving mental rotation tasks in relation to their mathematical achievement, gender and grade level]*. (Master's Thesis). Marmara Universitesi, Istanbul.
- Bandura, A. (1997). *Self-efficacy*. The exercise of control. Newyork: W. H. Freeman and Company.
- Baron-Cohen S., Knickmeyer R. C., & Belmonte M. K. (2005). Sex differences in the brain: implications for explaining autism. *Science* 310(5749), 819-823.
- Becker, J. R., (1981). Differential treatment of females and males in mathematics classes. *Journal for Research in Mathematics Education*, 12(1), 40-53.
- Beilock, S. L., Gunderson, E. A., Ramirez, G., & Levine, S. C. (2010). Female teachers' math anxiety affects girls' math achievement. *Proceedings of the National Academy of Sciences*, 107(5), 1860-1863.
- Blakemore, J. E. O. (2003). Children's beliefs about violating gender norms: Boys shouldn't look like girls, and girls shouldn't act like boys. *Sex Roles*, 48(9-10), 411-419.
- Brophy, J. E., & Good, T. L. (1970). Teacher-child dyadic interactions: A new method of classroom observation. *Journal of School Psychology*, 8(2), 131-138.
- Caplan, J. B., & Caplan, P. J. (2005). The Perseverative Search for Sex Differences in Mathematics Ability. In A. M. Gallagher & J. C. Kaufman (Eds.), *Gender differences in mathematics: An integrative psychological approach* (pp. 25-47). Cambridge University.
- Casad, B. J., Hale, P., & Wachs, F. L. (2017). Stereotype threat among girls' differences by gender identity and math education context. *Psychology of Women Quarterly*, 41(4), 513-529.
- Ceci, S. J., Williams, W. M., & Barnett, S. M. (2009). Women's underrepresentation in science: sociocultural and biological considerations. *Psychological Bulletin*, 135(2), 218-261.
- Chapman, E., Baron-Cohen, S., Auyeung, B., Knickmeyer, R., Taylor, K., & Hackett, G. (2006). Fetal testosterone and empathy: evidence from the empathy quotient (EQ) and the "reading the mind in the eyes" test. *Social Neuroscience*, 1(2), 135-148.
- Chionidou-Moskofoglou, M., & Chatzivasiliadou-Lekka, K. (2008). *Teachers' perceptions about gender differences in Greek Primary School Mathematics classrooms*. In promoting equity in maths achievement. The current discussion. Selected contributions from the proceedings of the Barcelona (25 January, 07) and the Paris (25 April, 07) workshops (pp. 111-117).
- Creswell, J. W. (2017). *Karma yontem arastirmalarına giris [A Concise introduction to mixed methods research]*. (M. Sozbilir, Cev.). Ankara: Pegem.
- Denner, J., Laursen, B., Dickson, D., & Hartl, A. C. (2016). Latino children's math confidence: The role of mothers' gender stereotypes and involvement across the transition to middle school. *Journal of Early Adolescence*, 38(4), 1-17.

- Devine, A., Fawcett, K., Szűcs, D., & Dowker, A. (2012). Gender differences in mathematics anxiety and the relation to mathematics performance while controlling for test anxiety. *Behavioral and Brain Functions*, 8(33), 3-9.
- Dokmen, Y. Z. (2017). *Toplumsal cinsiyet: Sosyal psikolojik açıklamalar [Gender: Social psychological explanations]*. Istanbul: Remzi.
- Doyle, R. A., & Voyer, D. (2016). Stereotype manipulation effects on math and spatial test performance: A meta-analysis. *Learning and Individual Differences*, 47(2016), 103- 116.
- Drisko, J. W., & Maschi, T. (2016). *Content analysis. Pocket guides to social work research methods*. Oxford University.
- Duffy, J., Warren, K., & Walsh, M. (2001). Classroom interactions: Gender of teacher, gender of student, and classroom subject. *Sex Roles*, 45(9-10), 579-593.
- Dweck, C. S., Davidson, W., Nelson, S., & Enna, B. (1978). Sex differences in learned helplessness: II. The contingencies of evaluative feedback in the classroom and III. *An experimental analysis*. *Developmental Psychology*, 14(3), 268-276.
- Ergun, S. (2003). *Okul oncesi egitim alan ve almayan ilkogretim birinci sinif ogrencilerinin matematik yetenek ve basarilarinin karsilastirilmali olarak incelenmesi [Comparison of mathematical successes and ability of the first year students who studied in kindergartens in primary school to those who didn't]*. (Master's Thesis). Marmara Universitesi, Istanbul.
- Esen, Y. (2015). *Toplumsal cinsiyet esitligi ve egitim*. Bolu: Kemal.
- Felson, R. B., & Trudeau, L. (1991). Gender differences in mathematics performance. *Social Psychology Quarterly*, 54(2), 113-126.
- Fidan, E. (2013). *Ilkokul ogrencileri icin matematik dersi sayilar ogrenme alaninda basari testi gelistirilmesi [Development of achievement tests in the number domain of mathematics course for elementary school students]*. (Master's Thesis). Ankara Universitesi Egitim Bilimleri Enstitusu, Ankara.
- Golombok, S., & Fivush, R. (1994). *Gender development*. Cambridge: Cambridge University.
- Gunderson, E. A., Ramirez, G., Levine, S. C., & Beilock, S. L. (2012). The role of parents and teachers in the development of gender-related math attitudes. *Sex Roles*, 66(3- 4), 153-166.
- Hewstone, M., Rubin, M., & Willis, H. (2002). Intergroup bias. *Annual Review of Psychology*, 53(2002), 575-604. <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/employmentbyoccupationemp04>.
- Hyde, J. S., Lindberg, S. M., Linn, M. C., Ellis, A. B., & Williams, C. C. (2008). Gender similarities characterize math performance. *Science*, 321(5888), 494-495.
- Hyde, J. S., Mertz, J. E., & Schekman, R. (2009). Gender, culture, and mathematics performance. *Proceedings of the National Academy of Sciences of the United States of America*, 106(22), 8801-8807.
- Jones, M. G., & Wheatley, J. (1990). Gender differences in teacher student interactions in science classrooms. *Journal of Research in Science Teaching*, 27(9), 861-874.
- Kalayci, N., & Hayirsever, F. (2014). Toplumsal cinsiyet esitligi baglaminda vatandaslik ve demokrasi egitimi ders kitabina yonelik bir inceleme ve bu konuya iliskin ogrenci algilarinin belirlenmesi [An analysis of Citizenship and Democracy Education text book in the context of gender equality and determining students' perceptions on gender equality]. *Kuram ve Uygulamada Egitim Bilimleri*, 14(3), 1049-1074.
- Keller, C. (2001). Effect of teachers' stereotyping on students' stereotyping of mathematics as a male domain. *The Journal of Social Psychology*, 141(2), 165-173.
- Keller, J. (2007). Stereotype threat in classroom settings: The interactive effect of domain identification, task difficulty and stereotype threat on female students' maths performance. *British Journal of Educational Psychology*, 77(2), 323-338.



- Keller, J., & Dauenheimer, D. (2003). Stereotype threat in the classroom: Dejection mediates the disrupting threat effect on women's math performance. *Personality and Social Psychology Bulletin*, 29(3), 371-381.
- Kiefer, A. K., & Sekaquaptewa, D. (2007). Implicit stereotypes, gender identification, and math-related outcomes a prospective study of female college students. *Psychological Science*, 18(1), 13-18.
- Koblitz, A. H. (2002). Mathematics and gender: Some cross-cultural observations. In G.Hanna (Ed.), *Towards gender equity in mathematics education*. (pp. 93-109). Kluwer.
- Kulunk-Akyurt, G. (2019). *İlkokul 4. sınıf öğrencilerinin matematik motivasyonu, kaygısı ve başarısı arasındaki ilişkinin incelenmesi [An analysis of between mathematics motivation, anxiety and achievement of 4th graders]*. (Master's Thesis). Ordu University, Ordu.
- Kurtz-Costes, B., Rowley, S. J., Harris-Britt, A., & Woods, T. A. (2008). Gender stereotypes about mathematics and science and self-perceptions of ability in late childhood and early adolescence. *Merrill-Palmer Quarterly*, 54(3), 386-409.
- Leahey, E., & Guo, G. (2001). Gender Differences in Mathematical Trajectories. *Social Forces*, 80(2), 713-732.
- Li, M., Zhang, Y., Liu, H. & Hao, Y. (2017). Gender differences in mathematics achievement in Beijing: A meta-analysis. *British Journal of Educational Psychology*, 1-18.
- Lindberg, S. M., Hyde, J. S., Peterson, J. L., & Linn, M. C. (2010). New trends in gender and mathematics performance: A meta-analysis. *Psychological Bulletin*, 136(6), 1123-1135.
- Lummis, M., & Stevenson, H. W. (1990). Gender differences in beliefs and achievement: A cross-cultural study. *Developmental Psychology*, 26(2), 254-263.
- Martinot, D., & Désert, M. (2007). Awareness of a gender stereotype, personal beliefs and self-perceptions regarding math ability: when boys do not surpass girls. *Social Psychology of Education*, 10(4), 455-471.
- Martinot, D., Bagès, C., & Désert, M. (2012). French children's awareness of gender stereotypes about mathematics and reading: When girls improve their reputation in math. *Sex Roles*, 66(3-4), 210-219.
- McKown, C., & Weinstein, R. S. (2003). The development and consequences of stereotype consciousness in middle childhood. *Child Development*, 74(2), 498-515.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Sage.
- Mittelberg, D., Rozner, O., & Forgasz, H. (2011). Mathematics and gender stereotypes in one Jewish and one Druze grade 5 classroom in Israel. *Education Research International*, 2011(2011), 1-10.
- Muzzatti, B., & Agnoli, F. (2007). Gender and mathematics: Attitudes and stereotype threat susceptibility in Italian children. *Developmental Psychology*, 43(3), 747-759.
- Myhill, D., & Jones, S. (2006). 'She doesn't shout at no girls': Pupils' perceptions of gender equity in the classroom. *Cambridge Journal of Education*, 36(1), 99-113.
- Nurlu, O. (2017). Developing a Teachers Gender Stereotype Scale toward Mathematics. *International Electronic Journal of Elementary Education*, 10(2), 287-299.
- OSYM. (2018). 2018 YKS değerlendirme raporu [2018 YKS evaluation report]. <https://dokuman.osym.gov.tr/pdfdokuman/2018/GENEL/YKSDegradapor06082018.pdf>
- OSYM. (2018). *Eğitim ve öğretim alanları sınıflamasına göre lisans düzeyindeki öğrenci sayıları, 2017-2018 [Number of undergraduate students according to the classification of education and training fields, 2017-2018]*. <file:///C:/Users/Erun/Downloads/istatistikler.pdf>
- Penner, A. M. (2008). Gender differences in extreme mathematical achievement: An international perspective on biological and social factors. *American Journal of Sociology*, 114(S1), 138-170.

