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CONTENTS

The Impact of STEM-Based Astronomy Activities on Secondary School Students' Attitudes towards STEM and Astronomy[1]

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Abstract

STEM (Science, Technology, Engineering and Mathematics) is an educational approach that aims to bring together different disciplines and use the knowledge and skills related to these disciplines to solve the problems encountered in daily life. STEM education supports skills such as creativity, critical thinking, communication skills, problem-solving ability, which we count as important skills for the century we are in. The aim of this study is to determine the effect of STEM-based astronomy activities on astronomy and STEM attitudes of secondary school students. In the study, one group pretest-posttest design was used from experimental designs. In the study, astronomy and STEM attitude scales were applied as pretests to 7th grade students studying at a rural school. The study group consisted of a total of 18 participants, 8 girls and 10 boys, who were determined by convenience sampling method. In the research, which lasted for 4 weeks, preliminary activities were carried out to prepare students for the process before moving on to STEM activities prepared for astronomy subjects. After the preliminary activities, STEM activities related to astronomy subjects were implemented and at the end of the implementation, STEM and astronomy attitude scales were applied to the students again. For STEM activities, knowledge-based life problems were presented to the students, and the students put forward their original ideas about producing solutions to the problem and designing appropriate products. According to the results of the analysis, although there was a positive increase between the STEM attitude scale pretest and post-test scores of the students, there was no statistical difference in their attitudes towards STEM (p>.05). According to the pretest-posttest scores of the astronomy attitude scale, a statistically significant difference was found (p<.05). According to the results of this research, astronomy activities prepared with STEM-based activities have been effective in developing students' attitude to astronomy.

Introduction

Howard Gardner, the founder of the theory of multiple intelligences, who argued that intelligence consists of various dimensions rather than being a single and dominant character, further argued that it is inevitable to change our current understanding of education with the emergence of new technologies. Gardner said that our children should be equipped with the knowledge and skills to do the jobs that machines cannot do and emphasized that the devices that produce their own energy and make the production they need will not leave work to do to people who have grown up with the educational paradigm of the last 200 years (Gardner, 2004). In this context, the education of generations that adapt to today's changing and developing conditions should focus not only on acquiring knowledge but also on using the acquired knowledge effectively during the solution of the problem they encounter. On the other hand, it is inevitable that the economic development and welfare levels of the nations that keep up with the change of the educational paradigm will increase. The change, transformation and arrangement of new formations in educational sciences to help acquire 21st century skills are related to the need for these skills of the generations of our time. Since the 21st century skills such as critical thinking, collaborating, and leading by making an impact, entrepreneurship and being proactive are regarded as elements universal literacy, the generations that have acquired these skills will be able to shape the future of the world.

It is clearly seen that the traditional education approach's contribution to individuals is limited in gaining universal literacy and acquiring 21st century skills. This situation has led to reforms in educational approaches. Radical changes in the understanding of education have been reflected in the curriculum and therefore, in the teaching methods. Child-centered approaches were preferred to lesson processing methods in which the child's nature, capacity and interest are eliminated, and have become widespread. The STEM education approach has emerged as a contemporary educational approach as a result of the need for individuals who can produce and use knowledge.

STEM education is an educational approach that provides individuals with knowledge and skills by linking the disciplines in it. It has been determined that this approach, which is found to be especially pertinent as a contemporary educational approach for science education classes, increases the interest and motivation of students towards science courses (Yamak, 2014). When we look at the studies carried out in the field of STEM education, which is included in the curriculum of many countries in the world, it is observed that there is a very new field of study and application in our country (Poyraz, 2018). With the spread of STEM education in Türkiye, academic studies in this field have increased with the projects, activities and laboratories established.

Gülhan and Şahin (2016) investigated the effect of the integration of science, technology, engineering and mathematics disciplines on the interests, perceptions, and attitudes of 5th grade students towards STEM fields, and as a result of the research, it was found that the students in the experimental group where STEM activities were applied developed positive attitudes towards these areas. Akgündüz and Özçelik (2017), in their study with students with superior/special abilities, concluded that out-of-school STEM education provided 21st century skills to students in this group and that there was an increase in students' professional orientation towards STEM fields at the end of the activities. Avan, Gülgün, Yılmaz, Doğanay (2017), in their study in which they examined out-of-school learning environments in STEM education, found that the STEM activities applied changed the students' level of using scientific process skills, critical thinking and problem-solving skills, and their interest in astronomy.

In their study, Kırıktaş and Şahin (2019) examined the career interests and attitudes of high school students towards STEM fields in terms of gender and academic success levels in STEM courses, and after the research, it was seen that the career interest of female students studying in high schools was higher than male students, while it was seen that students' interest in these fields decreased as academic success increased. Bircan and Köksal (2020) applied the STEM attitude scale to the students studying at the Science and Art Centers and found that the STEM attitude scores were at a positive level when they interpreted the data obtained from the scale. It is also one of the findings obtained in the study that STEM attitude scores do not show a significant difference between the genders.

The results of the literature study have shown us that the subject of STEM education has been studied intensively in recent years and has become increasingly popular. The sample groups for the studies were generally science teacher candidates, secondary and pre-school students, and academicians. It has been determined that STEM education activities have a positive effect on students' interests and attitudes towards this field. In addition, in the studies conducted with teacher candidates and academicians, it has been stated that there are deficiencies in theoretical and practical training for STEM education during the training process of teachers. On the other hand, it is one of the findings obtained as a result of the literature review that STEM activities with secondary school students are relatively rare in terms of astronomy. STEM education, which is an approach that was put forward under the influence of this race in the 1950s and 60s, when the space race started, is closely related to the field of astronomy (Wissehr, Concannon & Barrow, 2011). It has been statistically determined that STEM education increases professional interests in this field (Alıcı, 2018). From this point of view, it can be deduced that supporting astronomy subject gains with STEM education activities can increase students' interest in STEM professions such as physics engineering, aerospace engineering, and astronaut.

Within the specific objectives of the science curriculum, to provide basic information about astronomy, biology, physics, chemistry, earth and environmental sciences, and science and engineering applications, and to use scientific process skills and scientific research approach in the process of understanding the relationship between nature and human-environment. and producing solutions to the problems encountered in these areas (Ministry of National Education [MoNE], 2018). Astronomy subjects, which are included in the earth and universe subject area of the science course curriculum, have taken their place at every level and students are expected to acquire knowledge and skills in this direction. As mentioned in the curriculum, astronomy is indispensable for science literacy. Astronomy subjects are available at all 3rd ,4th ,5th ,6th ,7th, and 8th grade levels in the curriculum. The first unit of each grade level directly or indirectly consists of astronomy subjects. On the other hand, while the subject area of "Earth and Universe", which includes astronomy subjects, was the place in 2013, it was seen that it was first in the 2018 curriculum (Deveci, 2018). This shows that astronomy education has been given more importance by the Ministry of National Education in recent years.

"Let's Get to Know Our Planet" unit in the 3rd grade science course, "The Earth's Crust and the Movements of Our Earth" in the 4th grade science course, and the "Sun, Earth and the Moon" unit in the 5th grade science course unit, the "Solar System and Eclipses" unit in the 6th grade science course, the "Solar System and Beyond" unit in the 7th grade science course are direct astronomy subjects in the curriculum. The "Seasons and Climate" unit, which is available at the 8th grade level, can be indirectly counted as one of the subjects of astronomy. The existence of astronomy subjects in a total of 32 learning outcomes is an indication that this branch of science cannot be considered separately from the science course (MoNE, 2018). The extensive inclusion of astronomy subjects in the science curriculum has led course teachers and academics studying in this field to seek appropriate methods and techniques in terms of retention in astronomy achievements. STEM applications in the field of astronomy are frequently encountered all over the world from pre-school to high school age, and these applications are also the subject of academic research.

In the study conducted by Styliani, Dratsiou, Panagiotis and Panagiotis (2020), it was assumed that the learning and success of students in this field will be strengthened by enriching with technology integration in STEM disciplines. In the study, first, the students were informed about the subject of the lesson, then an easy-to-apply technological solution was put forward by the teacher, which would enable the subject to be explored creatively, and then the students were expected to produce creative content about the lesson on their own. According to the qualitative findings of the study, the participants welcomed the course topics with enthusiasm and remained engaged in the process. In addition, it has been determined that education enriched with technology leads to successful educational experiences. Kalkan (2018) conducted a trip to Erciyes University Astronomy and Space Sciences department with 24 2nd grade students in order to introduce STEM education and career interest in this field to children in early childhood with field trips. Güngen (2019) argued that camps with STEM education approach could be a solution to the problems encountered in astronomy and space science education, and in this context, he created alternative teaching environments for teachers, students and individuals interested in astronomy, and supported these environments with the website they prepared on the Internet. The

researcher observed that the activities carried out within the scope of these camps prevented students from misconceptions and had a positive effect on their understanding of the concepts of astronomy and space sciences. Okulu (2019), at the end of the study on the development and support of astronomy-based STEM education activities during the education of gifted individuals and teacher candidates, astronomy activities support the science and art center students and science teacher candidates' astronomy knowledge, attitudes and interests towards STEM fields and that observed that it contributes to the permanence of knowledge, attitudes and interests.

Bampasidis, Galani and Koutromanos (2019) investigated the achievements of high school students by participating in a study simulating the Astro Pi competition organized by the European Space Agency. In this context, students were expected to develop a software that would detect the possible effects of the sun on the interior of the International Space Station. The teachers who guided the students throughout the project reported that the students approached the project with enthusiasm, and also stated that the project significantly increased the students' interest in astronomy. The coordinators of the study also stated that the project made the students familiar with scientific knowledge and experiment processes, improved the quality of teaching and resources, had a multidisciplinary content in accordance with the STEM understanding, and developed the skills of students such as teamwork, communication, and presentation.

In his study, Danaia (2006) examined the effect of an astronomy education program, which includes the use of a telescope that can be controlled remotely over the Internet and applied in 30 secondary school schools in different regions of Australia, on students' science perceptions and general knowledge outputs. For this study, qualitative pre-test and post-test tools were developed to measure student attitudes and perceptions before, during and after the program. According to the results obtained from the analysis of the tests, the program implemented had a significant positive effect on both the perception of astronomy and the level of knowledge about astronomy-related subjects. However, the level of effect was not found to be equal between schools. The researcher stated that this difference may be due to variables such as how the program was initially introduced to students and students' access to technological equipment.

When the relevant literature is examined, it has been determined that astronomy-based STEM education applications can be increased, and it is foreseen that a study to be carried out in this direction will contribute to the literature. The fact that it is the only study that measures the attitude of STEM-based activities towards the field of astronomy among other studies on astronomy education published in Türkiye has revealed the originality of the research. In this context, it is aimed that the activities prepared with the STEM approach in this study improve students' attitudes towards astronomy and STEM fields, develop solutions to problems related to astronomy and apply the solution. In line with the acquired purpose, the sub-problems of the study are listed as follows:

1. Is there a significant difference between the pre-test and post-test results of the students who experienced Astronomy-Based STEM Activities in the "Attitude Towards STEM" scale before and after participating in STEM applications?

2. Is there a significant difference between the pre-test and post-test results of the students who experienced Astronomy-Based STEM Activities in the "Attitude towards Astronomy" scale before and after participating in STEM applications?

Method

In the research, one-group pre-test-post-test design, one of the experimental designs, was used. In this design, the effect of the process on the group is tested with a study on a group. Unlike one group post-test model, in this model, the group is administered both before and after the procedure (Büyüköztürk, 2013). During the research process, the STEM Attitude Scale and the Astronomy Attitude Scale were applied to the students twice, at the beginning and at the end of the study. During the application, the students filled out the knowledge acquisition diaries, activity diaries and the product development diaries, so that their activities were carried out more systematically and in a planned manner. According to the pretest-posttest results obtained from the application, the sub-problems of the research were evaluated. The students were not informed about the details of the research before the application. Thus, it is aimed that the research results do not affect the student performance and the

research results. A four-week break between the pre-test and post-test was given to prevent students from becoming familiar with the test questions.

The Study Group

The study group of the research consists of 7th grade students studying at a Secondary School affiliated to the Midyat District Directorate of National Education in the Fall semester of the 2019-2020 Academic Year. The group consists of 8 girls and 10 boys. The parents of the students constituting the study group are primary school graduates and the number of siblings is 4 or more. The study group was selected by convenient sampling method. Convenient sampling method may be preferred in cases where it is difficult to select the study group with random or systematic non-random techniques (Fraenkel et al., 2012). This method is economical and fast. It is easier for the researcher to access the sample than other sample selection methods. Considering the general demographic characteristics of the students in the study group, it can be said that they are from the families with low socio-economic status in general. In addition, it can be said that students' reading and reading comprehension skills are weak.

Students in the study group are subject to the Science Curriculum prepared by the Ministry of National Education. The age group of students, secondary school level is one of the most appropriate age levels for developing interests and attitudes towards STEM fields and making professional orientation in this direction (George, Stevenson, Thomason & Beane, 1992). The applications for the students took place in the classroom environment during the class hours. Before starting the research, the students and parents who will participate in the research were informed about the research and the "Voluntary Participation Form" was filled. The applications were conducted by the researcher himself. The researcher was responsible for all the processes related to the courses for 4 weeks.