- Philipp, R. A. (2007). Mathematics teachers' beliefs and affect. In F. K. Lester (Ed.), *Second handbook of research on mathematics teaching and learning* (pp. 257-315). Information Age.
- Roman, H. T. (2004). Why math is so important. *Tech Directions*, 63(10), 16–18.
- Rowley, S. J., Kurtz-Costes, B., Mistry, R., & Feagans, L. (2007). Social status as a predictor of race and gender stereotypes in late childhood and early adolescence. *Social Development*, 16(1), 150-168.
- Ruble, D.N., Martin, C. L., & Berenbaum, S.A. (2006). Gender Development. In N. Eisenberg (Ed.), *Handbook of child psychology: Vol. 3, Personality and social development* (pp. 858–932). Wiley.
- Sadker, M., Sadker, D., & Klein, S. (1991). The issue of gender in elementary and secondary education. *Review of Research in Education*, 17(1991), 269-334.
- Sari, M. H. & Ekici, G. (2018). İlkokul 4. sınıf öğrencilerinin matematik başarıları ile aritmetik performanslarını etkileyen duygusal değişkenlerin belirlenmesi [Determination of affective variables affecting mathematical achievement and arithmetic performance of primary school 4th grade students]. *Uluslararası Toplum Araştırmaları Dergisi*, 8(15), 1562-1594.
- Sayılan, F. (2012). Toplumsal cinsiyet ve eğitim [Gender and education]. Ankara: Dipnot.
- Schmader, T. (2002). Gender identification moderates stereotype threat effects on women's math performance. *Journal of Experimental Social Psychology*, 38(2), 194-201.
- Schwery, D., Hulac, D., & Schweinle, A. (2016). Understanding the gender gap in mathematics achievement: The role of self-efficacy and stereotype threat. *School Psychology Forum*, 10(4), 386-396.
- Steele, J. (2003). Children's gender stereotypes about math: The role of stereotype stratification. *Journal of Applied Social Psychology*, 33(12), 2587-2606.
- Swinton, A. D., Kurtz-Costes, B., Rowley, S J., & Okeke-Adeyanju, N. (2011). A longitudinal examination of African American adolescents' attributions about achievement outcomes. *Child Development*, 82(5), 1486-1500.
- Tan, M. (2008). Eğitim [Education]. In M. Tan, Y. Ecevit, S. S. Usur ve S. Acuner (Ed.), *Türkiye'de toplumsal cinsiyet eşitliği: Sorunlar, öncelikler ve çözüm önerileri [Gender equality in Turkey: Issues, priorities and recommendations]* (pp.23-105). İstanbul: TUSİAD-KAGİDER.
- Tiedemann, J. (2000). Gender-related beliefs of teachers in elementary school mathematics. *Educational Studies in Mathematics*, 41(2), 191-207.
- Tiedemann, J. (2002). Teachers' gender stereotypes as determinants of teacher perceptions in elementary school mathematics. *Educational Studies in Mathematics*, 50(1), 49- 62.
- Tomasetto, C., Alparone, F. R., & Cadinu, M. (2011). Girls' math performance under stereotype threat: The moderating role of mothers' gender stereotypes. *Developmental Psychology*, 47(4), 943–949.
- Tomasetto, C., Mirisola, A., Galdi, S., & Cadinu, M. (2015). Parents' math–gender stereotypes, children's self-perception of ability, and children's appraisal of parents' evaluations in 6-year-olds. *Contemporary Educational Psychology*, 42(2015), 186– 198.
- Van de Gaer, E., Pustjens, H., Van Damme, J., & De Munter, A. (2008). Mathematics participation and mathematics achievement across secondary school: The role of gender. *Sex Roles*, 59(7-8), 568-585.
- Wilder, S. (2013). Effects of parental involvement on academic achievement: a metasynthesis. *Educational Review*, 66(3), 377-397.
- Yagan Guder, S, & Guler Yildiz, T. (2016). Okulöncesi dönemdeki çocukların toplumsal cinsiyet algılarında ailenin rolü [Role of the family in preschool children's perception of gender]. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 31(2), 424-446.
- Yıldırım, S. (2011). öz-yeterlik, içe yönelik motivasyon, kaygı ve matematik başarıları: Türkiye, Japonya ve Finlandiya'dan bulgular. *Necatibey Eğitim Fakültesi Elektronik Fen ve Matematik Eğitimi Dergisi*, 5(1), 277-291.

- Yilmaz, H. R. (2015). *İlköğretim ikinci kademe öğrencilerinde matematik başarısı ile matematik kaygısı, sınav kaygısı ve bazı demografik değişkenlerle ilişkisinin incelenmesi [Maths success with math anxiety, test anxiety and some demographic variables investigation of relations in secondary school students]*. (Master's Thesis), Gaziantep University, Gaziantep.
- Yücel, Z., & Koc, M. (2011). The relationship between the prediction level of elementary school students' math achievement by their math attitudes and gender. *Elementary Education Online*, 10(1), 133-143.
- Zhao, F., Zhang, Y., Alterman, V., Zhang, B., & Yu, G. (2016). Can math-gender stereotypes be reduced? A theory-based intervention program with adolescent girls. *Current Psychology*, 1–13. Retrived from <https://link.springer.com/article/10.1007/s12144-016-9543>.

**Authors**

**Contact**

Ozge NURLU USTUN  
Elementary Education.

Dr. Ozge NURLU USTUN,  
Erzincan Binali Yildirim University, Faculty of  
Education, Erzincan / Turkey.  
E-mail: [ozgenurlu@hotmail.com.tr](mailto:ozgenurlu@hotmail.com.tr)

Naciye AKSOY  
Elementary Education.

Prof. Dr. Naciye AKSOY,  
Gazi University, Faculty of Education,  
Ankara, Turkey.  
E-mail: [naciye@gazi.edu.tr](mailto:naciye@gazi.edu.tr)

# Suriyeli Mülteci Çocukların Türk Okullarındaki Eğitimleri: İlkokul Öğretmenlerinin Deneyimleri\*

Nurhan ATALAY\*\* Zeynep KILIÇ\*\*\* Burcu ANILAN\*\*\*\* Hüseyin ANILAN\*\*\*\*\*  
Şengül S. ANAGÜN\*\*\*\*\*

## Atf için:

Atalay, N., Kılıç, Z., Anılan, B., Anılan, H. ve Anagün, S. Ş. (2022). Suriyeli mülteci çocukların Türk okullarındaki eğitimleri: ilkokul öğretmenlerinin deneyimleri *Journal of Qualitative Research in Education*, 29, 264-282, doi: 10.14689/enad.29.10

**Öz:** Bu çalışma, Suriyeli çocukların eğitiminde karşılaşılan sorunları Türk öğretmenlerin deneyimleriyle açıklamayı amaçlamaktadır. Araştırmada betimsel nitel araştırma yöntemi kullanılmıştır. Araştırmanın katılımcıları 70 ilkokul öğretmenidir. Katılımcılar ölçüt örnekleme göre seçilmiştir. Araştırma verileri yapılandırılmış görüşmeler yoluyla toplanmıştır. Katılımcılara yapılandırılmış sorular sorulmuş ve yazılı olarak yanıt vermeleri istenmiştir. Çalışmanın sonunda Suriyeli çocukların Türk eğitim sistemine uyumlarında en büyük sorumluluğun ilkokul öğretmenlerine düştüğü görülmüştür. Türk ilkokul öğretmenleri yaşadıkları tüm sorunların temel nedeninin dil farklılığı olduğunu açıkça belirtmişlerdir. Araştırma sonuçları, iletişim sorununu çözememenin sorunları derinleştirdiğini ve bunun mülteci çocuklar üzerinde duygusal bir baskı oluşturduğunu ortaya koymuştur.

**Anahtar Kelimeler:** İlkokul öğretmenleri, kapsayıcı eğitim, mülteci çocuklar, eğitim sorunları.

## Makale Hakkında

Gönderim Tarihi:  
01.12.2021  
Düzeltilme Tarihi:  
30.12.2021  
Kabul Tarihi:  
22.01.2022

## Makale Türü


Araştırma


© 2022 ANI Yayıncılık. Tüm hakları saklıdır.

\* Bu çalışma 2. Uluslararası Sınırsız Eğitim ve Araştırma Sempozyumu'nda (ISLER 2018) bildiri olarak sunulmuştur.

\*\*  Correspondence Author: Niğde Ömer Halisdemir University, Turkey. [nurratalay@gmail.com](mailto:nurratalay@gmail.com)

\*\*\*  Eskişehir Osmangazi University, Turkey, [zeyno-dev@hotmail.com](mailto:zeyno-dev@hotmail.com)

\*\*\*\*  Eskişehir Osmangazi University, Turkey, [anilan.burcu@gmail.com](mailto:anilan.burcu@gmail.com)

\*\*\*\*\*  Eskişehir Osmangazi University, Turkey, [anilan.huseyin@gmail.com](mailto:anilan.huseyin@gmail.com)

\*\*\*\*\*  Eskişehir Osmangazi University, Turkey, [ssanagun@gmail.com](mailto:ssanagun@gmail.com)

## Giriş

Suriye'de iç savaşın patlak vermesinden bu yana Avrupa ve Türkiye, İkinci Dünya Savaşı sonrası en büyük zorunlu göç ve mülteci krizini yaşamaktadır. 2011 yılından itibaren Ortadoğu'da yaşanan olaylar Suriye vatandaşlarını derinden etkilemiştir. Ekonomik, dini, siyasi ve sosyal sebepler Suriyelileri ülkelerini terk etmeye ve komşu ülkelere gitmeye zorlamıştır. Suriye çatışması ve ülkedeki siyasi ve ekonomik istikrarsızlık nedeniyle Türkiye, mülteciler, göçmenler ve kaçak işçiler için yasadışı geçiş ülkesi (Balkan ve Tümen, 2016) ve Suriyeli mülteciler için en büyük ev sahibi ülke haline gelmiştir. Açık kapı politikasının bir sonucu olarak Türkiye, iç savaş nedeniyle ülkelerini terk etmek zorunda kalan çok sayıda Suriye vatandaşına ev sahipliği yapmaktadır. Mülteci çocuklar için en ciddi sorun eğitimidir. Eğitim her koşulda en temel insan hakkı olarak kabul edilmektedir.

Ülkelerin mültecilere yönelik ulusal eğitim politikaları bu çocukların eğitim sistemine entegre edilmesinde önemli rol oynamaktadır (Alba ve Foner, 2015; Song, 2011). Türkiye'de mülteciler için geliştirilen uzun vadeli eğitim politikaları Suriyeli mülteci çocukların eğitimini de kapsamaktadır. Türk devleti mülteci çocuklara devlet okullarında eğitim görme hakkını vermiştir. 684.253 Suriyeli çocuk Türk devlet okullarında eğitim görmektedir. Ancak mülteci 'çocukların eğitimi' denilince akla ilk gelen şey genellikle temel eğitimidir. Tüm eğitim seviyeleri arasında en yüksek katılım oranı %89,27 ile ilkökuldür. Temel eğitim, mülteci çocukların okuryazarlık, temel matematik ve dil becerileri kazanmalarına yardımcı olacak ve yaşam kalitelerini büyük ölçüde artıracaktır. Mülteci çocukların entegrasyonunda ve sosyalleşmesinde okullar ve eğitimciler kilit rol oynamaktadır (Aydın, Gündoğdu ve Akgül, 2019). Ancak yapılan araştırmalar, bu kapsayıcı eğitim politikalarının amaçlarına ulaşmadığını ortaya koymuştur (Hilt, 2015). Sınıflar kültürel olarak çeşitlendiğinden ve farklı öğrenme deneyimlerine sahip çocukları içerdiğinden, sınıflarındaki tüm çocukların eğitim ihtiyaçlarını karşılayabilecek kapsayıcı bir eğitimin nasıl sağlanacağı öğretmenleri bekleyen temel bir zorluk olmuştur (Karlı-Çalamak ve Kılınc, 2021). Mültecilerle ilgili yapılan çalışmalar, mültecilerin yaşadıkları ev sahibi ülkelerdeki zorluklara, mülteci statüsü ve okullaşmaya (Çelik ve İçduygu, 2018; McBrien, 2005), kültürel entegrasyon ve travmaya (Castles ve Miller, 2003) ve her iki taraftaki sorunlara (Kanat ve Üstün, 2015) odaklanmıştır. Mültecilere ev sahipliği yapan diğer ülkelere kıyasla Türkiye, mülteci çocukların eğitim hizmetlerine erişimi için daha fazla çaba göstermektedir (Çinkır, 2015; Erdem 2017; HRW Raporu 2015; UNHCR 2018). Eğitim başarılı bir şekilde sağlandığında göçmen veya mülteci çocuklar topluma etkin bir şekilde entegre edebilir. Buna ek olarak, mülteci çocuklara uygun ve kendini ait hissettiği bir sınıf, travma geçirmiş mülteci 'çocukların geçmiş veya mevcut endişelerini iyileştirmeye de yardımcı olabilir.

Literatürde Türkiye'de yaşayan Suriyeli çocukların eğitiminde Türk öğretmenlerin yaşadıkları sorunlarla ilgili çalışmalar bulunmaktadır. Bu araştırmalar, öğretmenlerin Suriyeli çocuklara uygun öğretim yöntemlerini seçme ve uygulama, mülteci çocukların sosyal ve kültürel beklentilerini karşılama konusunda deneyimlerinin olmadığını ve

zorlandıklarını ortaya koymuştur. Öğretmenler dil öğretim materyallerini temin etmekte zorlanmaktadır (Taşkın ve Erdemli, 2018; Tunga, Engin ve Çağıltay, 2020). Bu tür çalışmaların yanı sıra, özellikle ilkökul öğretmenlerinin yaşadıkları sorunları detaylandıracak farklı çalışmalara ihtiyaç duyulmaktadır. Bu doğrultuda, bu çalışmada Suriyeli mülteci çocukların okula ve topluma uyumlarında yaşanan sorunlar ve uygulamalar, ilkökul öğretmenlerinin gözünden araştırılmıştır. Bu bağlamda şu soruya yanıt aranmıştır:

- İlkokul öğretmenleri, mülteci çocukların ilkökullardaki kapsayıcı eğitimlerinde ne gibi sorunlar yaşamaktadır?

## Literatür İncelemesi

Türkiye'de yaşayan Suriyeli mülteçilere yeni göç yasası ile "şartlı mülteci statüsü" verilmiştir. Ayrıca bu yasa, Suriyeli mülteçilere Göç İdaresi Genel Müdürlüğü'ne (GDMM) kayıt olmaları halinde geçici koruma (T.P.) kimlik kartı alma hakkı vermiştir. Yine bu düzenleme Suriyelilerin sağlık, eğitim ve psikolojik destek gibi sosyal hizmetlere erişmesine olanak sağlamaktadır (İçduygu 2015, Yıldırımalp, İslamoğlu & İyem 2017). Türk hükümeti, Suriye halkının ihtiyaçlarını karşılamak için BM ajansları, AB gibi uluslararası kuruluşlarla ve çeşitli sivil toplum kuruluşlarıyla işbirliği içinde çalışmaktadır. Türk hükümeti Suriyeli 'mültecilerin' farklı ihtiyaçlarını karşılamak için ulusal ve uluslararası sivil toplum kuruluşları ile çalışıyor olsa da Türkiye'deki Suriyeli mülteci sayısının yüksek olması nedeniyle sorunlar devam etmektedir. Öte yandan yabancı bir kültürde yaşamak zorunda kalanlar arasında bu durumdan olumsuz olarak en fazla etkilenen, en savunmasız grup çocuklardır (Bahadır ve Uçku, 2016; Hamdan-Mansour ve diğerleri, 2017; Uzun ve Bütün, 2016).

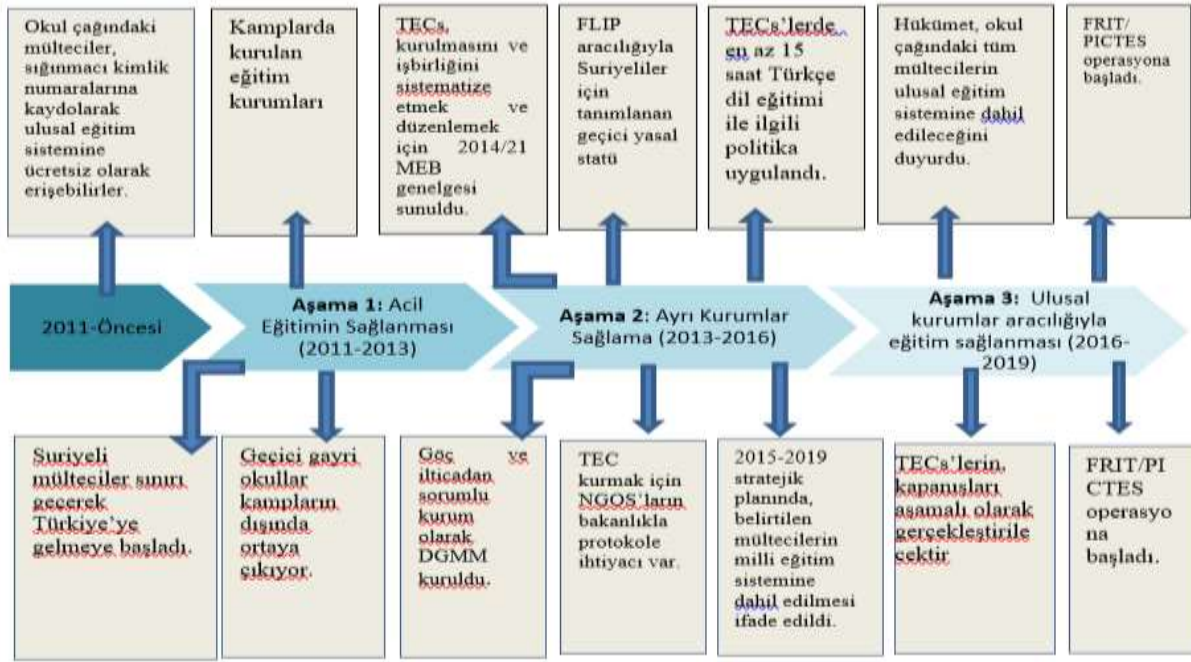
Türkiye, mülteciler için birçok eğitim olanağı sunmaktadır. Türkiye Suriyeli mülteciler için Suriye okulları, devlet okulları ve geçici eğitim merkezleri olmak üzere çeşitli okul seçenekleri sunmaktadır (Aydın ve Kaya 2017; Emin 2016). Türkiye, Suriyeli Çocukların Türk Eğitim Sistemine Entegrasyonunun Desteklenmesi (PICTES) (Arık Akyüz, Aksoy, Madra ve Polat 2018) adlı bir proje oluşturmuş ve Suriyeli çocuklar için kamp içinde/dışında okullar açmıştır (Akkaya, 2013; Arabacı et. diğerleri 2014; Duruel 2016). Ayrıca Suriyeli çocuklar geçici eğitim merkezlerinde ana dillerinde eğitim almaktadırlar (Alpaydın 2017; Sunata ve Abdulla 2019). Bazıları da devlet okullarında dil eğitimi almaktadır (Erden, 2020). Türkiye'nin mülteci eğitiminde 2011-2019 yılları arasında uyguladığı temel politikaları, kuruluşları ve finansman kaynaklarına ilişkin kilometre taşlarına yönelik genel bir bakış açısı sunan görsel Şekil 1'de verilmiştir.

Türkiye'de yaşayan Suriyeli çocuklar, kendilerinden bağımsız olarak gelişen küresel sorunların kurbanlarıdır. Şekil 1'de görüldüğü gibi Türkiye, 2016 yılından bu yana Türkiye'de yaşayan Suriyeli çocukların Türk çocuklarının devam ettiği okullara kaydolmasını zorunlu kılan bir politikayı uygulamaya koymuştur. Türkiye'de kapsayıcı eğitimin uygulanmasını iyileştirmeye yönelik çeşitli girişimler de bulunmaktadır. Ancak okullarda etkin bir şekilde uygulanabilmesi için sistemli bir çalışma yapılması gerekmektedir (Kılınc, 2019). Diğer ev sahibi ülkelerde olduğu gibi (Dejong ve diğerleri,

2017; Duruel, 2016), çeşitli nedenlerle Türkiye’de de de mülteci çocuklar eğitimden mahrum kalmaktadır (Çinkır, 2015). Bu soruna çözüm olarak Türkiye’deki mülteciler için uzun vadeli olarak geliştirilen eğitim politikaları Suriyeli mülteci çocukların eğitiminde kapsayıcı bir anlayışı benimsemiştir.

### Şekil 1.

#### Mülteci Eğitimi için Türkiye'deki Önemli Kilometre Taşları



Not. MEB: Milli Eğitim Bakanlığı; YUKK: Yabancılar ve Uluslararası Koruma Kanunu; TEC: Geçici Eğitim Merkezi; FRIT: Türkiye'deki Mülteciler İçin Tesis; RESİMLER: Suriyeli Çocukların Türk Eğitim Sistemine Entegrasyonunun Desteklenmesi; GİGM: Göç İdaresi Genel Müdürlüğü; CCTE: Şartlı Nakit Transferi Eğitimi. Brugha, M., Hollow, D., Pacitto, J., Gladwell, C. Dhillon, P., & Ashlee, A. (2021)'den alınmıştır. Mülteciler için eğitim sunumunun tarihsel periyodu: Üç ülkenin karşılaştırmalı analizi. Jigsaw Consult, Birleşik Krallık.