Data Collection Tool

In this study, the "STEM Attitude Scale" developed by Lin and Williams in 2015 and adapted to Turkish by Hacıömeroğlu and Bulut in 2016 for validity and reliability studies was applied to determine students' attitudes towards STEM. The scale is a 37-item and 5-factor Likert-type scale consisting of Science, Mathematics, Engineering and 21st Century Skills sections. 7 points were determined in the evaluation of the answers given by the students regarding the scale. These points were used as strongly disagree, disagree, partially disagree, undecided, partially agree, agree and strongly agree. The scale was applied both at the beginning and at the end of the process. The reliability of this scale, which was adapted into Turkish, was calculated as .94 (Hacıömeroğlu & Bulut, 2016).

The "Astronomy Attitude Scale" was used to determine students' attitudes towards astronomy. The scale indicates 10 negative, 5 positive statements and 15 judgments in a five-point Likert type. Each item is numbered from 1 to 5, from negative to positive attitudes of students towards astronomy. They are 1; strongly disagree, 2; disagree, 3; undecided, 4; agree, 5; I strongly agree. The astronomy scale was 75 points in total. It was developed by Zeilik, Schau and Mattern (1999) and adapted into Turkish by Bilici, Armağan, Çakır, and Yuruk (2012). In the study, the coefficients of the internal consistency and sub-factors of the scale were determined. The reliability coefficient was found as α=.80. Considering the reliability coefficient, since this value is well above .70, it was decided that the measurement tool had sufficient reliability and was used to collect data (Büyüköztürk, 2011). When the reliability levels of the sub-factors were examined, it was determined that the sub-factors were quite reliable (α=.71 and α= .77) (Alpar, 2003)

Research Plan and Implementation Steps

In the study, which was carried out as a group study, the data collection tools "STEM Attitude Scale" and "Astronomy Attitude Scale" were applied to the 7th grade students at the beginning of the process. Students were given forty minutes to complete the scales. The scales were applied in the classroom. After the scales were collected, the experimental applications part of the research started. Before the activities, the students were informed by the researcher about the basic features of the planets and their satellites in the Solar System, their sizes and distances to be compared with each other by scaling, and about other small celestial bodies in the Solar System (dwarf planets, meteorites, asteroids, comets, etc.). Before moving on to STEM-based activities, several preliminary activities were carried out to motivate students, engage them in astronomy subjects and attract their attention. As a result of the

preliminary astronomy activities carried out before the implementation of the activities prepared with the STEM education approach, the students became aware of what task they could undertake in the other activities in the group, and it was observed that the students were motivated for other activities.

In the experimental applications part of the study, after the preliminary activities, the STEM-based activities part started. In this part of the study, theoretical information was given to the students and videos related to the subject were watched. Afterwards, the students were presented with scenarios, and they were asked to consider the information they learned in astronomy lessons while solving the current problem in the given scenario. Students were asked to choose a profession and a task for each group. The groups were asked to do research to find a solution to the problem, to fill in the knowledge acquisition diaries, and after the necessary information was gathered, they were asked to create their products by making a group discussion, using the materials provided and considering the limitations. Afterwards, the product development diaries were distributed to the students, and the students were provided to draw the product they designed, test it in the process and report it. The materials were distributed to the groups by the researcher, and under the supervision of the researcher, the groups were enabled to design products using STEM disciplines. Student Activity Diaries were distributed to the students at the end of the activity and students were asked to fill them in individually. Thus, STEM-based activities finished. After four weeks, "Astronomy Attitude Scale" and "STEM Attitude Scale" were applied to the study group and the application process of the study was completed.

Analysis of Data

In order to determine whether parametric tests or non-parametric tests will be used in the analysis of the data, the normality of the data was checked. While analyzing the normality of the data, "Kolmogorov-Smirnov" and "Shapiro-Wilk" test values are examined. It is appropriate to use the "Shapiro-Wilk" test if the number of data used in these tests is 50 or less, and the "Kolmogorov-Smirnov" test if the number of data is 50 or more (Büyüköztürk, 2018). Since the study group of this study was less than 50 people, the homogeneity of the data was examined according to the results of the "Shapiro-Wilk" test. According to the results obtained, non-parametric tests were used within the scope of the study. The difference between the total score of the astronomy scale and the sub-dimension scores of the STEM scale and the pre-test and post-test means of the total scores were determined with the Wilcoxon Signed-Rank Test. W-statistics are used to estimate the normal distribution for dependent measures (paired samples) in large groups of more than 10. W-statistics is a non-parametric alternative to the t-test, and multivariate normality conditions are not required in this method. In the study, the limit of statistical significance was accepted as $p < 0.05$. All statistical analyzes were performed using the SPSS package program.

Results

In this section, the findings of the statistical analysis of the sub-problems put forward for the purpose of the research are given and interpreted in the form of tables. This way is more reader-friendly.

Table 1. Pretest-posttest scores of the participants' attitude towards STEM scale

	N	Mean	Standard deviation	Median	Minimum	Maximum
STEM Math pre-test	18	29.78	7.62	30.00	16.00	40.00
STEM Math post-test	18	30.72	4.85	29.00	25.00	40.00
STEM Science pre-test	18	35.72	8.33	36.50	14.00	45.00
STEM Science post-test	18	39.39	5.27	40.50	25.00	45.00
STEM Engineering pre-test	18	33.06	8.63	33.50	13.00	45.00
STEM Engineering post-test	18	38.06	4.56	37.50	29.00	45.00
STEM 21st Century Skills pre-test	18	44.17	9.18	45.50	19.00	55.00
STEM 21st Century Skills post-test	18	47.17	6.16	47.50	28.00	55.00
STEM total pre-test	18	133.89	27.82	139.00	50.00	167.00
STEM total post-test	18	147.78	16.18	150.50	106.00	171.00

To give the answer to the sub-problem "Is there a significant difference between the pre-test and post-test results of the students who experienced Astronomy-Based STEM Activities in the "Attitude Towards STEM" scale before and after participating in STEM applications?", Attitude towards STEM scale was applied at the end of the activities and the data were given in the Table 3. The mean, standard deviation, minimum and maximum values of the total scores taken from the scale of attitude to the disciplines of the students are included.

The Wilcoxon Signed-Rank Test results, which were conducted to determine whether the attitudes of the students in the study group regarding Science, Mathematics, Engineering and 21st century skills disciplines show a statistically significant difference before and after participating in STEM-based astronomy activities are given in Table 2. According to the results obtained from the test, the p value calculated for the mathematics discipline is 0.48, d for the science discipline is 0.15, for the engineering discipline is 0.05, and for the 21st century skills is 0.36. If the p value found in a test result is less than 0.05, it means that there is a significant difference in the comparison result. Statistical analysis at the end of the study showed that there was no significant difference between the pre-test and post-test in STEM fields. The significance trend (borderline significance) can be interpreted for the p value calculated for the engineering discipline (Kul, 2014).

Table 2. The Wilcoxon Signed-Rank test results of secondary school students' attitude towards STEM scale pretest and post-test scores

		N	Rank average	Rank total	Z	p
STEM Mathematics Field	Negative Ranks	9	7.72	69.50	-0.69	0.48
	Positive Ranks	9	11.28	101.50		
	Equal	0				
	Total	18				
STEM Science Field	Negative Ranks	4	8.75	35.00	-1.42	0.15
	Positive Ranks	11	7.73	85.00		
	Equal	3				
	Total	18				
STEM Engineering Field	Negative Ranks	4	8.88	35.50	-1.94	0.05
	Positive Ranks	13	9.04	117.50		
	Equal	1				
	Total	18				
STEM 21st Century Skills Field	Negative Ranks	7	7.21	50.50	-0.90	0.36
	Positive Ranks	9	9.50	85.50		
	Equal	2				
	Total	18				
STEM Total	Negative Ranks	6	8.08	48.50	-1.61	0.10
	Positive Ranks	12	10.21	122.50		
	Equal	0				
	Total	18				

*p <.05

To give the answer to the sub-problem "Is there a significant difference between the pre-test and post-test results of the students who experienced Astronomy-Based STEM Activities in the "Attitude towards Astronomy" scale before and after participating in STEM applications?", the Astronomy Attitude Scale was applied at the end of the activities and the data were results in the Table 3 and Table 4.

Table 3. The participants' pre-test post-test scores of astronomy attitude scale

	N	Mean	Standard deviation	Median	Minimum	Maximum
Astronomy pre-Test	18	66.06	13.27	67.50	43.00	87.00
Astronomy post-Test	18	78.17	8.97	80.50	53.00	89.00

The findings obtained as a result of the Wilcoxon Signed-Rank Test are given in Table 4. When the table was examined, the obtained p value was found to be 0.02. A statistically significant increase was observed in the mean score of the astronomy scale before and after implementation. After showing the statistically significant significance with the P value, whether the difference between the two test results was significant or not was examined by effect size analysis. The Cohen d value was taken into account in the calculation of the effect size. In the calculation, the d value was found to be 1.06. If this value is 0.80 and above, it is considered a big effect and expresses the strength of the relationship between the variables. With the effect size analysis, it was once again determined that the difference in score values on the astronomy attitude scale was not accidental and could be attributed to STEM education.

Table 4. Wilcoxon Signed-Ranks Test results of secondary school students' astronomy attitude scale scores after pre-test and post-test

		N	Rank average	Rank total	Z	p
Astronomy	Negative Ranks	6	5.33	32.00		
	Positive Ranks	12	11.58	139.00	-2.33	0.02*
	Equal	0				
	Total	18				

Discussion, Conclusion and Recommendations

The history of astronomy began when human began to wonder, dream and think, and has continued to exist from primitive times to the present day. The subjects of interest of the science of astronomy have always been interesting for humanity, and the interest of humanity has always continued to develop in the end. It is also associated with other disciplines such as astronomy, mathematics, engineering, technology, which help us to better understand the functioning of the Earth and the universe. The accumulation of many technologies, coding, knowledge, and skills developed for astronomy and space exploration has fed and even formed the basis of other fields in most developed countries. For example, fields such as medicine, industry, communication, energy, defense industry are among the fields that have developed thanks to the developments in astronomy and space research (Aslan, 2020).

The fact that astronomy science is so important has led to the need for astronomy education to be included in the curriculum, and in this direction, astronomy science has found its place in national and international education programs. When the TÜBİTAK (The Scientific and Technological Research Council of Türkiye) 2018-2022 strategic plan is examined in our country, it is emphasized that projects for the rapid development and promotion of astronomy, space sciences and aviation technologies should be supported. The Ministry of National Education has increased the number of achievements related to astronomy in the curriculum by becoming the units related to astronomy and space sciences bearing the subject name "Earth and Universe" in the Science Curriculum into the first units of the science course. It is known that questioning-based, activity-based or applied teaching and learning activities are more effective in terms of providing students with the subjects in the curriculum in contrast to traditional methods. STEM education, which is one of the educational approaches that is increasing in popularity today and actively involving students in the learning process, is one of the methods used to make astronomy education meaningful.

The main purpose of this study is to determine the effect of astronomy-based STEM activities on students' attitudes towards astronomy and STEM. For this purpose, knowledge-based life problems related to the learning outcome of "Students will be able to describe the causes of space pollution and determines the possible consequences that this pollution may cause." In "Solar System and Beyond"

unit and STEM-based activities related to these achievements were applied. In order to test the effectiveness of the activities, attitude scales were applied to the students before and after the process, and during the activity process, the students were asked to fill out the knowledge acquisition diaries, the product development diaries and student diaries. Students used their own creativity to put forward solutions and products in the face of a given problem and at the end of the process, original products produced by STEM-based activities were revealed.

In the research, "Attitude Scale Towards STEM" was applied to the students before the activity and thus the students' prior knowledge against STEM disciplines was checked. Later, STEM activities prepared in relation to astronomy subjects were carried out by the students. While the activities were carried out, the students were expected to find solutions to the knowledge-based life problem given and to create their designs in this direction. At the end of the activities, the Attitude Scale towards STEM was re-applied to the students and subjected to statistical analysis together with the test at the beginning of the research.

When the findings obtained as a result of the study were examined, although there was a significant difference between the pretest and posttest score means in favor of the post-tests, there was no statistically significant difference in the attitudes of the students towards STEM. For the difference between pre-test and post-test in the field of Engineering from STEM disciplines, it was interpreted as a statistically significant trend. In their study, Selvi and Yıldırım (2017) found that there was no difference between the STEM attitude scale post-test scores of the group subject to the research. The reason why there is no significant difference between students' STEM attitude scores may be that the students' academic achievement levels in science and mathematics courses are moderate. In previous studies, it has been revealed that the attitudes of students with high academic success in mathematics course towards this course are also at a high level (Kalın, 2010; Kutluca, 2017; Sezgin, 2013 as cited in Tabuk, 2019). Baş and Şentürk (2016) revealed that there is a significant relationship between students' science attitudes and academic achievements in science courses. In the studies conducted with especially talented children studying in Science and Art Centers, it was seen that these students' academic success in Science and Mathematics fields was high and their attitudes towards STEM were also at a high level (Bircan and Köksal 2020; Yazar, 2019).