### Türkiye'de Kapsayıcı Eğitim

Kapsayıcı eğitim, öğrencilerin farklı ihtiyaçlarını gidermeye, eğitim, kültür ve topluma katılımlarını artırmaya ve eğitim sistemi içindeki ayrımcılığı azaltmaya yönelik bir süreçtir (UNESCO, 2005). Kapsayıcı eğitim kavramı, göçmenler, mülteciler, sığınmacılar, kızlar, düşük gelirli aileler, engelliler, dini ve etnik azınlıklar gibi tüm dezavantajlı grupları içerir. Kapsayıcı eğitim, farklı inanç, etnik köken ve sosyal gruplardan gelen öğrencilere eşit eğitim fırsatları yaratmayı, başkalarına saygı duymayı ve farklı düşünce ve yaşam tarzlarına duyarlı olmayı amaçlar. Bir sistemin özellikle dezavantajlı bir grup için ayrımcılık, damgalanma ve eğitim dili gibi konuları ele alması ne kadar kapsayıcı olduğunun göstergesidir (Bruga, Hollow, Pacitto, Gladwell ve Ashlee, 2021). Türkiye’de mültecilere 2011’den 2013’e kadar, insani yardım topluluğu tarafından önemli düzeyde

acil eğitim yardımı sağlanmıştır. Yine ayrı kurumlar tarafından 2013-2016 yılları arasında insani amaçlı eğitim desteği sağlanmıştır. Ancak daha sonra Milli Eğitim Bakanlığı tarafından Geçici Eğitim Merkezleri (GEM'ler) için geniş kapsamlı düzenlemeler yapılmıştır. Geçici Eğitim Merkezleri daha sistemli bir uygulama için geçiş işlevi görmüştür. Türkiye Cumhuriyeti 2016 yılından beri, okul çağındaki tüm Suriyelileri Türk örgün eğitim sistemine tümüyle dâhil etmeyi hedeflemektedir. Milli Eğitim Bakanlığı (MEB), Suriyeli çocukların devlet okullarına aktif katılımlarını artırmak ve akranlarıyla aynı düzeyde eğitim almalarını sağlamak için Türkçe dersleri, ev ödevi yardım programları, hazırlık sınıfları, özel ders ve telafi programları şeklinde birçok eğitim desteği vermektedir (GIZ, 2021). Tüm bu önlemlere karşın mülteci çocukların eğitime erişimde çeşitli engeller halen devam etmektedir.

## **Mülteci Çocukların Eğitim Engelleri**

Farklı kültürlerden bireylerin bir arada yaşama zorunluluğu, uyum, eğitim, iletişim gibi sorunları da beraberinde getirmektedir. Türkiye'de yapılan birçok araştırmada, Suriyeli mültecilerin ev sahibi ülkede eğitim, istihdam ve sosyal entegrasyonu araştırılmıştır (Karasu 2016; Kagnici 2017; Taş ve Özcan 2018). Yapılan araştırmalar Suriyeli çocukların ülkelerindeki savaş ve sonrasında yaşanan göç nedeniyle bazı psikolojik sorunlar yaşadıklarını ortaya koymuştur (Hassan ve diğerleri, 2016; Farhat ve diğerleri, 2018; Soykoek ve diğerleri, 2017). Türkiye'de mülteci çocuklara yönelik rehberlik ve danışmanlık hizmetleri mevcut olmakla birlikte, Suriyeli çocukların yaşadığı ağır travmaları gidermede yetersiz kalmaktadır. Araştırmalar ayrıca dil engeli ve psikolojik danışma hizmetlerini verenlerin iş yükünün Suriyeli çocuklara verilen hizmetlerin kalitesini olumsuz etkilediğini ortaya koymuştur (COCA, 2015). Ayrıca, Türkiye'de mülteci çocukların okula uyumunun önündeki en önemli engellerin, ev sahibi ülke kimlik kartı alma zorunluluğu, çocuk işçiliği, dil engelleri ve ulaşım sorunları olduğu da araştırma sonuçları ile ortaya konulmuştur (Akgül vd., 2015; Aydın ve Kaya, 2017).

Türkiye'de Suriyeli çocukların okula devamı üzerine yapılan araştırmalar, bu çocukların eğitimindeki en önemli engellerin Türk öğretmenlerin farklı kültürlerden çocukları eğitime konusunda yeterliklerinin sınırlı olması ve maddi destek eksikliği olduğunu ortaya koymuştur (Aras ve Yasun, 2016; Bircan ve Sunata, 2015; Çınkır, 2015; İnsan Hakları İzleme Örgütü Raporu, 2015; Levent ve Çayak, 2017; Nayir, 2017; Taşkın ve Erdemli, 2018; Uzun ve Bütün, 2016). Ayrıca, öğretmenlerin kalitesi genellikle eğitimin mükemmelliğinde en önemli dinamik olarak kabul edildiğinden, kapsayıcı eğitimin başarısı öğretmen kalitesine bağlıdır (OECD, 2005; Sammons ve Bakkum, 2012; Stéger, 2014; Hattie, 2015). Son zamanlarda, öğretmen yeterliliklerine ilişkin politika önerileri, çeşitliliğin takdir edilmesinin ve kapsayıcılık hakkındaki bilginin öğrenmeyi artıracağını vurgulamaktadır (Williamson MacDiarmid ve Clevenger-Bright, 2008). Bu kapsamda Türkiye'de 2018 yılından itibaren sınıf öğretmeni yetiştirme programlarına "kapsayıcı eğitim" ve "kapsayıcı dil öğretimi" dersleri eklenmiştir. Bununla hem mülteci ve uluslararası öğrencilerin eğitiminde öğretmenlere yardımcı olmak hem de öğretmen yetiştirme sistemine yönelik yeni bir anlayış geliştirmek amaçlanmıştır.



Suriyeli çocuklar ve eğitimlerinden sorumlu öğretmenler için dil ciddi bir sorundur. Bu bağlamda dil sorunu öğrenci ve öğretmen arasında engeller oluşturmakta ve öğrencilerin okullarındaki izolasyonunu derinleştirmektedir (Aydın, Gündoğdu ve Akgul, 2019). Suriyeli öğrencilerin öğrenme deneyimleri sosyo-kültürel farklılıkları nedeniyle Türk öğrencilerin deneyimlerinden farklı olabilir. Kapsayıcı eğitimi benimseyen öğretmenler, öğretim materyallerini, ders planlarını, öğretim stratejilerini, öğrenme ortamını ve eğitim hedeflerini kapsayıcı eğitime göre düzenlemeyi ve 'öğrencilerin' akademik ve sosyal ihtiyaçlarını karşılamayı amaçlar biçimde hazırlamak zorundadırlar. Okul-aile işbirliği, kapsayıcı eğitimin hedeflerine ulaşmak için hayati öneme sahiptir. Bu bağlamda uluslararası öğrencilerin aileleri öğretmenlere kendi yaşam tarzları, kültürleri ve inançları hakkında rehberlik edebilir.

Çocuklarla geçirdikleri zamana bakıldığında, çocukların akran ilişkilerini, akademik başarılarını, oyunlarını ve iletişim becerilerini en iyi gözlemleyenler öğretmenlerdir. Öğretmenler, mesleki donanımları ve deneyimleriyle 'öğrencilerdeki' davranış değişikliklerini fark edebilirler. Karşılı-Calamak ve Kılınc (2021), Türkiye'deki Suriyeli mülteci öğrencilerin ilkökul öğretmenlerinin kapsayıcı eğitime ilişkin deneyimlerini incelemiştir. Araştırma sonuçları, Türkiye'de öğretim uygulamalarının dışlama odaklı eylemlerden kapsayıcılık odaklı eylemlere geçtiğini göstermiştir. Ayrıca Aydın ve Kaya (2019) Suriyeli okul çağındaki çocukların Türk devlet okullarındaki eğitim durumlarını ve bu çocuklarla çalışan öğretmen ve okul yöneticilerinin bakış açılarını araştırmışlardır. Araştırma sonuçları, Suriyeli çocukların Türk devlet okullarında ücretsiz eğitime erişim konusunda Türk çocukları ile eşit haklara sahip olduklarını, öğretmenlerin Suriyeli çocuklara eğitim verme konusunda ciddi sorun yaşadıklarını ve bu konularda acil çözüm beklediklerini göstermiştir. Suriyeli mültecileri Türk kültürüne entegre etmek için dil engellerinin ortadan kaldırılması gereklidir (İmamoğlu ve Çalışkan, 2017). Öte yandan eğitim, COVID-19 pandemi sürecinden en üst düzeyde etkilenmiştir. Bu nedenle Suriyeli çocukların eğitim kalitesinin iyileştirilmesi için daha fazla çalışmaya ihtiyaç olduğu açıktır. COVID-19 pandemisinin yıkıcı etkisi nedeniyle, özellikle geçici ve uluslararası koruma altındaki kişiler ve ev sahibi topluluk için de ortaya çıkan geçim sıkıntısı ve gelir kaybı konusunda desteğe duyulan ihtiyaç her zamankinden daha fazladır (Bölgesel Mülteci ve Dayanıklılık Planı [3RP], 2021).

## Yöntem

Suriyeli çocukların okula ve topluma uyumları ve yaşadıkları sorunlarla ilgili ilkökul 'öğretmenlerinin' görüşlerini ortaya koymayı amaçlayan bu araştırma, nitel betimsel bir desene sahiptir. Nitel betimleyici araştırmanın temel amacı, herhangi bir olgunun doğrudan betimlenmesini sağlamaktır (Sandelowski, 2010; Lambert ve Lambert, 2012). Willis, Sullivan Bolyai, Knafl ve Cohen'e (2016) göre nitel betimleyici araştırma tasarımının temel amacı, bir olay veya olgu hakkında 'bireylerin' düşüncelerini tanımlamak ve betimlemektir. Nitel betimleyici araştırmalar fenomenolojik araştırmalara benzese de daha yüzeysel yorumlayıcı özellikleriyle fenomenolojik araştırmalardan farklıdır. Bu çalışmanın amacı, ilkökul öğretmenlerinin sınıflarındaki

mülteci çocukların, okula ve topluma uyumları konusundaki bakış açılarını ortaya koymaktır.

## Katılımcılar

Araştırmanın katılımcıları 70 sınıf öğretmeni'dir. Bunların 44'ü kadın, 26'sı erkektir. Araştırmanın katılımcıları ölçüt örnekleme yöntemi kullanılarak belirlenmiştir. Seçim ölçütü olarak, ilkokulda 1, 2, 3 ve 4. sınıf okutan bir sınıf öğretmeni olmak ve sınıfında en az bir Suriyeli mülteci öğrencisi olmak koşulu aranmıştır. Ayrıca araştırmacılar, Suriyeli mülteci çocuklarla 'öğretmenlerin' deneyimlerine odaklanmışlardır.

Tablo 1.

### Katılımcıların Demografik Bilgileri

| Demografik bilgiler                                    |                      | f  |
|--|----------------------|----|
| Cinsiyet   | Kadın                | 44 |
|  | Erkek                | 26 |
| Kıdem  | 0-5 yıl              | 9  |
|  | 5-10 yıl             | 20 |
|  | 10-15 yıl            | 26 |
|  | 15-20 yıl            | 10 |
|  | 20-25 yıl            | 5  |
| Okutulan sınıf düzeyi                                  | 1.sınıf              | 18 |
|  | 2. sınıf             | 16 |
|  | 3. sınıf             | 14 |
|  | 4. sınıf             | 12 |
|  | Birleştirilmiş sınıf | 10 |
| Kapsayıcı eğitimle ilgili eğitim alıp almama durumları | Evet                 | 12 |
|  | Hayır                | 58 |

## Veri Toplama Aracı

Araştırma verileri yapılandırılmış görüşmeler yoluyla toplanmıştır. Katılımcılara yapılandırılmış yazılı sorular yöneltilmiş, katılımcılar da sorulara yazılı olarak yanıt vermişlerdir. Araştırma soruları 'öğretmenlerin' kapsayıcı eğitim ve mülteci çocuklarla yaşadıklarına ilişkin görüşlerini ortaya koymaya dönüktür. Sorular oluşturulmadan önce araştırma konusu ile ilgili ulusal ve uluslararası literatür taranmıştır. Daha sonra araştırmacılar literatür taraması ve uzman görüşlerine dayalı olarak görüşme sorularını geliştirmişlerdir. Hazırlanan sorular alanda uzman iki akademisyenin görüşüne sunulmuş ve onlardan gelen öneriler doğrultusunda soruların son hali oluşmuştur. Son olarak katılımcılarla yazılı görüşmeler yapılmıştır. İç geçerlik ve güvenilirlik çalışmaları için araştırmacılar, katılımcıların yazılı yanıtlarını düzenlemişler ve katılımcılardan

katılımcı teyidi istemişlerdir (Lincoln ve Guba, 1985). Miles ve Huberman (1994) tarafından akran sorgulaması olarak adlandırılan güvenilirlik çalışması için tüm araştırmacılar verileri bağımsız olarak analiz etmiş ve belirlenen kodları temalara atamışlardır.

## Veri Analizi

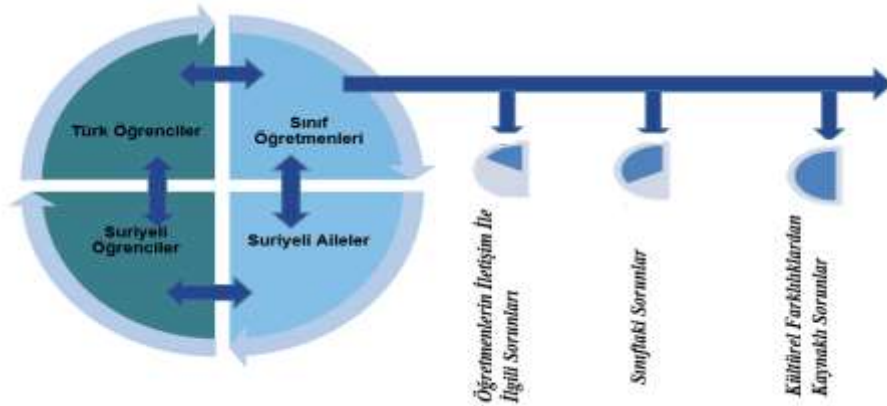
Araştırmacılar veri dökümleri okuyarak sürekli karşılaştırmalı analize göre kodlamışlardır ve bilgi almak için sürekli karşılaştırmalı analize göre (Strauss & Corbin, 1998) satır satır kodladılar. İlk olarak görüşülen kişinin yanıtının önemli bir niteliğini yansıtan anahtar ifadeler ve cümleler belirlenerek ve kategorilere ayrılmıştır. Daha sonra, ilk kategorilere uymayan 'katılımcı' yanıtları için ek kodları belirlemek için tümevarımsal yaklaşım kullanılmıştır. Son olarak, seçici kodlama yapılmış ve açık temalar belirlenmiştir (Creswell, 2007). Araştırmacıardan ikisi, kategori ve alt kategorilerde yer alan temaları yorumlamıştır. Araştırmacılar, sınıf öğretmenlerinin kendi aralarındaki Türk ve Suriyeli öğrencilerle, Suriyeli öğrencilerin aileleriyle yaşadıkları sorunları, tüm öğrenciler ve Suriyeli ailelerle yaşadıkları sorunları incelemiş; alt boyutlardaki iletişim sorunlarını sınıfta yaşanan sorunlar ve kültürel farklılıklardan kaynaklanan sorunlar olarak ele almışlardır.

## Bulgular

Suriyeli çocukların okula uyum ve eğitiminde karşılaştıkları sorunları Türk öğretmenlerin deneyimleriyle açıklamaya çalışan bu çalışmada, sınıf öğretmenlerinin yapılandırılmış görüşme sorularına verdikleri yazılı yanıtlar incelendiğinde araştırmanın temel bulgusu; dil becerilerinin eksikliğinden kaynaklanan iletişim sorunlarının olduğudur. Ayrıca öğretmenler, Türk ve Suriyeli öğrencilerin sınıfta ve oyun alanlarında birbirleriyle sorun yaşadıklarını, Suriyeli öğrencileri derse hazırlamakta ve onlara materyal sağlamakta zorlandıklarını belirtmişlerdir. Bir diğer sorun ise Türk veli ve öğrencilerin farklı kültürel yapılardan dolayı Suriyeli aileleri kabul etmemeleridir. Bu sorunların yanı sıra katılımcı öğretmenler Suriyeli çocukların eğitim sorunlarına yönelik çözüm önerilerini de dile getirmişlerdir. Bu bağlamda çalışmanın temaları Şekil 2'de gösterilmiştir.

## Şekil 2.

### Çalışmanın Temaları



## Öğretmenlerin İletişimle İlgili Sorunları

Suriyeli öğrencilerin Türkçe bilmeden eğitim hayatına katılmaları hem ilkökul öğretmenleri hem de Türk öğrencilerle iletişim kurmalarını zorlaştırmaktadır. Türk öğrencilerin hemen hemen hiçbirinin Arapça konuşamaması ve Suriyeli öğrencilerin temel ihtiyaçlar dışında kendilerini Türkçe olarak ifade edememeleri bu sorunu derinleştirmektedir. Ayrıca öğretmenlerin Suriyeli velilerle iletişim sorunları da bulunmaktadır. Nitekim katılımcı sınıf öğretmenlerinin ifadelerinde de bunları görmek mümkündür.

T 65: "Birincisi bizim dilimizi bilmiyorlar. Birçok Suriyeli için Türkiye'deki okul ortamı çok farklı. Dil, çevre, çevre vs her şey yeni. Ne dediğimi anlamadıklarından, genellikle ne yapacaklarını bilmiyorlar. Suriyeli öğrencilerimizle bu konuda çok büyük sıkıntı yaşıyoruz" dedi.

Ö 34: "Örneğin fen dersinin kendisi neden-sonuç ilişkisi kurma, olayları analiz etme gibi yeterlilikler gerektiren bir derstir. Öğrencinin bunları anlayabilmesi için dil sorunu olmaması gerekir. Suriyeli öğrencilerimizle bu konuda büyük bir sorunumuz var."

Ö 18: "Başta iletişim sorunu var. Türk çocuklarına ve kültürüne uyum sorunu var. Dersleri anlamıyorlar. Çünkü Türkçe okuma yazma bilmiyorlar. Bu da sınıf içinde ve dışında başka şeylerle ilgilenmelerine neden oluyor."

Ö30: "Suriyeli anne babamla iletişim sorunum var."

## Sınıftaki sorunlar

Aslında dil sorununun neden olduğu iletişim eksikliğinin başka sorunlara da yol açtığını görmezden gelmek ve duyarsız kalmak hem Türk hem de Suriyeli öğrenciler için haksızlık olur. Türkiye'deki tüm ilköğretim okullarında eğitim dili Türkçe'dir. Bu Suriyeli öğrenciler için ciddi bir sorun çünkü sınıf içinde ve dışında olan her şeyden uzaktalar.

Bu da belli bir süre sonra dikkatlerinin dağılmasına, isteksiz, yalnız ve hatta kırgın ve saldırgan olmalarına neden olur. Bu durum öğretmenlerin cevaplarına da yansımıştır.

Ö48: "Dersler için gerekli malzemeleri getirmiyorlar. Arkadaşlarıyla uyum sorunları yaşıyorlar. Molalarda kavga ederler. Şiddet eğilimi gösterirler. Bu zaman zaman kontrol edilemez olabilir.

Ö6: "Suriyeli öğrenciler öğretim sürecine katılmıyor. Çünkü Türkçe okuryazarlık seviyeleri çok düşük. Kelimeleri harf harf okurlar. Boş zamanlarımda okuma çalışmaları yapıyorum. Hem derslere katılmalarını hem de dersin ahengini bozmamalarını istiyorum."

Ö7: "Suriyeli öğrencilerim öğrenmekte zorlandıkları için bire bir eğitime ihtiyaç duyuyorlar. Öğretimi dengelemeye çalışırken dersin rutininin hızı ve dengesi bozulur. Ben konuları yavaş yavaş yabancı öğrencilere anlatmaya çalışırken, bu sefer Türk öğrenciler bundan şikayet ediyor."

Öte yandan ilkokul öğretmenleri de hem Türk hem de Suriyeli öğrencilerle farklı sorunlar yaşamaktadır. Genel olarak sorunların önyargı odaklı olduğu ve bunda ailelerin etkisinin baskın olduğu anlaşılmaktadır. Öğretmenler bu durumu şu ifadelerle ifade etmişlerdir:

Ö9: "Türk öğrenciler arasında Suriyeli öğrencilere karşı bir ön yargı var. Bu yüzden onları sınıflarında istemiyorlar ve onları dışlıyorlar. Suriyeli öğrencilerle aynı sınıfa girmek istemeyen Türk öğrenciler de var."

Ö54: "Türk öğrencilerle Suriyeli öğrenciler arasında kaçınmadığım bir ayırım var. Aralarında bir sorun olduğunda "Suriyeli ve Suriyeli yaptı" diyerek onları ayırıyorlar. Bazen kendi aralarında bile kavga ederler. Ama olayları tırmanmadan önce sakinleştiriyorum."

Ö13: "Yetişkinler önyargı oluşturup, bunu çocuklarının önünde yüksek sesle ifade ederek çocukların da önyargı oluşturmalarına neden oluyor."

Ö1: "Öğrencilerin Suriyeli öğrencilerle aynı sraya oturmak istememeleri, oyun oynamamaları gibi sorunlar yaşadım başlarda. Bunu kısmen aşmayı başardık. Ancak yine de oyun oynarken onları dahil etmiyorlar, Suriyeli öğrencilerle çok sık görüşmüyorlar."