The data obtained as a result of the Astronomy Attitude Scale applied to the students at the beginning and end of the activity were interpreted as a result of statistical analyzes and a significant difference was determined between the pretest and posttest scores. The activities positively increased the students' attitudes towards astronomy. The statistically significant change in the Astronomy Attitude Section is in line with expectations. The activities were carried out with limited time and facilities and were limited to the field of astronomy in accordance with the purpose of the study. Therefore, it can be said that similar activities should be multiplied in order to identify a significant change in other attitude scales. However, activities focusing on the field of subordinate astronomy quickly had a positive effect in the study group and a statistically significant and positive change was observed in the group's attitude towards astronomy. At the same time, in astronomy courses taught through presentation, students thought of astronomy as a field that they could never learn and experienced that space was not actually a difficult area to access with the concrete products they produced as a result of the activities. In previous studies, the attitude of astronomy has been measured by different activities. It has been seen that authentic learning activities have a great impact on students' attitudes towards astronomy (Arslan et al., 2020). In another study, it was seen that the method of learning by doing and experiencing increased the attitude of astronomy in 5th grade students (Doğaç and Gök, 2020). Taşcan (2019) found that science activities developed on astronomy had a positive effect on the spatial skills and academic achievements of 5th grade students. Güngen (2019) stated that STEM activities prepared with astronomy and space sciences-based applications, together with their implementation in astronomy camps and workshops, encourage individuals to develop innovative ideas for astronomy. Considering the results, our recommendations to obtained from researchers who want to conduct studies on the research subject are as follows;

- The study was limited to the 7th grade Science "Solar System and Beyond" unit. Taking into account the data obtained as a result of the study, STEM lesson plans for other astronomy subjects can be prepared and applied to improve students' attitudes towards astronomy.

- The number of the study group remained limited, so the study group could not be divided into experimental and control groups. The sample size may be increased in future studies.
- While designing STEM activities, considering that the living space of the students is a village and that the study is carried out in a village school without a laboratory, the students are expected to carry out the activities with easy-to-reach materials. Researchers can use coding and robotics for STEM-based activities to implement.
- The inclusion of an academician, astronomer or aerospace engineer specialized in astronomy in the research environment can make the process more interesting and enjoyable for students.
- The researcher can expand the scope of the study by adding a descriptive analysis dimension to the study by using the statements in the student activity journals to be filled out by the students in the study.

Acknowledgment

References

Alıcı, M. (2018). *Probleme dayalı öğrenme ortamında STEM eğitiminin tutum, kariyer algı ve meslek ilgisine etkisi ve öğrenci görüşleri* (Yayımlanmamış Yüksek Lisans Tezi). Kırıkkale Üniversitesi Fen Bilimleri Enstitüsü, Kırıkkale.

Arslan, A., Keserci, G. ve Akyüz, A. (2020). Otantik öğrenme etkinliklerinin öğrencilerin fen bilimleri ve astronomiye yönelik tutumları ile çevre bilincine etkisinin incelenmesi. *Karaelmas Eğitim Bilimleri Dergisi,* 8(1).

Arslan, Ö. ve Yıldırım, B. (2020). STEM uygulamalarının öğretmen adaylarının öz-yeterlikleri, pedagoji ve alan bilgisi üzerine etkisi. *İnönü Üniversitesi Eğitim Fakültesi Dergisi, 21*(3), 1339-1355.

Avan Ç., Gülgün, C., Yılmaz, A. ve Doğanay, K. (2019). STEM eğitiminde okul dışı öğrenme ortamları: Kastamonu Bilim Kampı. *Journal of STEAM Education*, *2*(1), 39-51.

Bahar, M., Yener, D., Yılmaz, M., Emen, H. ve Gürer, F. (2018). Fen bilimleri öğretim programı kazanımlarındaki değişimler ve fen teknoloji matematik mühendislik (STEM) entegrasyonu. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi, 18*(2), 702-735.

Bampasidis, G., Galani, A. & Koutromanos, G. (2019). Astronomy in education: Simulating space research experiment in the classroom by writing computer codes. 10.2801/645011.

Banks, F. & Barlex, D. (2014). *Teaching STEM in the secondary school: Helping teachers meet the challenge.* Routledge.

Baz, F. Ç. (2019). STEM eğitim döngüsüne Bloom taksonomisi çerçevesinde bakış. *Academia Eğitim Araştırmaları Dergisi*, *4*(2), 142-150.

Becker, K. & Park, K. (2011). Effects of integrative approaches among science, technology, engineering, and mathematics (STEM) subjects on students' learning: A preliminary meta-analysis. *Journal of STEM Education: Innovations & Research,* 12(5).

Bilici, S. C., Armağan, F. Ö., Çakır, N. K. ve Yürük, N. (2012). Astronomi tutum ölçeğinin Türkçe'ye uyarlanması: Geçerlik ve güvenirlik çalışması. *Journal of Turkish Science Education, 9*(2), 116-127.

Bircan, M. A. ve Köksal, Ç. (2020). Özel yetenekli öğrencilerin STEM tutumlarının ve STEM kariyer ilgilerinin incelenmesi. *Turkish Journal of Primary Education*, *5*(1), 16-32.

Büyüköztürk, Ş. (2017). *Sosyal bilimler içi veri analizi el kitabı. (23. Baskı).* Ankara: Pegem Akademi Yayıncılık.

Bybee, R. W. (2010). Advancing STEM education: A 2020 vision. *Technology and engineering teacher, 70*(1), 30-35.

Bybee, R. W. (2013). *The case for STEM education: Challenges and opportunities*. NSTA press.

Californians Dedicated to Education Foundation. (2014). *Innovate: A blue print for science, technology, engineering, and mathematics in California public education.* Erişim adresi: https://www.cde.ca.gov/pd/ca/sc/documents/innovate.pdf

Chute, E. (2009). *STEM education is branching out: Focus shifts from making science, math accessible to more than just brightest.* Pittsburg Post-Gazette. Erişim adresi: http://www.postgazette.com/news/education/2009/02/10/STEM-education-is-branching out/stories/ 200902100165 adresinden 16.02.2020 tarihinde erişilmiştir.

Çavaş, P., Aslıhan, A. ve Gürcan, G. (2020). Türkiye'de STEM eğitimi üzerine yapılan araştırmaların durumu üzerine bir çalışma. *Yüzüncü Yıl Üniversitesi Eğitim Fakültesi Dergisi, 17*(1), 823-854.

Danaia, L. (2006). *Students' experiences, perceptions and performance in junior secondary school science: An intervention study involving a remote telescope.* Erişim Adresi: https://researchoutput.csu.edu.au/ws/portalfiles/portal/30205687/Danaia_thesis_reduced.pdf

Daşdemir, İ., Cengiz, E. ve Aksoy, G. (2018). Türkiye'de FeTeMM (STEM) eğitimi eğilim araştırması. *Yüzüncü Yıl Üniversitesi Eğitim Fakültesi Dergisi, 15*(1), 1161-1183.

Delen, İ. ve Uzun, S. (2018). Matematik öğretmen adaylarının FeTeMM temelli tasarladıkları öğrenme ortamlarının değerlendirilmesi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 33*(3), 617-630.

Demir, E. S. (2019). *STEM eğitim yaklaşımı ile ilişkili kavramlar hakkında akademisyen görüşleri.* (Yayımlanmamış Doktora Tezi), Kastamonu Üniversitesi Eğitim Bilimleri Enstitüsü, Kastamonu.

Demirbaş, M. ve Yağbasan, R. (2005). Türkiye'deki ortaöğretim kurumlarında uygulanan fen öğretim programlarının analizi: modern fen öğretim programı uygulamaları. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi, 6*(2), 33-51.

Deveci, İ. (2018). Türkiye'de 2013 ve 2018 yılı fen bilimleri dersi öğretim programlarının temel öğeler açısından karşılaştırılması. *Mersin University Journal of theFaculty of Education, 14*(2), 799-825.

Doğan, A., Kıs, E. ve Cançelik, M. (2015). 19 Şubat 2020 tarihinde www.kodokulu.weebly.com adresinden erişilmiştir.

Eide, A. R., Jenison, R. D., Mickelson, S. K. & Northrup, L. L. (2018). *Engineering Fundamentals and problem solving.* New York McGraw Hill Education.

Elmas, R. ve Gül, M. (2020). STEM eğitim yaklaşımının 2018 Fen bilimleri öğretim programı kapsamında uygulanabilirliğinin incelenmesi. *Türkiye Kimya Derneği Dergisi Kısım C: Kimya Eğitimi, 5*(2), 223-246.

English, L. D. (2016). STEM education K-12: Perspectives on integration. *International Journal of STEM Education, 3*, 1-8.

Fraenkel, J.R., Wallen, N.E. & Hyun, H.H. (2012*). How to design and evaluate research in education.* New York: McGraw Hill Education.

Gao, X., Li, P., Shen, J. & Sun, H. (2020). Reviewing assessment of student learning in interdisciplinary STEM education. *International Journal of STEM Education, 7*(1), 1-14.

Gardner, D. P. (1983). *A nation at risk: The imperative for educational reform: A report to the nation and the Secretary of Education,* United States Department of Education. The Commission.

Gardner, H. (2004). *Çoklu zekâ kuramı: Zihin çerçeveleri. (Çev. E. Kılıç)*. Kocaeli: Alfa Yayınları. (Eserin orijinali 1983'te yayımlandı).

Gencer, A. S., Doğan, H., Bilen, K. ve Can, B. (2019). Bütünleşik STEM eğitimi modelleri. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi, 45*(45), 38-55.

Gonzalez, H. B. & Kuenzi, J. J. (2012). *Science, technology, engineering, and mathematics (STEM) education: A primer.* Washington, DC: Congressional Research Service, Library of Congress.

Gök, F. (2020). Yaparak yaşayarak öğrenme yönteminin 5.sınıf öğrencilerinin astronomiye karşı tutumlarına ve fen öğrenme motivasyonlarına etkisi. *Türkiye Eğitim Dergisi, 5*(2), 285-301.

Gülhan, F. ve Şahin, F. (2016). Ortaokul öğrencilerinin STEAM (Bilim, Teknoloji, Mühendislik, Matematik, Sanat) alanlarıyla ilgili algılarının metaforlar aracılığıyla belirlenmesi. *Düzce Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 10*(1), 131-148.

Güneş Varol, D. (2020). *Tasarım temelli STEM eğitimi etkinliklerinin 7. sınıf öğrencilerinde akademik başarılara, STEM'e yönelik tutumlara ve STEM meslek ilgisine olan etkisinin belirlenmesi.* (Yayımlanmamış Yüksek Lisans Tezi), Fırat Üniversitesi Eğitim Bilimleri Enstitüsü, Elazığ.

Güngen, S. (2019). *Astronomi ve uzay bilimleri temelli uygulamalarla hazırlanan STEM kampları.* (Yayımlanmamış Yüksek Lisans Tezi), Ege Üniversitesi Eğitim Bilimleri Enstitüsü, İzmir.

Hacısalihoğlu, H. (2006). Matematik öğretimi ve astronomi. 2006 Tam Güneş Tutulması ve Astronominin Fen Bilimleri Eğitimindeki Yeri Sempozyumu'nda sunulmuş bildiri.

Hacıömeroğlu, G. ve Bulut, A. S. (2016). Entegre FETEMM öğretimi yönelim ölçeği Türkçe formunun geçerlik ve güvenirlik çalışması. *Eğitimde Kuram ve Uygulama, 12*(3), 654-669.

Haik, Y., Sivaloganathan, S. & Shahin, T. (2018). *Engineering design process*. Nelson Education.

Harlen, W. (2015). *Working with big ideas of science education.* Trieste (Italia): Science Education Programme of IAP.

Hristova, T. T. (2015). Innovative practices and technologies in educational projects of European School netand the project". *Scientix. Bulgarian Chemical Communications, 47,* 505-508.

Kalkan, Ç. (2020). İlkokulda STEM eğitimi yoluyla astronomi ve uzay bilimleri kariyer farkındalığı gezisi: Kayseri ili örneği. *Turkish Journal of Astronomy and Astrophysics, 1*(2), 679-679.

Kanpolat, Y. ve Erözel, A. (2011). Dünden bugüne sorgulamaya dayalı eğitim. *TÜBA Güncel*, *42,* 25-28.

Kaya, A. (2020). Türkiye örnekleminde STEM eğitimi alanında yapılan çalışmaların içerik analizi. *İstanbul Aydın Üniversitesi Eğitim Fakültesi Dergisi*, *6*(2), 275-306.

Keçeci, G., Alan, B. ve Kırbağ Zengin, F. (2017). 5. sınıf öğrencileriyle STEM eğitimi uygulamaları. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi, 18*, 1-17.

Kelley, T. R. & Knowles, J. G. (2016). A conceptual framework for integrated STEM education. *International Journal of STEM Education*, *3*, 1-11.