## Kültürel Farklılıklardan Kaynaklanan Sorunlar

Öğretmenler, Suriyeli öğrenciler ile Türk öğrenciler arasında bir köprü görevi görse de hem Türk hem de Suriyeli öğrencilerden ve velilerinden yeterli desteği alamadıklarını belirtmişlerdir. Öğretmen konumu gereği tüm öğrencilerin ve sınıfın öğretmenidir ve kimseye ayrıcalık tanıması beklenmemelidir. Ancak bu konuda velilerin beklentisinin bu olmadığı anlaşılmaktadır. Öğretmenlerin ifadelerinden hareketle bu durumun detaylı bir resmini görmek mümkündür. Öğretmen konumu gereği tüm öğrencilerin ve sınıfın öğretmenidir ve hiç kimsenin özel olarak muamele görmesi beklenmemelidir. Ancak velilerin bu konudaki beklentileri öyle değildir. Öğretmenlerin ifadelerinden yola çıkarak bu durumun detaylı bir resmini görmek mümkündür.

T59 "Öğrencilerimin velilerinin çocuklarına ilgisi genellikle yetersizdir ve ilgili veliler de savunma pozisyonundadır. Suriyeli öğrencilerimin çoğunun anne babasını hiç görmedim. Hiçbiri yaşadıkları olayların (savaşın) etkisiyle eleştiri kabul etmez ve kendilerini haklı çıkarmaya çalışmazlar.

Ö31: "Suriyeli birçok öğrencimin velisini hiç görmedim. Çoğu zaman bırakılan telefon numaralarına cevap vermiyorlar. Türkçe bilmedikleri için zaten geçinmekte zorlanıyoruz. Okula sadece diğer öğrenciler (Türk) şikayet etmek istediklerinde geliyorlar."

Ö30: "Anne babanın ekonomik durumu yetersiz olduğu için çocuklar ders materyali sıkıntısı çekiyor. Ancak bu durumu velilere açıklama fırsatım bile olmuyor. Bence çocuğun okula geldiğine ve okulun her şeyi kapsamaması gerektiğine inanıyorlar."

Ö23: "Suriyeli ebeveynler çok utangaç. Onlarla nadiren görüşüyoruz. Çoğunlukla gülüp konuşmuyoruz bile. Sanki sizden bir şey istenmekten korkuyorlar."

Öğretmenlerin Suriyeli ebeveynlerle yaşadıkları bu olsa da, Türk ebeveynlerle yaşadıkları oldukça benzer. Araştırma, Suriyeli öğrencilere yönelik tutumlarının pek olumlu olmadığını ortaya koydu.

Ö27 "Türk veliler çok olumsuz düşünüyor. Türk ailem, Suriyeli öğrencilerin sınıfa geldiğini ilk duyduklarında çok sert tepki verdiler.

Ö41: Türk veliler çocuklarının kendilerinden olumsuz etkileneceğini düşündükleri için Suriyeli öğrencileri sınıfta istemediler.

Ö23: Türk veliler tüm hataları ve hataları Suriyeli öğrencilere yüklüyor. Zaman geçtikçe duruma alışıyorlar ama inançlarını değiştirmiyorlar."

Ö70: "Türk anne babalar ön yargılı. Kabul edilemezler. Suriyelilerin ülkelerine dönmesi gerektiğini söylüyorlar. Sanki her olumsuz durumun kaynağı kendileriymiş gibi bakıyorlar.

## Tüm Sorunlar Hakkında Öğretmenin Kişisel Çözümleri

Araştırma bulguları, Türk eğitim sisteminde birçok sorunla tek başına uğraşmak zorunda kalan sınıf öğretmenlerinin de Suriyeli mülteci kriziyle tek başlarına baş etmeye çalıştıklarını tespit etmiştir. Hem Türk hem de Suriyeli öğrenciler ile velileri arasında köprü, bazen de koruyucu tampon görevi gören öğretmenler de yaşanan sorunlara bazı çözümler üretti. Bu çözümlerin belki de en önemlilerinden biri iletişimin temeli olan dil öğretimidir. İlkokul öğretmenleri hem öğrencilerinin hem de Türk ve Suriyeli velilerin bu konudaki eksikliklerinin farkındaydı. Nitekim bu durum açıklamalarına da yansımıştır.

T31 "Suriyeli öğrencilere ders verecek öğretmenler en azından onlarla iletişim kurmak ve onlarla aynı dili konuşmaktan geçiyor. Bu anlamda zorlanıyorum. Suriyeli ebeveynlere mutlaka kalıcı Türkçe kursları açılmalıdır. Ücretsiz kurslar Türkçe eğitimine ilgiyi artıracaktır. Bu hem onların günlük hayatlarına hem de çocuklarının okul hayatlarına olumlu yansımaktır."

Öğretmenler ayrıca Suriyeli öğrencilerinin dil sorunlarına yönelik çözümlerini de şu şekilde belirtmişlerdir:

Ö20: "Suriyeli öğrencilerim ve ben alışveriş deneyimleri için açık çarşıya gidiyoruz. Kafe, sinema vb. sosyal ortamlara da gidiyoruz. Yabancı öğrencilerime bireysel zaman ayırıyorum. Diğerleri ders kitaplarıyla uğraşırken, bedava etkinlikler yaparken ben onlarla bireysel olarak ilgileniyorum."

Ö32: "Öğretmenlerin Suriyeli öğrencilerine daha faydalı olmalarını sağlayacak özel kurs ve seminerler düzenlenmelidir. Özellikle iletişimi kolaylaştırsalar iyi olur."

S66 "Okul danışmanı ile işbirliği yapıyorum, Suriyeli çocukların travmalarını planlıyoruz ve uyguluyorum. Ama dil sorunu benim ve okul danışmanı için büyük bir zorluk. Danışmanın da omuzlarında büyük bir iş yükü var."

Ö10 "Suriyeli öğrencilerime ev ziyaretleri yaparak kabul görmelerini sağlamaya çalışıyorum."

Görüldüğü gibi katılımcı öğretmenler Suriyeli öğrencilere karşı duyarlıdır. Kendilerinin ve ailelerinin neler yaşadığını anlayabildiler ve empati kurmaya çalıştılar. Bunun için farklı destek yollarının kullanılmasını beklerler.

## **Sonuç ve Tartışma**

Suriyeli çocukların Türkiye'deki eğitim sistemine uyum sağlamalarında en büyük sorumluluk ilkokul öğretmenlerine düşmektedir. Öğretmenler karşılaştıkları tüm sorunların temel nedeninin dil farkı olduğunu ve yaşanan iletişim sorununu çözememenin sınıf öğretmenlerinin sorununu derinleştirdiğini açıkça belirtmişlerdir. Türkiye'deki tüm ilköğretim okullarında eğitim dili Türkçe'dir. Bu Suriyeli öğrenciler için ciddi bir sorun. Bu sorun sadece Türkiye'de yaşanmıyor; farklı ülkelerde de benzer durumlarla karşılaşmaktadır.

Birçok çalışma, dil problemlerinin Suriyeli öğrencilerin okul sistemine entegrasyonu için büyük bir zorluk olduğu konusunda hemfikir olan benzer sonuçlara ulaşmıştır (Crul, Lelie, Biner ve diğerleri, 2019; Özmen, 2020; Sarmini, Topçu ve Scharbrodt, 2020). Ancak ülkelerin kültürel yapıları da bireylerin mültecilere bakış açılarını etkilemektedir. Karanlı-Çalamak ve Kılıncı (2021) tarafından yapılan çalışmanın sonuçları, Avrupa'da yapılan çalışmaların tam tersini kanıtlamaktadır. Araştırmaları, ilkokul öğretmenlerinin öğretim deneyimlerinin dışlamadan kaynaştırmaya geçtiği sonucuna varmıştır. Bu sonucu desteklemeyen çalışmalar mevcuttur. Aydın, Gündoğdu ve Akgül (2019) öğretmen adayları ile yaptıkları çalışmada, mülteci çocukların milli eğitim sistemine entegrasyonunun çok önemli olduğunu ancak eğitim sisteminin mülteci ve entegrasyon felsefesinden yoksun olduğunu ortaya koymuştur.

Öğretmenler ile Türk ve Suriyeli öğrenciler ve aileleri arasındaki dil engeli daha fazla soruna neden olmaktadır. Katılımcı öğretmenlere göre sınıf içinde ve dışında Türk ve Suriyeli öğrenciler arasında bazı sorunlar yaşanmıştır. Örneğin, katılımcı öğretmenler bir suç durumu olduğunda Türk öğrencilerin Suriyeli öğrencileri suçladıklarını iddia etmektedirler. Benzer şekilde Eren ve Çavuşoğlu (2021), Türk okullarında sınıf içi öğretim uygulamaları konusunda yaptıkları araştırmada Suriyeli öğrencilerin misafir, yabancı, yoksun, beceriksiz, hilekâr ve yalancı olarak nasıl olumsuz yansıtıldığını ve bunların iletişimi ve öğretmen imajını nasıl olumsuz etkilediğini ortaya koymuştur.

Ayrıca araştırma sonuçları, ilkokul öğretmenlerinin hem Türk hem de Suriyeli öğrencilerden ve velilerinden yeterli desteği almadığını ortaya koymuştur. Her iki gruptaki anne babaların birbirlerine karşı önyargıları, kaynaştırma eğitimindeki gelişmelerin ve çocukların uyumunun önünde engel oluşturmuştur. Öğretmenler, savaş ve göçün getirdiği köklü değişimin ve kültürel farklılıkların neden olduğu travmalardan ve gelecek kaygılarından kaynaklanan endişelerin giderilmesinin tüm yetkililerin desteği ile yapılması gerektiğini belirtmişlerdir. Halihazırda yabancı dil ve karmaşık kültürel değişimlerle mücadele eden mülteci çocukların da olumsuz tutumların etkisinin üstesinden gelmek için çaba sarf etmesi gerektiğini gösteren araştırmalar da

bulunmaktadır (Olsen, 2000; Portes ve Rumbaut 2001; Suárez-Orozco ve Suárez-Orozco, 2001; Yiğit ve Tatch, 2017).

Tüm eğitim sistemlerinde olduğu gibi, Türk eğitim sisteminde de gerçek entegrasyon çabalarını engelleyen çeşitli zorluklar bulunmaktadır. Bunlar arasında kültürel yanlış anlamalar, mülteci eğitiminde yetersiz öğretmen eğitimi, öğrencilerin psikolojik ihtiyaçlarına yönelik travmaya duyarlı eğitim eksikliği ve Suriyeli öğrencilere karşı ayrımcılık yer almaktadır (Aydın ve Kaya, 2017; Qaddour, 2017). Türkiye’de devlet okullarında psikolojik danışmanlık hizmeti verilmektedir. Katılımcı Türk sınıf öğretmenlerinin rehber öğretmenlerle işbirliği yapmayı kabul etmelerine rağmen, rehber öğretmenlerin yaşadıkları dil sorunu, iş yüklerinin fazlalığı ve motivasyonlarının düşük olması nedeniyle nitelikli danışmanlık hizmeti vermelerini engellemektedir (COCA, 2015). Bu durum aslında Suriye sorununun Türkiye için yükünü ve ciddiyetini gösteren en önemli sonuçlardan biridir.