Kennedy, T. J. & Odell, M. R. L. (2014). Engaging students in STEM education. *Science Education International, 25*(3), 246-258.

Milli Eğitim Bakanlığı. (2016a). *STEM eğitimi raporu*. Erişim adresi: http://yegitek.meb.gov.tr/STEM_Egitimi_Raporu.pdf

Milli Eğitim Bakanlığı. (2018). *Scientix projesi: Proje tanımı.* Erişim adresi http://scien tix. meb.gov.tr/

Mohr-Schroeder, M. J., Cavalcanti, M. & Blyman, K. (2015). *STEM education: Understanding the changing land scape.* In A practice-based model of STEM teaching (pp. 3-14). Brill Sense.

National Research Council (2012). *A Framework for K-12 science education: Practices, cross cutting concepts, and coreideas.* Washington, DC: The National Academic Press.

OECD. (2018). *Turkey Student Performance 2018.* https://gpseducation.oecd.org/CountryProfile?primaryCountry=TUR&treshold=10&topic=PI

Okulu, H. Z. (2019). *STEM eğitimi kapsamında astronomi etkinliklerinin geliştirilmesi ve değerlendirilmesi*. (Yayımlanmamış Doktora Tezi), Muğla Sıtkı Koçman Üniversitesi Eğitim Bilimleri Enstitüsü, Muğla.

Özcan, H. ve Koca E. (2019). STEM'e yönelik tutum ölçeğinin Türkçe'ye uyarlanması: Geçerlik ve güvenirlik çalışması. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, *34*(2), 387-401.

Özçelik, A. ve Akgündüz, D. (2018). Üstün/özel yetenekli öğrencilerle yapılan okul dışı STEM eğitiminin değerlendirilmesi. *Trakya Üniversitesi Eğitim Fakültesi Dergisi, 8*(2), 334-351.

Pekbay, C., Yavuz, S. ve Kaptan, F. (2020). Ortaokul öğrencilerinin STEM eğitim yaklaşımına dayalı olarak hazırlanan etkinlikler ile ilgili görüşleri: Yeşil Mühendislik Etkinlikleri. *İnönü Üniversitesi Eğitim Fakültesi Dergisi*, *21*(2), 840-857.

Rosholt, R. L. (1966). *An administrative history of NASA, 1958-1963* (No. NASA-SP-4101).

Sanders, M. (2009). STEM, STEM education, STEM mania. *Technology Teacher, 68*(4), 20-26.

Sharma, J. & Yarlagadda, P. K. (2018). Perspectives of 'STEM education and policies' for the development of a skilled work force in Australia and India. *International Journal of Science Education, 40*(16), 1999-2022.

Siouli, S., Dratsiou, I., Antoniou, P. E. & Bamidis, P. D. (2018). Primary School STEM Education Through Co-Creative Methodologies. *In Cc-Tel/Tackle@ Ec-Tel.*

Taşcan, M. (2019). *Astronomi eğitimi üzerine geliştirilen fen etkinliklerinin 5. sınıf öğrencilerinin uzamsal becerileri ve akademik başarıları üzerine etkisi.* (Yayımlanmamış Doktora Tezi), İnönü Üniversitesi Eğitim Bilimleri Enstitüsü, Malatya.

Taşçı, M. ve Şahin, F. (2020). Tersine mühendislik uygulamalarının ortaokul öğrencilerinin akademik başarı ve problem çözme becerilerine etkisi. *Necatibey Faculty of Education Electronic Journal of Science & Mathematics Education, 14(1),* 387-414.

Tekin Poyraz, G. (2018). *STEM eğitimi uygulamasında Kayseri ili örneğinin incelenmesi ve uzaktan STEM eğitiminin uygulanabilirliği.* (Yayımlanmamış Yüksek Lisans Tezi), Anadolu Üniversitesi, Eskişehir.

Tunca, Z. (2002). Türkiye'de ilk ve orta öğretimde astronomi eğitim öğretiminin dünü, bugünü, *V. Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi*, Ankara.

Türk Sanayicileri ve İş İnsanları Derneği (2014). *STEM alanında eğitim almış işgücüne yönelik talep ve beklentiler araştırması.* İstanbul: SİS Matbaacılık.

Türk Sanayicileri ve İş İnsanları Derneği (2017). *2023'e doğru Türkiye'de STEM gereksinimi.* Erişim adresi: https://www.tusiadstem.org/images/raporlar/2017/ STEM-Raporu-V7.pdf

Ulutan, E. (2018). *TEOG fen bilgisi başarısını etkileyen değişkenlerin çok düzeyli regresyon modeli ile incelenmesi*. (Yayımlanmamış Yüksek Lisans Tezi), Hacettepe Üniversitesi Eğitim Bilimleri Enstitüsü, Ankara.

Vasquez, J. A., Sneider, C. I. & Comer, M. W. (2013). *STEM lesson essentials, grades 3-8: Integrating science, technology, engineering, and mathematics* (pp. 58-76). Portsmouth, NH: Heinemann.

West, S. S., Vasquez-Mireles, S. & Coker, C. (2006). Mathematics and/or science education: Separate or integrate. *Journal of Mathematical Sciences and Mathematics Education, 1*(2), 11-18.

Wissehr, C., Concannon, J. & Barrow, L. H. (2011). Looking back at the Sputnik era and its impact on science education. *School, Science and Mathematics*, 111(7), 368-375.

World Economic Forum, (2016). What are the 21st-century skills every student needs? https://www.weforum.org/agenda/2016/03/21st-century-skills-future-jobs-students/ (Erişim tarihi: 06.12.2020)

Yamak, H., Bulut, N. ve Dündar, S. (2014). 5. sınıf öğrencilerinin bilimsel süreç becerileri ile fene karşi tutumlarına FeTeMM etkinliklerinin etkisi. *Gazi Üniversitesi Gazi Eğitim Fakültesi Dergisi, 34*(2), 249-265.

Yazar, F. (2019). *STEM yaklaşımının fen derslerine yansımasına yönelik bir uygulama: çocuk üniversitesi örneği.* (Yayımlanmamış Yüksek Lisans Tezi), İnönü Üniversitesi Eğitim Bilimleri Enstitüsü. Malatya.

Yıldırım, P. (2017). Fen, teknoloji, mühendislik ve matematik (STEM) entegrasyonuna ilişkin nitel bir çalışma. *Atatürk Üniversitesi Kazım Karabekir Eğitim Fakültesi Dergisi, (35)*, 31-55.

STEM Temelli Astronomi Etkinliklerinin Ortaokul Öğrencilerinin STEM ve Astronomi Tutumlarına Etkisi[1]

Sevilay YÜZGEÇ[2], Funda OKUŞLUK[3]

Öz

STEM [Fen (Science), Teknoloji (Technology), Mühendislik (Engineering) ve Matematik (Mathematics)], farklı disiplinleri bir araya getirerek bu disiplinlerle ilgili bilgi ve becerileri, günlük hayatta karşılaşılan problemleri çözmek için kullanmayı amaçlayan bir eğitim yaklaşımıdır. STEM eğitimi, içinde bulunduğumuz yüzyıl için önemli beceriler olarak saydığımız yaratıcılık, eleştirisel düşünme, iletişim becerileri, problem çözebilme kabiliyeti gibi becerileri destekler niteliktedir. Bu çalışmanın amacı STEM temelli astronomi etkinliklerinin, ortaokul öğrencilerinin astronomi ve STEM tutumuna etkisini belirlemektir. Araştırmada deneysel desenlerden tek gruplu ön test- son test deseni kullanılmıştır. Çalışmada bir köy okulunda öğrenim gören 7. sınıf öğrencilerine astronomi ve STEM tutum ölçekleri ön test olarak uygulanmıştır. Çalışma grubu uygun örnekleme yöntemi ile belirlenen 8 kız ve 10 erkek olmak üzere toplam 18 katılımcıdan oluşmaktadır. 4 hafta boyunca süren araştırmada astronomi konularıyla hazırlanan STEM etkinliklerine geçmeden önce öğrencileri sürece hazırlamak için ön etkinlikler yapılmıştır. Yapılan ön etkinlerden sonra, astronomi konularına ilişkin STEM etkinlikleri yaptırılmış ve uygulama sonunda öğrencilere yeniden STEM ve astronomi tutum ölçekleri uygulanmıştır. STEM etkinlikleri için öğrencilere bilgi temelli hayat problemleri sunulmuş, probleme çözüm üretme ve uygun ürün tasarlama konusunda öğrenciler kendi özgün fikirlerini ortaya koymuştur. Analiz sonuçlarına göre öğrencilerin STEM tutum ölçeği ön test-son test puanları arasında pozitif bir artış olmasına rağmen STEM'e yönelik tutumlarında istatistiki olarak bir fark bulunmamıştır (p>.05). Astronomi tutum ölçeği ön test-son test puanlarına göre ise istatistiksel olarak anlamlı bir fark bulunmuştur (p<.05). Bu araştırma sonuçlarına göre STEM temelli etkinliklerle hazırlanan astronomi etkinlikleri öğrencilerin astronomi tutumunu geliştirmede etkili olmuştur.

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Giriş

Zekâyı tek ve baskın bir karakter olmaktan ziyade çeşitli boyutlardan oluştuğunu savunan çoklu zekâ kuramının yaratıcısı Howard Gardner, yeni teknolojilerin ortaya çıkmasıyla mevcut eğitim anlayışımızın değişiminin kaçınılmaz olduğunu savunmuştur. Çocuklarımızın makinelerimizin yapamadığı işleri yapabilecek bilgi ve beceri ile donatılması gerektiğini söyleyen Gardner, kendi enerjisini üreten, gerek duyduğu üretimi kendisi yapan cihazların son 200 yılın eğitim paradigmasıyla yetişen insanlara yapacak iş bırakmayacağını vurgulamıştır (Gardner, 2004). Bu bağlamda değişen ve gelişen günümüz şartlarına uyum sağlayan nesillerin eğitimi, salt bilgi edinme düzeyinde değil edindiği bilgiyi karşılaştığı problemin çözümü esnasında etkin kullanabilme üzerine odaklanmalıdır. Öte yandan eğitim paradigmasının değişimine ayak uyduran ulusların ekonomik kalkınmaları ve refah düzeylerinin yükselmesi kaçınılmazdır. Eğitim bilimlerindeki değişim, dönüşüm ve yeni oluşumların 21.yüzyıl becerilerinin edinilmesine yardımcı olacak şekilde düzenlenmesi çağımız nesillerinin bu becerilere ihtiyaç duymasıyla alakalıdır. Eleştirel düşünme, iş birliği yapma ve etki yaratarak öncülük etme, girişkenlik ve girişimcilik olarak sıralayabileceğimiz 21.yüzyıl becerileri bir çeşit evrensel okuryazarlık olarak kabul görüldüğünden bu becerileri edinmiş nesiller Dünya'nın geleceğine de yön verebilecektir.

Evrensel okuryazarlığı kazandırmada ve 21.yüzyıl becerilerinin edinmesinde klasik eğitim anlayışının bireylere katkısının sınırlı olduğu açık bir şekilde görülmektedir. Bu durum, eğitim anlayışında reformların yaşanmasına sebep olmuştur. Eğitim anlayışındaki köklü değişimler öğretim programlarına ve dolayısıyla öğretim yöntemlerine yansımıştır. Artık çocuğun doğasının, kapasitesinin ve ilgisinin bertaraf edildiği ders işleme yöntemleri değil çocuğun merkeze alındığı ve aktif kılındığı yaklaşımlar yaygınlaşmıştır. STEM eğitimi yaklaşımı, bilgiyi üretebilen ve kullanabilen bireylere ihtiyaç duyulması sonucu çağdaş bir eğitim yaklaşımı olarak ortaya çıkmıştır.

STEM eğitimi, içinde bulunan disiplinleri birbiriyle ilişkilendirerek bireylere bilgi ve beceriyi kazandıran bir eğitim yaklaşımıdır. Özellikle Fen Bilimleri dersi eğitimi için çağdaş bir eğitim yaklaşımı olarak ön görülen bu yaklaşımın öğrencilerin Fen Bilimleri dersine karşı ilgi ve güdülenmelerini arttırdığı tespit edilmiştir (Yamak, 2014). Dünya'da birçok ülkenin öğretim programlarına dahil ettiği STEM eğitimi alanında yapılan çalışmalara bakıldığında ülkemizde çok yeni bir çalışma ve uygulama alanı olduğu gözlenmiştir (Poyraz, 2018). STEM eğitiminin Türkiye'de yaygınlaşmasıyla yapılan projeler, etkinlikler ve kurulan laboratuvarlarla birlikte bu alandaki akademik çalışmalar da artmıştır.