Türkiye'deki mültecilerin eğitiminde görev alan öğretmenler, farklı destek politikalarının kullanılmasını beklediklerini belirtmişlerdir. Türk eğitim sisteminde birçok sorunla tek başına uğraşmak zorunda kalan sınıf öğretmenlerinin, Suriyeli mülteci krizinde de sorunları tek başına çözmeye çalıştıkları belirlenmiştir. Yetkililerden destek almayan öğretmenler, öğrencilerinin ve velilerinin dil sorununu çözmek için çalışmalarını sürdürüyorlar. Rehberlik sorumluluklarının bir parçası olarak öğretmenler, Suriyeli öğrencilerinin ve ailelerinin psikolojik desteğe ihtiyaçları olduğunu da farkındalar.

Tüm öğretim programları, hem öğretmenlerin hem de öğrencilerin küresel olarak karşılaştıkları zorluklarla baş etmelerini sağlayacak tutum ve inançlarla donatılmış bireyler olmalarını sağlayacak şekilde yapılandırılmalıdır. Böylece kültürel çeşitliliğin giderek arttığı Türkiye’de öğretmenlerden kültür ve dil açısından farklı olan öğrencileri etkin bir şekilde yetiştirmeleri ve tüm öğrencilerini vatandaşlık açısından karşılaştıkları sorunlarla nasıl baş edebilecekleri konusunda eğitmeleri beklenmektedir. Özellikle COVID-19 pandemisinin yarattığı olumsuz ekonomik koşullar ile Suriye krizi birleştiğinde bu durum hem maddi hem de manevi bir baskı unsuru haline gelebilmektedir. Bu koşullar altında şimdiye kadar görülmeyen ciddi problemlerin yaşanma ihtimalinin arttığı/artacağı söylenebilir. Bu olumsuz yönleri ortadan kaldırmak için tüm hükümetler yukarıda bahsedilen kapsayıcı eğitim için öğretmenlerin kalitesinin artırılması için öğretmen eğitimini desteklemelidirler.

**Etik Kurul Onayı:** Söz konusu makalenin verileri 2018’den önce toplandığı için etik kurul alınmamıştır.

**Bilgilendirilmiş Onam:** Katılımcılardan bilgilendirilmiş onam alınmıştır.

**Hakem değerlendirmesi:** Dış hakem değerlendirmesi.

**Yazarların Katkısı:** Fikir: Ş.S.A., H.A., B.A.; Tasarım: Ş.S.A., H.A., B.A., N.A.; Verilerin Toplanması ve İşlenmesi: B.A., N.A., Z.K.; Danışmanlık: Ş.S.A., H.A.; Verilerin Analizi ve Yorumu: Ş.S.A., H.A., B.A., N.A., Z.K.;



Alanyazın Taraması: ř.S.A., H.A., B.A., N.A., Z.K., Yazma: ř.S.A., H.A., B.A., N.A., Z.K.; Eleřtirel Deęerlendirme: S.A., H.A., B.A., N.A., Z.K.

**ıkar atıřması:** Yazarlar herhangi bir ıkar atıřması beyan etmemiřtir.

**Finansal Aıklama:** Yazarlar bu alıřmanın herhangi bir finansal destek almadıęını beyan etmiřlerdir.

## Kaynaklar

- Akgul, A., Kaptı, A. ve Demir, O.O. (2015). Migration and public policies: An analysis of Syrian Crisis. *The Global: A Journal of Policy and Strategy*, 1(2), 1-22.
- Akkaya, A. (2013). Syrian 'refugees' perceptions of the Turkish language. *Ekev Academic Journal* 17 (56), 179-190.
- Alba, R., ve Foner, N. (2015). Strangers no more: Immigration and the challenges of integration in North America and Western Europe. Princeton, NJ: Princeton University Press.
- Alpaydın, Y. (2017). An analysis of educational policies for school-aged Syrian refugees in Turkey. *Journal of Education and Training Studies* 5 (9), 36-44.
- Arabacı, İ. B., Başar, M., Akan, D. ve Göksoy, S. (2014). An analysis about educational problems in camps in which Syrian refugees stay: Condition analysis. *International Journal of Social Sciences & Education*, 4(3), 80-94.
- Aras, B. ve Yasun, S. (2016). The educational opportunities and challenges of Syrian refugee students in Turkey: temporary education centers and beyond. Monograph. Istanbul Policy Center. Retrieved from <https://research.sabanciuniv.edu/29697/1/syrianrefugees.pdf>
- Arık Akyüz, B. M., Aksoy, D., Madra, A. ve Polat, E. (2018). Evolution of national policy in Turkey on the integration of Syrian children into the national education system. (Background paper for Global Education Monitoring Report 2019). Retrieved from <http://unesdoc.unesco.org/images/0026/002660/266069e.pdf>
- Aydin, H., Gundogdu, M. ve Akgul, A. (2019). Integration of Syrian refugees in Turkey: understanding the 'educators' perception. *Journal of International Migration and Integration*, 19(1), 1-12.
- Aydin, H. ve Kaya, Y. (2017). The educational needs of and barriers faced by Syrian refugee students in Turkey: A qualitative case study. *International Education*, 28(5), 456-473.
- Aydin, H. ve Kaya, Y. (2019). Education for Syrian refugees: The new global issue facing teachers and principals in Turkey. *Educational Studies*, 55(1), 46-71.
- Bahadır, H. ve Uçku, R. (2020). Working situations and the factors affecting the working situation of Syrian children between the age of 6-17 living in a neighbourhood of Izmir. *Dokuz Eylül Üniversitesi Tıp Fakültesi Dergisi*, 30(3), 117-124.
- Balkan, B. ve Tumen, S. (2016). Immigration and prices: Quasi-experimental evidence from Syrian refugees in Turkey. *Journal of Population Economics*, 29 (3), 657-686.
- Bircan, T. ve Sunata, U. (2015). Education assessment of Syrian refugees in Turkey. *Migration Letters*, 12(3), 226-237.
- Brugha, M., Hollow, D., Pacitto, J., Gladwell, C., Dhillon, P. ve Ashlee, A. (2021). Historical mapping of education provision for refugees: A cross-cutting and comparative analysis of three country contexts. Jigsaw Consult, United Kingdom.
- Çelik, Ç. ve İçduygu, A. (2018). Schools and refugee children: The case of Syrians in Turkey, *International Migration* 57(2), 253-567.
- Cinkir, S. (2015). Turkey. In Curriculum, accreditation, and certification for Syrian Children in Syria, Turkey, Lebanon, Jordan, Iraq, and Egypt (pp. 40-55). UNICEF.
- İstanbul Bilgi Üniversitesi Çocuk Çalışmaları Birimi [COCA] (2015). Suriyeli mülteci çocukların türkiye devlet okullarındaki durumu politika ve uygulama önerileri (the conditions of Syrian refugee children in Turkish public schools and policy advice for implementation) Retrieved from <http://cocuk.bilgi.edu.tr/wp-content/uploads/2020/02/Suriyeli-Cocuklar-Egitim-Sistemi-Politika-Notu.pdf> .
- Creswell, J.W. (2007). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage
- Crul, M., Lelie, F., Keskiner, E., Schneider, J. ve Biner, Ö. (2019). Lost in transit. Education for refugee children in Sweden, Germany, and Turkey. In M. Suárez-Orozco (Eds.), *Humanitarianism and mass migration: Confronting the world crisis*, (pp.268-290). Oakland: University of California Press.
- Dejong, J., Ghattas, H., Bashour, H., Mourtada, R., Akik, C. ve Masterson-Reese, A. (2017). Reproductive, maternal, neonatal and child health in conflict: A case study on Syria using Countdown indicators. *BMJ Global Health*, 2, 1-13.
- Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). (2021). *Civil society and state engagement in the refugee Response in Turkey: Law and regulations*, Ankara, Turkey. Retrieved from [https://reliefweb.int/sites/reliefweb.int/files/resources/CLIP\\_Sustainability\\_Report.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/CLIP_Sustainability_Report.pdf)
- Duruel, M. (2016). Education issue of Syrian refugees. *Ataturk University Journal of Economics and Administrative Sciences*, 30(5), 1399-1414.
- Emin, M.N. (2016). *Education of Syrian children in Turkey: Basic education policy*. Ankara: SETA.
- Erdem, C. (2017). Sınıfında mülteci öğrenci bulunan sınıf öğretmenlerinin yaşadıkları öğretimsel sorunlar ve çözüme dair önerileri. *Medeniyet Eğitim Araştırmaları Dergisi*, 1 (1), 26-42.