Gülhan ve Şahin (2016), fen, teknoloji, mühendislik ve matematik disiplinlerinin entegrasyonun, 5.sınıf öğrencilerinin STEM alanlarına yönelik ilgi, algı ve tutumlarına etkisini araştırmış, araştırma sonucunda STEM etkinliklerinin uygulandığı deney grubundaki öğrencilerin bu alanlara karşı olumlu tutum geliştirdiği tespit edilmiştir. Akgündüz ve Özçelik (2017), üstün/özel yetenekli öğrencilerle yapmış olduğu çalışmada okul dışı yapılan STEM eğitiminin bu gruptaki öğrencilere 21.yy. becerileri kazandırdığı ve öğrencilerin etkinlikler sonunda STEM alanlarına yönelik meslek eğilimlerinde de artış olduğu sonucuna varmıştır. Avan, Gülgün, Yılmaz, Doğanay (2017), STEM eğitiminde okul dışı öğrenme ortamlarını incelediği çalışmada, uygulanan STEM etkinliklerinin öğrencilerde bilimsel süreç becerilerini kullanma düzeyini, eleştirsel düşünme ve problem çözme becerilerini ve astronomiye karşı ilgilerini değiştirdiğini tespit etmişlerdir.

Kırıktaş ve Şahin (2019), çalışmalarında lise öğrencilerinin STEM alanlarına yönelik kariyer ilgileri ve tutumlarının cinsiyet ve STEM derslerindeki akademik başarı düzeyleri açısından incelemiş, araştırma sonrasında liselerde öğrenim gören kız öğrencilerin STEM alanlarına yönelik kariyer ilgisinin erkek öğrencilere göre daha yüksek olduğu görülürken, akademik başarı arttıkça öğrencilerin bu alanlara yönelik kariyer ilgilerinin azaldığı görülmüştür. Bircan ve Köksal (2020), Bilim ve Sanat Merkezleri'nde öğrenim gören öğrencilere STEM tutum ölçeği uygulamış, ölçekten elde edilen verileri yorumladıklarında STEM tutum puanlarının olumlu düzeyde olduğunu tespit etmişlerdir. Araştırmada STEM tutum puanlarının cinsiyetler arasında anlamlı bir fark göstermediği de elde edilen bulgulardandır.

Yapılan literatür çalışması sonuçları bize son yıllarda STEM eğitimi konusunun yoğun olarak çalışıldığını ve giderek popülerleştiğini göstermiştir. Çalışmalara örneklem gruplarını genel olarak fen bilimleri öğretmen adayları, ortaokul ve okul öncesi öğrencileri, akademisyenler oluşturmuştur. STEM

eğitimi etkinliklerinin öğrencilerin bu alana yönelik ilgi ve tutumlarını pozitif yönde etkilediği tespit edilmiştir. Bunun yanı sıra öğretmen adayları ve akademisyenlerle yapılan çalışmalarda öğretmenlerin yetişme sürecinde STEM eğitimine yönelik teorik ve pratik eğitim konusunda eksiklikler olduğu ifade edilmiştir. Diğer yandan ortaokul öğrencileri ile yapılan STEM etkinlerinin astronomi yönünden görece zayıf kaldığı literatür taraması sonucu elde edilen bulgulardan biridir. Temelde uzay yarışının başladığı 1950 ve 60lı yıllarda bu yarışın etkisiyle ortaya atılan bir yaklaşım olan STEM eğitimi astronomi alanıyla yakından ilişkilidir (Wissehr, Concannon ve Barrow, 2011). STEM eğitiminin, bu alanla ilgili meslek ilgilerini arttırdığı istatistiksel olarak tespit edilmiştir (Alıcı, 2018). Buradan yola çıkarak astronomi konu kazanımlarının STEM eğitimi etkinlikleri ile desteklenmesi, öğrencilerin STEM alanı mesleklerinden fizik mühendisliği, uzay mühendisliği, astronotluk gibi alanlara olan ilgisini de arttırabileceği çıkarımı yapılabilir.

Fen Bilimleri Dersi Öğretim Programı'nın özel amaçları içerisinde astronomi, biyoloji, fizik, kimya, yer ve çevre bilimleri ile fen ve mühendislik uygulamaları hakkında temel bilgiler kazandırmak ve doğanın keşfedilmesi ve insan-çevre arasındaki ilişkinin anlaşılması sürecinde, bilimsel süreç becerileri ve bilimsel araştırma yaklaşımını benimseyip bu alanlarda karşılaşılan sorunlara çözüm üretmek yer almaktadır (Milli Eğitim Bakanlığı, 2018). Fen Bilimleri dersi öğretim programının Dünya ve Evren konu alanında yer alan astronomi konuları her kademede kendine yer edinmiş ve öğrencilerin bu yönde bilgi ve beceri elde etmesi beklenmiştir. Öğretim programında da değinildiği üzere fen okuryazarlığı için astronomi bilimi vazgeçilmezdir. Öğretim programında yer alan 3.,4.,5.,6.,7. ve 8.sınıf düzeylerinin hepsinde astronomi konuları mevcuttur. Her sınıf düzeyinin ilk ünitesi doğrudan veya dolaylı olarak astronomi konularından oluşmaktadır. Öte yandan astronomi konularının yer aldığı "Dünya ve Evren'' konu alanı 2013 yılında en son verilmekteyken, 2018 öğretim programlarında birinci sırada işlendiği görülmüştür (Deveci, 2018). Bu da göstermektedir ki astronomi eğitimi Milli Eğitim Bakanlığınca son yıllarda daha fazla önemsenmektedir.

3.sınıf Fen Bilimleri dersinde yer alan ''Gezegenimizi Tanıyalım'' ünitesi, 4.sınıf Fen Bilimleri dersinde yer alan ''Yer Kabuğu ve Dünya'mızın Hareketleri'' ünitesi, 5.sınıf Fen Bilimleri dersinde yer alan ''Güneş, Dünya ve Ay'' ünitesi, 6.sınıf Fen Bilimleri dersi içerisinde yer alan ''Güneş Sistemi ve Tutulmalar'' ünitesi, 7.sınıf Fen Bilimleri dersi içerisinde yer alan ''Güneş Sistemi ve Ötesi'' üniteleri program içerisindeki doğrudan astronomi konularıdır. 8.sınıf düzeyinde mevcut olan ''Mevsimler ve İklim'' ünitesi ise dolaylı olarak astronomi konularından sayılabilir. Toplam 32 kazanım içerisinde astronomi konularının var olması bu bilim dalının Fen Bilimleri dersinden ayrı düşünülemeyeceğinin göstergesidir (MEB,2018). Astronomi konularının Fen Bilimleri Dersi Öğretim Programı'nda genişçe yer alması, ders öğretmenlerinin ve alan akademisyenlerinin astronomi kazanımlarının kalıcılaştırılması bakımından uygun yöntem ve teknik arayışına yöneltmiştir. Astronomi alanında STEM uygulamalarına tüm dünyada okul öncesinden lise çağına kadar sıklıkla rastlanmakta ve bu uygulamalar akademik araştırmalara da konu olmaktadır.

Styliani, Dratsiou, Panagiotis, ve Panagiotis (2020) tarafından yapılan çalışmada STEM disiplinlerinde teknoloji entegrasyonuyla zenginleştirilerek öğrencilerin bu alandaki öğrenim ve başarılarının güçlendirileceği ön kabulünden yola çıkılmış, bu bağlamda ilkokul öğrencilerinin astronomi eğitiminde dijital ve teknolojik araçlarla güçlendirilmiş bir eğitim sonucunda elde edilen çıktılar raporlanmıştır. Yapılan çalışmada önce öğrenciler ilgili ders konusu hakkında bilgilendirilmiş, daha sonra öğretmen tarafından, konunun yaratıcı bir biçimde araştırılmasını sağlayacak kolay uygulanabilir bir teknolojik çözüm ortaya atılmış, daha sonra da öğrencilerden kendi başlarına ilgili ders konusuyla ilgili yaratıcı içerik üretmeleri beklenmiştir. Çalışmanın nitel bulgularına göre katılımcı öğrenciler ders konularını heyecanla karşılamış ve sürece dahil olmuşlardır. Ayrıca teknolojiyle zenginleştirilmiş eğitimin başarılı eğitsel tecrübelere yol açtığı tespit edilmiştir. Kalkan (2018), alan gezileriyle STEM eğitimini ve bu alandaki kariyer ilgisini erken çocukluk dönemindeki çocuklara tanıtmak amacıyla 2. sınıfa giden 24 öğrenciyle Erciyes Üniversitesi Astronomi ve Uzay Bilimleri bölümüne bir gezi düzenlediği çalışmada öğrencilerin gezi-gözlem yaptıkları bölüm ile ilgili kariyer farkındalığı oluşturduğunu gözlemlemiştir. Güngen (2019), astronomi ve uzay bilimleri eğitiminde karşılaşılan sorunlarla ilgili STEM eğitimi yaklaşımıyla yapılmış kampların çözüm olabileceğini savunmuş bu kapsamda öğretmenlere, öğrencilere ve astronomiye ilgi duyan bireylere yönelik alternatif öğretim ortamları oluşturmuş ve internet ortamında hazırladıkları web sitesiyle bu ortamları

desteklemiştir. Araştırmacı, bu kamplar kapsamında yapılan etkinliklerin öğrencilerde kavram yanılgılarını engellediği, astronomi ve uzay bilimleri kavramlarını anlamalarına da olumlu etki sağladığı gözlemlemiştir. Okulu (2019), özel yetenekli bireyler ve öğretmen adaylarının eğitimi esnasında astronomi temelli STEM eğitimi etkinliklerinin geliştirilmesi ve desteklenmesini konu edindiği çalışma sonunda, astronomi etkinliklerinin Bilim ve Sanat Merkezi öğrencilerinin ve Fen Bilgisi Öğretmen adaylarının astronomi bilgilerini, STEM alanlarına yönelik tutumlarını ve ilgilerini desteklediği ve bu bilgi, tutum ve ilgilerin kalıcılığına katkı sağladığını gözlemlemiştir.

Bampasidis, Galani, ve Koutromanos (2019) ise Avrupa Uzay Ajansı tarafından organize edilen Astro Pi yarışmasını simüle eden bir çalışmada lise düzeyindeki öğrencilerin bu tür bir yarışmaya katılmakla elde ettikleri kazanımları araştırmışlardır. Bu kapsamda öğrencilerden Uluslararası Uzay İstasyonu'nun iç kısmında günşin yaratabileceği olası etkileri tespit edecek bir yazılım geliştirmeleri beklenmiştir. Proje boyunca öğrencilere rehberlik eden öğretmenler, öğrencilerin projeye heves ve heyecanla yaklaştıklarını raporlamışlar, ayrıca projenin öğrencilerin astronomi konularına olan ilgilerini belirgin derecede yükselttiğini ifade etmişlerdir. Çalışmanın yürütücüleri de projenin, öğrencilerin bilimsel bilgi ve deney süreçlerine aşınalık kazandırdığını, öğretim kalitesi ve kaynaklarını geliştirdiğini, STEM anlayışına uygun olarak multidisipliner içeriğe sahip olduğunu ve öğrencilerin takım çalışması, iletişim, sunum gibi becerilerini geliştirdiğini ifade etmişlerdir.

Danaia (2006) yürüttüğü çalışmada internet üzerinden uzaktan kumanda edilebilen bir teleskop kullanımını içeren ve Avustralya'nın farklı bölgelerinde ortaokul düzeyinde 30 okulda uygulanan bir astronomi eğitim programının öğrencilerin bilim algılarına ve genel olarak bilgi çıktılarına olan etkisini incelemiştir. Bu inceleme için öğrenci tutum ve algılarını program öncesi, esnası ve sonrasında ölçmek üzere nitel ön test ve son test araçları geliştirilmiştir. Testlerin analizinden elde edilen sonuçlara göre uygulanan programın öğrencilerin hem astronomi algısında hem de astronomi ile ilgili konular hakkındaki bilgi düzeyinde belirgin bir olumlu etkisi olmuştur. Ancak etkinin seviyesi okullar arasında eşit bulunmamıştır. Araştırmacı, bu farkın, programın öğrencilere başlangıçta nasıl tanıtıldığı ve öğrencilerin teknolojik ekipmanlara erişimi gibi değişkenlere bağlı olabileceğini belirtmiştir.

İlgili literatür incelendiğinde astronomi temelli STEM eğitimi uygulamalarının arttırılabileceği tespit edilmiş ve bu yönde yapılacak bir çalışmasının literatüre katkı sağlayacağı ön görülmüştür. Türkiye'de yayınlanan diğer astronomi eğitimi konulu araştırmalar içerisinde STEM temelli etkinliklerin astronomi alanına yönelik tutumunu ölçen tek çalışma olması, araştırmanın özgünlüğünü ortaya koymuştur. Bu bağlamda, yapılan çalışmada STEM yaklaşımı ile hazırlanan etkinliklerin öğrencilerin astronomiye ve STEM alanlarına yönelik tutumlarını geliştirmesi, astronomi konularına dair problemlere çözüm yolu geliştirmesi ve çözümü uygulaması amaçlanmıştır. Edinilen amaç doğrultusunda çalışmanın alt problemleri aşağıdaki gibi sıralanmıştır:

1. Astronomi Temelli STEM Etkinlikleri uygulanan öğrencilerin STEM uygulamalarına katılmadan önce ve katıldıktan sonra ''STEM'e Karşı Tutum'' ölçeğinde aldıkları ön test ve son test sonuçları arasında anlamlı bir fark var mıdır?