- Erden, Ö. (2020). The effect of local discourses adapted by teachers on Syrian child 'refugees' schooling experiences in Turkey. *International Journal of Inclusive Education*, 1-15.
- Eren, A. ve Çavuşoğlu, Ç. (2021). Stigmatization and othering: the case of Syrian students in Turkish schools. *International Journal of Inclusive Education*, 1-20.
- Farhat, B.J., Blanchet, K., Bjertrup, J.P., Veizis, A., Perrin, C., Coulborn, M.R., Mayaud, P. ve Cohuet, S. (2018). Syrian refugees in Greece: experience with violence, mental health status, and access to information during the journey and while in Greece. *BMC Medicine* 16(40), 1-12.
- Hamdan-Mansour, M. A., Razeq, A.M., Abdulhaq, B., Arabiat, D. ve Khalil, A.A. (2017). Displaced Syrian 'children's reported physical and mental wellbeing. *Child and Adolescent Mental Health*, 22(4), 186-193.
- Hassan, G., Ventevogel, P., Jefee-Bahloul, H., Oteo-Barkil, A. ve Kirmayer, L.J. (2016). Mental health and psychosocial wellbeing of Syrians affected by armed conflict. *Epidemiology and Psychiatric Sciences*, 25(2), 129-141.
- Hattie, J. (2015). *What works best in education: The politics of collaborative expertise*. London: Pearson
- Hilt, L.T. (2015). Included as excluded and excluded as included Minority language pupils in Norwegian inclusion policy. *International Journal of Inclusive Education* 19(2), 165-182.
- Human Rights Watch [HRW]. (2015). *Turkey: 400,000 Syrian children not in school*. Retrieved from <https://www.hrw.org/news/2015/11/08/turkey-400000-syrian-children-not-school>
- Icduygu, A. (2015). *Syrian refugees in Turkey the long road ahead*. Transatlantic Council on Migration A Project of the Migration Policy Institute. Retrieved from <https://www.migrationpolicy.org/sites/default/files/publications/TCM-Protection-Syria.pdf>.
- Imamoglu, V.H. ve Caliskan, E. (2017). Opinions of teachers on the primary education of foreign students in public schools: The case of Sinop province. *Karabük Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 7(2), 529-546.
- Kagnici, Y.D. (2017). School 'counselors' roles and responsibilities in the cultural adaptation process of Syrian refugee children. *Elementary Education Online*, 16(4), 1768-1776.
- Kanat, K. ve Ustun, K. (2015). U.S-Turkey realignment on Syria. *Middle East Policy*, 22 (4), 88-97.
- Karasu, M.A. (2016). Şanlıurfa'da yaşayan Suriyeli sığınmacıların kentle uyum sorunu. *Süleyman Demirel Üniversitesi İ.İ.B.F. Dergisi*, 21(3), 997-1016.
- Karsli-Calamak, E. ve Kilinc, S. (2021) Becoming the teacher of a refugee child: 'Teachers' evolving experiences in Turkey. *International Journal of Inclusive Education*, 25(2), 259-282,
- Kilinc, S. (2019). Who will fit in with whom? Inclusive Education Struggles for Students with disabilities. *International Journal of Inclusive Education*, 23 (12), 1296-1314.
- Lambert, V.A. ve Lambert, C.E. (2012). Qualitative descriptive research: An acceptable design. *Pacific Rim International Journal of Nursing Research*, 16, 255-256.
- Levent, F. ve Çayak, S. (2017). School administrators vies on Syrian students' education in Turkey. *Hasan Ali Yücel Eğitim Fakültesi Dergisi*, 14(1), 17-35.
- Lincoln, Y. S. ve Guba, E.G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage
- McBrien, J. L. (2005). Education needs and barriers for refugee students in the United States a review of the literature. *Review of Educational Research*, 75(3), 329-364.
- Miles, B. M. ve Huberman, A.M. (1994). *An expanded sourcebook qualitative data analysis*. Thousand Oaks, CA: Sage.
- Nayir, F. (2017). *Problems and suggested solutions during the refugee education process*. In Innovation and Global Issues in Social Sciences Congress publications (pp. 120- 122). 27-29 April 2017.
- OECD (2005). *The labor market integration of immigrants in Germany*. OECD, Paris. Retrieved from <https://www.oecdilibrary.org/docserver/238411133860.pdf?expires=1637252355&id=id&acname=guest&checksum=8F51A9600EE0ADE7060416088ED7BF51>
- Olsen, L. (2000). Learning English and learning America: Immigrants in the eye of a storm. *Theory into Practice*, 39(4), 196-202.
- Özmen, K. Z. (2020). The problems that Syrian refugee children, class teachers, and Turkish children face in the school environment from the standpoint of trainee teachers. *Educational Research and Reviews*, 15(9), 554-563.
- Qaddour, K. (2017). *Educating Syrian refugees in Turkey*. Washington: DC Carnegie Endowment for International Peace.
- Regional Refugee ve Resilience Plan (3RP) (2021). *Regional Refugee & Resilience Plan in response to the Syria crisis*. Turkey. [<http://www.3rpsyriacrisis.org/wp-content/uploads/2020/02/TURKEY-3RP-Regional-Refugee-and-Resilience-Plan-2020-2021.pdf>] (accessed 23 February 2021). Retrieved from <https://data2.unhcr.org/en/documents>

- Rumbaut, R. G. ve Portes, A. (2001). The forging of a new America: Lessons for theory and policy. In R.G. Rumbaut & A. Portes (Eds.), *Ethnicities: children of immigrants in America* (pp. 301-317). Berkeley: University of California Press.
- Sammons, P. ve Bakkum, L. (2012). Effective schools, equity and teacher effectiveness: a review of the literature. *Profesorado Revista de Curriculum y Formación Del Profesorado*, 15(3), 9-26.
- Sandelowski, M. (2010). 'What's in a name? Qualitative description revisited. *Research in Nursing & Health*, 33, 77–84.
- Sarmini, I., Topçu, E. ve Scharbrodt, O. (2020). Integrating Syrian refugee children in Turkey: The role of Turkish language skills (A case study in Gaziantep). *International Journal of Educational Research Open*, 1, 100007.
- Song, S. (2011). Second-generation Turkish youth in Europe: explaining the academic disadvantage in Austria, Germany, and Switzerland. *Economics of Education Review*, 30(5): 938–949.
- Soykoek, S., Mall, V., Nehring, I., Henningsen, P. ve Aberl, S. (2017). Post-traumatic stress disorder in Syrian children of a German refugee camp. *The Lancet Healthy Longevity*, 389, 903-904.
- Stéger, C. (2014) Review and analysis of the E.U. teacher-related policies and activities. *European Journal of Education*, 49, 332– 347.
- Strauss, A. ve Corbin, J. (1998). Basics of qualitative research: Techniques and procedures for developing grounded theory. Thousand Oaks, CA: Sage
- Suarez-Orozco, C. ve Suarez-Orozco, M.M. (2001). Children of immigration. Cambridge, MA: Harvard University Press.
- Sunata, U. ve Abdulla, A. (2019). Lessons from experiences of Syrian civil society in refugee education of Turkey. *Journal of Immigrant & Refugee Studies* 18 (4), 434–447.
- Tas, Y. H. ve Özcan, S. (2018). Analysis of Syrian immigrant problems in the field of social policies. *HAK-İŞ Uluslararası Emek ve Toplum*, 7(17), 36-54.
- Taskin, P. ve Erdemli, Ö. (2018). Education for Syrian refugees: Problems faced by teachers in Turkey. *Eurasian Journal of Educational Research*, 75, 155-178.
- Tunga Y., Engin G., & Cagiltay, K. (2020). A Literature Review on the Issues Encountered in Educating Syrian Children in Turkey. *Inonu University Journal of the Faculty of Education*, 21(1), 317-333.
- Uzun, E. M. ve Bütün, E. (2016). Okul öncesi eğitim kurumlarındaki Suriyeli sığınmacı çocukların karşılaştıkları sorunları hakkında öğretmen görüşleri. *Uluslararası Erken Çocukluk Eğitimi Çalışmaları Dergisi*, 1(1), 72-83.
- UNHCR (2018). <https://reliefweb.int/report/world/unhcr-global-report-2018>
- UNESCO. (2005). *Guidelines for Inclusion: Ensuring Access to Education for All*. Paris: UNESCO. Retrieved from [http://www.ibe.unesco.org/sites/default/files/Guidelines\\_for\\_Inclusion\\_UNESCO\\_2006.pdf](http://www.ibe.unesco.org/sites/default/files/Guidelines_for_Inclusion_UNESCO_2006.pdf)
- Williamson McDiarmid, G. ve Clevenger-Bright, M. (2008). Rethinking teacher capacity. In M, Cochran-Smith, S. Feiman-Nemser and D. Mc Intyre (Eds.), *Handbook of research on teacher education: enduring questions in changing contexts* (third edition) New York: Routledge/Taylor Francis and the Association of Teacher Educators.
- Willis, D. G., Sullivan-Bolyai, S., Knafel, K. ve Cohen, Z.M. (2016). Distinguishing features and similarities between descriptive phenomenological and qualitative description research. *Western Journal of Nursing Research*, 38(9), 1185-1204.
- Yigit, H. İ. ve Tatch, A. (2017). Syrian refugees and Americans: Perceptions, attitudes, and insights. *American Journal of Qualitative Research*, 1(1), 13-31.
- Yıldırım, S., İslamoğlu, E. ve İyem, C. (2017). Suriyeli sığınmacıların toplumsal kabul ve uyum sürecine ilişkin bir araştırma. *Bilgi Sosyal Bilimler Dergisi*, 2, 107-126.

## Yazarlar

Nurhan Atalay, Niğde Ömer Halisdemir Üniversitesi Temel Eğitim Bölümü'nde doktor öğretim üyesidir. Araştırma ilgi alanları, ilkökulda 21. yüzyıl becerileri, fen eğitimi, öğretmen yetiştirme ve fen eğitiminde öğrenme öğretme süreçleridir.

Zeynep Kılıç, Eskişehir Osmangazi Üniversitesi Temel Eğitim Bölümü'nde doktor öğretim üyesidir. İlgi alanları hayat bilgisi (sosyal bilgiler), yaşam becerileri ve değerleri eğitimi, ilkökulda 21. yüzyıl becerileri, aktif öğrenme ve veli katılımıdır

Burcu Anılan, Fen Bilimleri Eğitimi alanında doçenttir. Halen Eskişehir Osmangazi Üniversitesi Eğitim Fakültesi Matematik ve Fen Bilimleri Eğitimi Bölümü'nde görev yapmaktadır. 15 yılı aşkın fen ve kimya eğitimi tecrübesine sahiptir. Araştırma ilgi alanları fen eğitimi, kimya, kimya eğitimi, öğretmen yetiştirme, fen eğitiminde öğretme-öğrenme süreçleridir.

Hüseyin Anılan, Eskişehir Osmangazi Üniversitesi Temel Eğitim Bölümü'nde tam zamanlı profesördür. Araştırma ilgi alanları ilkökulda okuma yazma eğitimi, Türkçe eğitimi, öğretmen yetiştirme ve dezavantajlı grupların eğitimidir

Şengül S. Anagün, Eskişehir Osmangazi Üniversitesi Temel Eğitim Bölümü'nde tam zamanlı profesördür ve Ege Üniversitesi'nde misafir öğretim üyesi olarak çalışmaktadır. Araştırma ilgi alanı, ilköğretim fen eğitimi, öğretmen eğitimi ve dezavantajlı grupların eğitimi üzerine odaklanmaktadır.

## İletişim

Dr. Öğr. Üyesi Dr. Nurhan ATALAY  
Niğde Ömer Halisdemir Üniversitesi Eğitim Fakültesi,  
Niğde, Turkey

E-posta: [nurratalay@gmail.com](mailto:nurratalay@gmail.com)

Dr. Öğr. Üyesi Dr. Zeynep KILIÇ  
Eskişehir Osmangazi Üniversitesi, Eğitim Fakültesi,  
Eskişehir, Turkey

E-posta: [zeyno-dev@hotmail.com](mailto:zeyno-dev@hotmail.com)

Doç. Dr. Burcu ANILAN  
Eskişehir Osmangazi Üniversitesi, Eğitim Fakültesi,  
Eskişehir, Turkey

E-posta: [anilan.burcu@gmail.com](mailto:anilan.burcu@gmail.com)

Prof. Dr. Hüseyin ANILAN  
Eskişehir Osmangazi Üniversitesi, Eğitim Fakültesi,  
Eskişehir, Turkey

E-posta: [anilan.huseyin@gmail.com](mailto:anilan.huseyin@gmail.com)

Prof. Dr. Şengül S. ANAGÜN  
Eskişehir Osmangazi Üniversitesi, Eğitim Fakültesi,  
Eskişehir, Turkey

E-posta: [ssanagun@gmail.com](mailto:ssanagun@gmail.com)