2. Astronomi Temelli STEM Etkinlikleri uygulanan öğrencilerin STEM uygulamalarına katılmadan önce ve katıldıktan sonra ''Astronomiye Karşı Tutum'' ölçeğinde aldıkları ön test ve son test sonuçları arasında anlamlı bir fark var mıdır?

Yöntem

Araştırmada deneysel desenlerden tek gruplu ön test- son test deseni kullanılmıştır. Bu desende işlemin grup üzerine etkisi tek grup üzerinde yapılan çalışma ile test edilir. Tek grup son test modelinden farklı olarak bu modelde gruba hem işlem öncesi hem de işlem sonrası uygulama yapılır (Büyüköztürk, 2013). Araştırma sürecinde öğrencilere STEM Tutum Ölçeği ve Astronomi Tutum Ölçeği çalışmanın başlangıcında ve bitiminde olmak üzere iki kez uygulanmıştır. Uygulama esnasında öğrenciler bilgi edinme defterleri, ekinlik günlükleri ve ürün geliştirme defterlerini doldurmuş böylelikle etkinlikleri daha sistematik ve planlı yürütülmüştür. Uygulamadan elde edilen ön test- son test sonuçlarına göre araştırmanın alt problemleri değerlendirilmiştir. Öğrencilere uygulama öncesinde araştırmanın detayları hakkında bilgi verilmemiştir. Böylelikle araştırma sonuçlarının öğrenci performansına araştırma sonuçlarını etkilememesi amaçlanmıştır. Ön test ve son test arasındaki dört haftalık ara öğrencilerin test sorularına aşina olmalarını engellemek amacıyla verilmiştir.

Araştırma Grubu

Araştırmanın çalışma grubunu 2019-2020 Eğitim-Öğretim Yılının Güz döneminde Midyat İlçe Milli Eğitim Müdürlüğü'ne bağlı bir Ortaokulda öğrenim gören 7. sınıf öğrencileri oluşturmaktadır. Grubu 8 kız 10 erkek öğrenci oluşturmaktadır. Çalışma grubunu oluşturan öğrencilerin anne ve babaları ilkokul mezunu ve kardeş sayıları 4 ve 4'ün üzerindedir. Çalışma grubu, uygun örnekleme yöntemi ile seçilmiştir. Çalışma grubunun rastgele veya sistematik rastgele olmayan tekniklerle seçilmesinin zor olduğu durumlarda uygun örnekleme yöntemi tercih edilebilir (Fraenkel ve diğerleri, 2012). Bu yöntem ekonomik ve hızlıdır. Araştırmacının örnekleme ulaşması diğer örneklem seçme yöntemlerine göre daha kolaydır. Çalışma grubu içerisinde öğrencilerin genel demografik özelliklerine bakılacak olursa genel olarak sosyo-ekonomik durumu düşük seviyede ailelere mensup oldukları söylenebilir. Ayrıca öğrencilerin Türkçeyi okuma ve okuduğunu anlama becerilerinin zayıf olduğu da söylenebilir.

Çalışma grubundaki öğrenciler Milli Eğitim Bakanlığı tarafından hazırlanan Fen Bilimleri Dersi Öğretim Programı'na tabidir. Öğrencilerin yaş grubu, ortaokul seviyesi STEM alanlarına yönelik ilgi ve tutum geliştirme ve bu doğrultuda mesleki yönelimde bulunma için en uygun yaş seviyelerinden biridir (George, Stevenson, Thomason ve Beane, 1992). Öğrenciler için uygulamalar, hafta içi ders saatleri içerisinde, sınıf ortamında gerçekleşmiştir. Araştırmaya başlamadan önce araştırmaya katılacak olan öğrenciler ve veliler araştırma hakkında bilgilendirilmiş ve "Gönüllü Katılım Formu" doldurtulmuştur. Uygulamaları araştırmacının kendisi gerçekleştirmiştir. 4 hafta boyunca dersler ile ilgili bütün süreçlerden araştırmacı sorumlu olmuştur.

Veri Toplama Aracı

Bu araştırmada öğrencilerin STEM'e yönelik tutumlarının belirlenmesi için Lin ve Williams'ın 2015 yılında geliştirdikleri, Hacıömeroğlu ve Bulut'un 2016 yılında Türkçe'ye uyarlayıp geçerlilik ve güvenirlik çalışmasını yaptığı "STEM Tutum Ölçeği" uygulanmıştır. Ölçek Fen, Matematik, Mühendislik ve 21. Yüzyıl Yetenekleri bölümlerinden oluşan 37 madde ve 5 faktörlü likert tipi ölçektir. Ölçeğe ilişkin öğrencilerin vermiş olduğu cevapların değerlendirilmesinde yedi aralık belirlenmiştir. Bu aralıklar kesinlikle katılmıyorum, katılmıyorum, kısmen katılmıyorum, kararsızım, kısmen katılıyorum, katılıyorum ve kesinlikle katılıyorum şeklinde kullanılmıştır. Ölçek hem sürecin başında hem de sonunda uygulanmıştır. Türkçe 'ye uyarlanan bu ölçeğin güvenirliği .94 olarak hesaplanmıştır (Hacıömeroğlu ve Bulut, 2016).

Öğrencilerin astronomiye yönelik tutumlarının belirlenmesi için de "Astronomi Tutum Ölçeği" kullanılmıştır. Ölçek, beşli likert tipinde 10 olumsuz, 5 olumlu ifade ile 15 yargı belirtmektedir. Her bir yargı kendi içinde, öğrencilerin astronomiye yönelik olumsuz tutumlarından olumlu tutumlarına doğru birden beşe kadar numaralandırılmıştır (1; kesinlikle katılmıyorum, 2; katılmıyorum, 3; kararsızım, 4; katılıyorum, 5; kesinlikle katılıyorum).Uygulanan astronomi ölçeği 75 puan üzerinden ele alınmıştır. Zeilik, Schau ve Mattern (1999) tarafından geliştirip Bilici, Armağan, Çakır ve Yürük (2012) tarafından Türkçeye uyarlanmıştır. Yapılan çalışmada ölçeğin iç tutarlık ve alt faktörlerin katsayıları belirlenmiştir. Güvenirlik katsayısı $\alpha=.80$ olarak bulunmuştur. Güvenirlik katsayısı dikkate alındığında bu değer .70'in çok üzerinde olduğu için ölçme aracının yeterli güvenirliğe sahip olduğuna karar verilmiştir ve veri toplamak üzere kullanılmıştır (Büyüköztürk, 2011). Alt faktörlerin güvenirlik düzeyleri incelendiğinde de alt faktörlerin oldukça güvenilir olduğu ($\alpha=.71$ ve $\alpha=.77$) tespit edilmiştir (Alpar, 2003).

Araştırma Çalışma Planı ve Uygulama Basamakları

Grup çalışması şeklinde yürütülen çalışmada 7.sınıf öğrencilerine veri toplama araçları olan "STEM Tutum Ölçeği'' ve "Astronomi Tutum Ölçeği'' süreç başında uygulanmıştır. Öğrencilere ölçekleri doldurmaları için kırkar dakika süre verilmiştir. Ölçekler sınıf ortamında uygulanmıştır. Ölçekler toplandıktan sonra araştırmanın deneysel uygulamalar kısmına geçilmiştir. Etkinliklerden önce araştırmacı tarafından öğrencilere Güneş Sistemi'ndeki gezegenlerin ve uydularının temel özellikleri, büyüklükleri ve uzaklıklarımın ölçeklendirerek birbiriyle karşılaştırılması ve Güneş Sistemi'ndeki diğer küçük gök cisimleri hakkında (cüce gezegenler, göktaşları, asteroitler, kuyruklu yıldızlar vb.) bilgilendirmeler yapılmıştır. STEM temelli etkinliklere geçilmeden önce öğrencileri güdülemek, astronomi konularına ısındırmak ve ilgilerini çekmek için bir takım ön etkinlikler gerçekleştirilmiştir. STEM eğitimi yaklaşımıyla hazırlanan etkinliklerin uygulanmasından önce uygulanan ön astronomi

etkinlikleri sonuçlarında öğrenciler diğer etkinliklerde grup içerisinde hangi görevi üstlenebileceği bilincine varmış ve öğrencilerin diğer etkinlikler için güdülendikleri gözlemlenmiştir.

Çalışmanın deneysel uygulamaları kısmında ön etkinliklerden sonra STEM temelli etkinlikler kısmına geçilmiştir. Çalışmanın bu kısmında araştırma öğrencilere teorik bilgiler verilmiş ve konu ile ilgili videolar izletilmiştir. Daha sonra öğrencilere senaryolar sunulmuş, verilen senaryodaki mevcut problem çözülürken astronomi derslerinde öğrendikleri bilgileri göz önünde bulundurmaları istenmiştir. Öğrencilerden her grup için birer meslek ve görev seçmeleri istenmiştir. Grupların probleme çözüm üretmek için araştırma yapmaları, Bilgi Edinme Defterlerini doldurmaları ve konuya ilişkin gereken bilgiler toplandıktan sonra grup tartışması yapılarak, verilen malzemeleri kullanarak ve sınırlandırmaları dikkate alarak ürünlerini oluşturmaları istenmiştir. Daha sonra öğrencilere Ürün Geliştirme Defteri dağıtılmış, öğrencilerin tasarladıkları ürünü çizmeleri, süreç içerisinde test etmeleri, rapor tutmaları sağlanmıştır. Malzemeler araştırmacı tarafından gruplara dağıtılmış ve araştırmacı gözetmenliğinde grupların STEM disiplinlerini kullanarak ürün tasarlamaları sağlanmıştır. Öğrenci Etkinlik Günlükleri etkinlik sonunda öğrencilere dağıtılmış ve öğrencilerden bireysel olarak doldurmaları istenmiştir. STEM temelli etkinlikler böylelikle sonlandırılmıştır. Dört hafta sonra çalışma grubuna ''Astronomi Tutum Ölçeği'' ve ''STEM'e Karşı Tutum Ölçeği'' uygulanmış ve çalışmanın uygulama süreci bitirilmiştir.

Verilerin Analizi

Verilerin analizinde parametrik testlerin veya parametrik olmayan yani nonparametrik testlerin kullanılıp kullanılmayacağını belirleyebilmek adına, verilerin normalliği kontrol edilmiştir. Verilerin normalliği analiz edilirken "Kolmogorov-Smirnov" ve "Shapiro-Wilk" test değerleri incelenir. Bu testlerde kullanılan verilerin sayısı 50 ve daha az ise "Shapiro- Wilk" testinin, verilerin sayısı 50 ve daha fazla ise "Kolmogorov-Smirnov" testinin kullanılması uygundur (Büyüköztürk, 2018). Bu çalışmanın çalışma grubu 50 kişinin altında olmasından dolayı verilerin homojenliğine "Shapiro-Wilk" testi sonuçlarına göre bakılmıştır. Elde edilen sonuçlara göre, çalışma kapsamında parametrik olmayan testler kullanılmıştır. Astronomi ölçeği toplam skoru ve STEM ölçeğinin alt boyut skorları ile total skorlarının ön test ve son test ortalamaları arasındaki fark Wilcoxon İşaretli Sıra Testi ile belirlenmiştir. W-istatistikleri 10'un üzerinde büyük gruplarda bağımlı ölçümlerde (pairedsamples) normal dağılımı tahmin etmek için kullanılır. W-istatistikleri t testinin parametrik olmayan alternatifidir ve bu yöntemde çok değişkenli normallik koşullarına gerek yoktur. Çalışmada istatistiksel anlamlılık sınırı $p < .05$ olarak kabul edilmiştir. Tüm istatistiksel analizler SPSS paket programı kullanılarak yapılmıştır.

Bulgular

Bu bölümde, araştırmanın amacına yönelik ortaya konulan alt problemlere ait istatistiksel çözümlemeler neticesinde ele alınan bulgular tablolar şeklinde verilmiş ve yorumlanmıştır. Bu sayede okuyuculara kolaylık sağlanmıştır.

Tablo 1. Katılımcıların STEM'e karşı tutumu ölçeği ön test- son test puanları

	N	Aritmetik ortalama	Standart sapma	Medyan	Minimum	Maksimum
STEM Matematik Alanı ön test	18	29,78	7,62	30,00	16,00	40,00
STEM Matematik Alanı son test	18	30,72	4,85	29,00	25,00	40,00
STEM Fen Alanı ön test	18	35,72	8,33	36,50	14,00	45,00
STEM Fen Alanı son test	18	39,39	5,27	40,50	25,00	45,00
STEM Mühendislik Alanı ön test	18	33,06	8,63	33,50	13,00	45,00
STEM Mühendislik Alanı son test	18	38,06	4,56	37,50	29,00	45,00
STEM 21.yy Becerileri Alanı ön test	18	44,17	9,18	45,50	19,00	55,00
STEM 21.yy Becerileri son test	18	47,17	6,16	47,50	28,00	55,00
STEM toplam ön test	18	133,89	27,82	139,00	50,00	167,00
STEM toplam son test	18	147,78	16,18	150,50	106,00	171,00

Astronomi Temelli STEM Etkinlikleri uygulanan öğrencilerin STEM uygulamalarına katılmadan önce ve katıldıktan sonra ''STEM'e Karşı Tutum'' ölçeğinde aldıkları ön test ve son test

sonuçları arasında anlamlı bir fark var mıdır?'' alt problemine ilişkin öğrencilere uygulanan STEM Tutum Ölçeği etkinlikler öncesinde ve etkinlikler sonunda uygulanmış ve veriler tablo haline getirilmiştir. Tablo 3'de ölçeğe ait Fen, Matematik, Mühendislik ve 21.yy. becerilerinin disiplinlerine tutum ölçeğinden alınan toplam puanların aritmetik ortalamaları, standart sapma, minimum ve maksimum değerler yer almaktadır.

Çalışma grubundaki öğrencilerin STEM temelli astronomi etkinliklerine katılmadan önce ve katıldıktan sonra Fen, Matematik, Mühendislik ve 21.yy becerileri disiplinlerine ait tutumlarının istatistiksel olarak anlamlı bir farklılık gösterip göstermediğine ilişkin yapılan Wilcoxon İşaretli Sıralar Testi sonuçları Tablo 2'de verilmiştir. Testten elde edilen sonuçlara göre Matematik disiplini için hesaplanan p değeri 0.48, Fen disiplini için hesaplanan p değeri 0.15, Mühendislik disiplini için hesaplanan p değeri 0.05, 21.yy becerileri için hesaplanan p değeri ise 0.36'dır. Bir test sonucunda bulunan p değeri 0.05'in altında bir değer ise karşılaştırma sonucunda anlamlı farklılık bulunduğu anlamına gelir. Araştırma sonuncunda yapılan istatistiki analiz STEM alanlarında ön test ve son test arasında anlamlı bir fark olmadığını göstermiştir. Mühendislik disiplini için hesaplanan p değeri için anlamlılık eğilimi(sınırda anlamlılık) yorumu yapılabilir (Kul, 2014).

Tablo 1: Ön Test ve Son Test sonrası Ortaokul Öğrencilerinin STEM'e Karşı Tutumu Ölçeği Puanlarının Wilcoxon İşaretli Sıralar Testi Sonuçları

		N	Ortalama sıra	Sıra toplamı	Z	p
STEM Matematik Alanı	Negatif Sıra	9	7.72	69.50	-0.69	0.48
	Pozitif Sıra	9	11.28	101.50		
	Eşit Sıra	0				
	Toplam	18				
STEM Fen Alanı	Negatif Sıra	4	8.75	35.00	-1.42	0.15
	Pozitif Sıra	11	7.73	85.00		
	Eşit Sıra	3				
	Toplam	18				
STEM Mühendislik Alanı	Negatif Sıra	4	8.88	35.50	-1.94	0.05
	Pozitif Sıra	13	9.04	117.50		
	Eşit Sıra	1				
	Toplam	18				
STEM 21.yy Becerileri Alanı	Negatif Sıra	7	7.21	50.50	-0.90	0.36
	Pozitif Sıra	9	9.50	85.50		
	Eşit Sıra	2				
	Toplam	18				
STEM Toplam	Negatif Sıra	6	8.08	48.50	-1.61	0.10
	Pozitif Sıra	12	10.21	122.50		
	Eşit Sıra	0				
	Toplam	18				

*p <.05

"Astronomi Temelli STEM Etkinlikleri uygulanan öğrencilerin STEM uygulamalarına katılmadan önce ve katıldıktan sonra Astronomiye Karşı Tutum'' ölçeğinde aldıkları ön test ve son test sonuçları arasında anlamlı bir fark var mıdır?'' alt problemine ilişkin öğrencilere uygulanan Astronomi Tutum Ölçeği etkinlikler öncesinde ve etkinlikler sonunda uygulanmış ve bulgular Tablo 3 ve Tablo 4'de verilmiştir.

Tablo 3. Katılımcıların astronomi tutum ölçeği ön test- son test puanları

	N	Ortalama	Standart sapma	Medyan	Minimum	Maksimum
Astronomi Ön Test	18	66.06	13.27	67.50	43.00	87.00
Astronomi Son Test	18	78.17	8.97	80.50	53.00	89.00

Wilcoxon İşaretli Sıralar Testi sonucu elde edilen değerler Tablo 4'de verilmiştir. Tablo incelendiğinde elde edilen p değeri 0,020 olarak bulunmuştur. Astronomi ölçeğinin eğitim öncesi ve eğitim sonrası puan ortalamasında istatistiksel olarak anlamlı bir artış görülmüştür. P değeri ile istatistiksel olarak anlamlılığı gösterdikten sonra iki test sonucu arasındaki farkın önemli olup olmadığı bir de etki büyüklüğü analizi ile incelenmiştir. Etki büyüklüğünün hesaplanmasında Cohen d değeri dikkate alınmıştır. Yapılan hesaplamada d değeri 1.06 olarak bulunmuştur. Bu değerin 0.80 ve üzeri olması büyük etki olarak nitelendirilir ve değişkenler arasındaki ilişkinin gücünü ifade eder. Etki büyüklüğü analiziyle astronomi tutum ölçeğindeki puan değerleri farkın tesadüfi olmadığını ve STEM eğitimine bağlanabileceği bir kez daha tespit edilmiştir.

Tablo 4. Ön test ve son test sonrası ortaokul öğrencilerinin astronomi tutum ölçeği puanlarının Wilcoxon İşaretli Sıralar testi sonuçları

		N	Ortalama sıra	Sıra toplamı	Z	P
Astronomi	Negatif Sıra	6	5.33	32.00	-2.33	0.02*
	Pozitif Sıra	12	11.58	139.00		
	Eşit Sıra	0				
	Toplam	18				

Tartışma, Sonuç ve Öneriler

Astronomi tarihi, insanın merak etmeye, hayal kurmaya ve düşünmeye başlamasıyla birlikte başlamış, ilkel zamanlardan günümüze kadar varlığını sürdürmüştür. Astronomi biliminin ilgilendiği konular insanlık için her zaman ilgi çekici olmuş, insanlığın ilgisi sonuncunda her zaman gelişimini sürdürmüştür. Dünya'nın ve evrenin işleyişini daha iyi anlamımıza yardımcı olan astronomi, matematik, mühendislik, teknoloji gibi diğer disiplinlerle de ilişkilidir. Astronomi ve uzay araştırmaları için geliştirilen birçok teknoloji, kodlama, bilgi ve beceri birikimi gelişmiş ülkelerin çoğunda diğer alanları beslemiş hatta temel oluşturmuştur. Örneğin tıp, endüstri, iletişim, enerji, savunma sanayii gibi alanlar astronomi ve uzay araştırmalarındaki gelişmeler sayesinde gelişen alanlardandır (Aslan, 2020).

Astronomi bilimin bu denli önemli olması astronomi eğitiminin ders programlarında yer alması ihtiyacını doğurmuş, bu doğrultuda ulusal ve uluslararası eğitim programlarında astronomi bilimi kendine yer bulmuştur. Ülkemizde TÜBİTAK 2018-2022 stratejik planı incelendiğinde astronomi, uzay bilimleri ve havacılık teknolojilerinin hızlı bir şekilde geliştirilmesi ve tanıtılmasına yönelik projelerin desteklenmesi gerektiğini vurgulamıştır. MEB, Fen Bilimleri Öğretim Programı'nda yer alan "Dünya ve Evren" konu alan adını taşıyan astronomi ve uzay bilimleriyle ilgili üniteleri fen bilimleri dersinin ilk üniteleri haline getirip astronomi bilimi ile ilgili kazanım sayısını öğretim programında arttırmıştır. Öğretim programında yer alan konuların öğrencilere kazandırılması hususunda geleneksel yöntemlerin aksine sorgulamaya dayalı, etkinlik temelli veya uygulamalı öğretme ve öğrenme faaliyetlerinin daha etkili olduğu bilinmektedir. Günümüzde popülerliği giderek artan ve öğrencileri öğrenme sürecine aktif olarak dahil eden eğitim yaklaşımlarından biri olan STEM eğitimi, astronomi eğitimini anlamlı kılmak için kullanılan yöntemlerden biridir.

Yapılan bu çalışmanın temel amacı astronomi temelli STEM etkinliklerin öğrencilerin astronomiye ve STEM'e yönelik tutumlarına etkisini tespit etmektir. Bu amaç doğrultusunda 7.sınıf ''Güneş Sistemi ve Ötesi'' ünitesinde yer alan ''Uzay teknolojilerini açıklar.'' ve '' Uzay kirliliğinin nedenlerini ifade ederek bu kirliliğin yol açabileceği olası sonuçları tahmin eder.'' Kazanımlarıyla ilgili bilgi temelli hayat problemleri hazırlanmış ve bu kazanımlarla ilgili STEM temelli etkinlikler uygulanmıştır. Etkinliklerin etkililiğini test etmek için süreç öncesinde ve sonrasında öğrencilere tutum ölçekleri uygulanmış, etkinlik sürecinde ise öğrencilerden bilgi edinme defteri, ürün geliştirme defteri ve öğrenci günlükleri etkinlik kağıtlarının doldurulması istenmiştir. Verilen bir problem karşısında çözüm ve ürün ortaya koyma konusunda öğrenciler kendi yaratıcılığını kullanmış ve süreç sonunda STEM temelli etkinliklerle üretilen özgün ürünler ortaya konmuştur.

Araştırmada etkinlikten önce öğrencilere ''STEM'e Karşı Tutum Ölçeği'' uygulanmış böylelikle STEM disiplinlerine karşı öğrencilerin ön bilgileri kontrol edilmiştir. Daha sonra astronomi konuları ile ilişkili olarak hazırlanan STEM etkinlikleri öğrenciler tarafından gerçekleştirilmiştir.

Etkinlikler gerçekleştirilirken öğrencilerin verilen bilgi temelli hayat problemine yönelik çözüm bulmaları ve tasarımlarını bu yönde oluşturmaları beklenmiştir. Etkinlikler sonunda öğrencilere STEM'e Karşı Tutum Ölçeği tekrar uygulanmış ve araştırmanın başındaki testle birlikte istatistiki analize tabi tutulmuştur.

Çalışma sonucu elde edilen bulgular incelendiğinde ön test ve son test puan ortalamaları arasında son test lehine anlamlı bir farklılık olmasına rağmen öğrencilerin STEM'e yönelik tutumlarında istatistiki olarak anlamlı bir fark bulunmamıştır. STEM disiplinlerinden Mühendislik alanında ön test ve son test arasındaki fark için ise istatistiksel olarak anlamlılık eğiliminde yorumu yapılmıştır. Selvi ve Yıldırım (2017) yaptıkları çalışmada, araştırmaya konu olan grubun STEM tutum ölçeği son test puanları arasında bir farklılaşmanın söz konusu olmadığını tespit etmiştir. Öğrencilerin STEM tutum puanları arasında anlamlı bir fark olmamasının sebebi öğrencilerin Fen ve Matematik derslerindeki akademik başarı düzeylerinin orta düzeyde olmasından kaynaklanıyor olabilir. Daha önce yapılan çalışmalarda Matematik dersi akademik başarısı yüksek olan öğrencilerin bu derse yönelik tutumlarının da yüksek düzeyde olduğu ortaya konmuştur (Kalın, 2010; Kutluca, 2017; Sezgin, 2013 akt. Tabuk, 2019). Baş ve Şentürk (2016) ise öğrencilerin fen tutumları ile Fen Bilimleri dersi akademik başarıları arasında anlamlı bir ilişki olduğunu yaptığı çalışmada ortaya koymuştur. Yine Bilim ve Sanat Merkezleri'nde öğrenim gören özel yetenekli çocuklar ile yapılan çalışmalarda bu öğrencilerin Fen ve Matematik alanlarında akademik başarılarının yüksek olduğu ve bu öğrencilerin STEM'e karşı tutumlarının da yüksek düzeyde olduğu görülmüştür (Bircan ve Köksal 2020; Yazar, 2019).

Öğrencilere etkinlik başında ve sonunda uygulanan Astronomi Tutum Ölçeği sonucu elde edilen veriler yapılan istatistiki analizler sonucunda yorumlanmış ve ön test ve son test puanları arasında anlamlı bir farklılık tespit edilmiştir. Etkinlikler öğrencilerin astronomiye karşı tutumlarını pozitif yönde arttırmıştır. Astronomi Tutum Ölçeği'nde kaydedilen istatistiksel olarak anlamlı değişiklik beklentilerle uyumludur. Yapılan etkinlikler kısıtlı zaman ve imkanlarla gerçekleştirilmiş ve çalışmanın amacına uygun olarak astronomi alanıyla sınırlı olarak tutulmuştur. Dolayısıyla diğer tutum ölçeklerinde kayda değer bir değişim kaydedilmesi için benzer etkinliklerin çoğaltılması gerektiği söylenebilir. Ancak astronomi alanına odaklanan etkinlikler çalışma grubunda hızlı bir şekilde olumlu etki göstermiş ve grubun astronomiye olan tutumunda istatistiksel olarak anlamlı ve pozitif bir değişiklik gözlemlenmiştir. Aynı zamanda sunuş yoluyla anlatılan astronomi derslerinde öğrenciler astronominin kendilerinin hiçbir zaman ulaşamayacağı bir alan olarak düşünürken etkinlikler sonucu ortaya koydukları somut ürünlerle uzayın aslında erişilmesi zor bir alan olmadığını da deneyimlemiştir. Daha önce yapılan çalışmalarda astronomi tutumu farklı etkinliklerle ölçülmüştür. Otantik öğrenme etkinliklerinin öğrencilerin astronomiye yönelik tutumları üzerinde büyük etkiye sahip olduğu görülmüştür (Arslan vd., 2020). Yapılan başka bir çalışmada yaparak ve yaşayarak öğrenme yönteminin 5.sınıf öğrencilerinde astronomi tutumunu arttırdığı görülmüştür (Doğaç ve Gök, 2020). Taşcan (2019), astronomi üzerine geliştirilen fen etkinliklerinin 5.sınıf öğrencilerinin uzamsal becerileri ve akademik başarıları üzerinde olumlu bir etkiye sahip olduğunu saptamıştır. Güngen (2019), astronomi ve uzay bilimleri temelli uygulamalarla hazırlanan STEM etkinliklerinin, astronomi kamplarında ve atölyelerinde uygulanmasıyla birlikte, bireyleri astronomiye yönelik yenilikçi fikir geliştirebilmelerine teşvik ettiğini belirtmiştir. Bu çalışmadan elde edilen sonuçlar dikkate alınarak araştırma konusuyla ilgili çalışmalar yapmak isteyen araştırmacılara önerilerimiz aşağıdaki gibidir;

- Çalışma 7.sınıf Fen Bilimleri ''Güneş ve Ötesi'' ünitesi ile sınırlı kalmıştır. Çalışma sonucunda elde edilen veriler dikkate alınarak öğrencilerin astronomi tutumlarını geliştirmek için diğer astronomi konularına yönelik STEM ders planları hazırlanıp uygulanabilir.
- Araştırmaya konu olan çalışma grubunun büyüklüğü sınırlı sayıda kalmış, bu yüzden çalışma grubu deney ve kontrol grubu olarak ayrılamamıştır. Bir sonraki çalışmalarda örneklem büyüklüğü arttırılabilir.
- STEM etkinlikleri tasarlanırken öğrencilerin yaşam alanlarının köy olduğu ve çalışmanın laboratuvar olmayan bir köy okulunda yürütüldüğü dikkate alınarak öğrencilerin ulaşması kolay malzemelerle etkinlikleri gerçekleştirmesi beklenmiştir. Araştırmacılar uygulayacağı STEM temelli etkinler için kodlama ve robotik alanlarını kullanabilir.
- Astronomi konusunda uzman bir akademisyen, astronom veya uzay mühendisinin araştırma ortamına dahil edilmesi süreci öğrenciler açısından daha ilgi çekici ve eğlenceli hale getirebilir.

- Araştırmacı, çalışmada öğrencilere doldurtacağı öğrenci etkinlik günlüklerindeki ifadelerden faydalanarak çalışmaya betimsel analiz boyutu da ekleyip çalışmanın kapsamını genişletebilir.

Teşekkür

Kaynakça

Alıcı, M. (2018). *Probleme dayalı öğrenme ortamında STEM eğitiminin tutum, kariyer algı ve meslek ilgisine etkisi ve öğrenci görüşleri* (Yayımlanmamış Yüksek Lisans Tezi). Kırıkkale Üniversitesi Fen Bilimleri Enstitüsü, Kırıkkale.

Arslan, A., Keserci, G. ve Akyüz, A. (2020). Otantik öğrenme etkinliklerinin öğrencilerin fen bilimleri ve astronomiye yönelik tutumları ile çevre bilincine etkisinin incelenmesi. *Karaelmas Eğitim Bilimleri Dergisi,* 8(1).

Arslan, Ö. ve Yıldırım, B. (2020). STEM uygulamalarının öğretmen adaylarının öz-yeterlikleri, pedagoji ve alan bilgisi üzerine etkisi. *İnönü Üniversitesi Eğitim Fakültesi Dergisi, 21*(3), 1339-1355.

Avan Ç., Gülgün, C., Yılmaz, A. ve Doğanay, K. (2019). STEM eğitiminde okul dışı öğrenme ortamları: Kastamonu Bilim Kampı. *Journal of STEAM Education*, *2*(1), 39-51.

Bahar, M., Yener, D., Yılmaz, M., Emen, H. ve Gürer, F. (2018). Fen bilimleri öğretim programı kazanımlarındaki değişimler ve fen teknoloji matematik mühendislik (STEM) entegrasyonu. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi, 18*(2), 702-735.

Bampasidis, G., Galani, A. & Koutromanos, G. (2019). Astronomy in education: Simulating space research experiment in the classroom by writing computer codes. 10.2801/645011.

Banks, F. & Barlex, D. (2014). *Teaching STEM in the secondary school: Helping teachers meet the challenge.* Routledge.

Baz, F. Ç. (2019). STEM eğitim döngüsüne Bloom taksonomisi çerçevesinde bakış. *Academia Eğitim Araştırmaları Dergisi*, *4*(2), 142-150.

Becker, K. & Park, K. (2011). Effects of integrative approaches among science, technology, engineering, and mathematics (STEM) subjects on students' learning: A preliminary meta-analysis. *Journal of STEM Education: Innovations & Research,* 12(5).

Bilici, S. C., Armağan, F. Ö., Çakır, N. K. ve Yürük, N. (2012). Astronomi tutum ölçeğinin Türkçe'ye uyarlanması: Geçerlik ve güvenirlik çalışması. *Journal of Turkish Science Education, 9*(2), 116-127.

Bircan, M. A. ve Köksal, Ç. (2020). Özel yetenekli öğrencilerin STEM tutumlarının ve STEM kariyer ilgilerinin incelenmesi. *Turkish Journal of Primary Education*, *5*(1), 16-32.

Büyüköztürk, Ş. (2017). *Sosyal bilimler içi veri analizi el kitabı. (23. Baskı).* Ankara: Pegem Akademi Yayıncılık.

Bybee, R. W. (2010). Advancing STEM education: A 2020 vision. *Technology and engineering teacher, 70*(1), 30-35.

Bybee, R. W. (2013). *The case for STEM education: Challenges and opportunities*. NSTA press.

Californians Dedicated to Education Foundation. (2014). *Innovate: A blue print for science, technology, engineering, and mathematics in California public education.* Erişim adresi: https://www.cde.ca.gov/pd/ca/sc/documents/innovate.pdf

Chute, E. (2009). *STEM education is branching out: Focus shifts from making science, math accessible to more than just brightest.* Pittsburg Post-Gazette. Erişim adresi: http://www.postgazette.com/news/education/2009/02/10/STEM-education-is-branching out/stories/ 200902100165 adresinden 16.02.2020 tarihinde erişilmiştir.

Çavaş, P., Aslıhan, A. ve Gürcan, G. (2020). Türkiye'de STEM eğitimi üzerine yapılan araştırmaların durumu üzerine bir çalışma. *Yüzüncü Yıl Üniversitesi Eğitim Fakültesi Dergisi, 17*(1), 823-854.

Danaia, L. (2006). *Students' experiences, perceptions and performance in junior secondary school science: An intervention study involving a remote telescope*. Erişim Adresi: https://researchoutput.csu.edu.au/ws/portalfiles/portal/30205687/Danaia_thesis_reduced.pdf

Daşdemir, İ., Cengiz, E. ve Aksoy, G. (2018). Türkiye'de FeTeMM (STEM) eğitimi eğilim araştırması. *Yüzüncü Yıl Üniversitesi Eğitim Fakültesi Dergisi, 15*(1), 1161-1183.

Delen, İ. ve Uzun, S. (2018). Matematik öğretmen adaylarının FeTeMM temelli tasarladıkları öğrenme ortamlarının değerlendirilmesi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, *33*(3), 617-630.

Demir, E. S. (2019). *STEM eğitim yaklaşımı ile ilişkili kavramlar hakkında akademisyen görüşleri.* (Yayımlanmamış Doktora Tezi), Kastamonu Üniversitesi Eğitim Bilimleri Enstitüsü, Kastamonu.

Demirbaş, M. ve Yağbasan, R. (2005). Türkiye'deki ortaöğretim kurumlarında uygulanan fen öğretim programlarının analizi: modern fen öğretim programı uygulamaları. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi, 6*(2), 33-51.

Deveci, İ. (2018). Türkiye'de 2013 ve 2018 yılı fen bilimleri dersi öğretim programlarının temel öğeler açısından karşılaştırılması. *Mersin University Journal of theFaculty of Education, 14*(2), 799-825.

Doğan, A., Kıs, E. ve Cançelik, M. (2015). 19 Şubat 2020 tarihinde www.kodokulu.weebly.com adresinden erişilmiştir.

Eide, A. R., Jenison, R. D., Mickelson, S. K. & Northrup, L. L. (2018). *Engineering Fundamentals and problem solving*. New York McGraw Hill Education.

Elmas, R. ve Gül, M. (2020). STEM eğitim yaklaşımının 2018 Fen bilimleri öğretim programı kapsamında uygulanabilirliğinin incelenmesi. *Türkiye Kimya Derneği Dergisi Kısım C: Kimya Eğitimi, 5*(2), 223-246.

English, L. D. (2016). STEM education K-12: Perspectives on integration. *International Journal of STEM Education, 3*, 1-8.

Fraenkel, J.R., Wallen, N.E. & Hyun, H.H. (2012*). How to design and evaluate research in education.* New York: McGraw Hill Education.

Gao, X., Li, P., Shen, J. & Sun, H. (2020). Reviewing assessment of student learning in interdisciplinary STEM education. *International Journal of STEM Education, 7*(1), 1-14.

Gardner, D. P. (1983). *A nation at risk: The imperative for educational reform: A report to the nation and the Secretary of Education,* United States Department of Education. The Commission.

Gardner, H. (2004). *Çoklu zekâ kuramı: Zihin çerçeveleri. (Çev. E. Kılıç)*. Kocaeli: Alfa Yayınları. (Eserin orijinali 1983'te yayımlandı).

Gencer, A. S., Doğan, H., Bilen, K. ve Can, B. (2019). Bütünleşik STEM eğitimi modelleri. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi*, *45*(45), 38-55.

Gonzalez, H. B. & Kuenzi, J. J. (2012). *Science, technology, engineering, and mathematics (STEM) education: A primer.* Washington, DC: Congressional Research Service, Library of Congress.

Gök, F. (2020). Yaparak yaşayarak öğrenme yönteminin 5.sınıf öğrencilerinin astronomiye karşı tutumlarına ve fen öğrenme motivasyonlarına etkisi. *Türkiye Eğitim Dergisi, 5*(2), 285-301.

Gülhan, F. ve Şahin, F. (2016). Ortaokul öğrencilerinin STEAM (Bilim, Teknoloji, Mühendislik, Matematik, Sanat) alanlarıyla ilgili algılarının metaforlar aracılığıyla belirlenmesi. *Düzce Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 10*(1), 131-148.

Güneş Varol, D. (2020). *Tasarım temelli STEM eğitimi etkinliklerinin 7. sınıf öğrencilerinde akademik başarılara, STEM'e yönelik tutumlara ve STEM meslek ilgisine olan etkisinin belirlenmesi.* (Yayımlanmamış Yüksek Lisans Tezi), Fırat Üniversitesi Eğitim Bilimleri Enstitüsü, Elazığ.

Güngen, S. (2019). *Astronomi ve uzay bilimleri temelli uygulamalarla hazırlanan STEM kampları.* (Yayımlanmamış Yüksek Lisans Tezi), Ege Üniversitesi Eğitim Bilimleri Enstitüsü, İzmir.

Hacısalihoğlu, H. (2006). Matematik öğretimi ve astronomi. 2006 Tam Güneş Tutulması ve Astronominin Fen Bilimleri Eğitimindeki Yeri Sempozyumu'nda sunulmuş bildiri.

Hacıömeroğlu, G. ve Bulut, A. S. (2016). Entegre FETEMM öğretimi yönelim ölçeği Türkçe formunun geçerlik ve güvenirlik çalışması. *Eğitimde Kuram ve Uygulama, 12*(3), 654-669.

Haik, Y., Sivaloganathan, S. & Shahin, T. (2018). *Engineering design process*. Nelson Education.

Harlen, W. (2015). *Working with big ideas of science education.* Trieste (Italia): Science Education Programme of IAP.

Hristova, T. T. (2015). Innovative practices and technologies in educational projects of European School netand the project". *Scientix. Bulgarian Chemical Communications, 47,* 505-508.

Kalkan, Ç. (2020). İlkokulda STEM eğitimi yoluyla astronomi ve uzay bilimleri kariyer farkındalığı gezisi: Kayseri ili örneği. *Turkish Journal of Astronomy and Astrophysics, 1*(2), 679-679.

Kanpolat, Y. ve Erözel, A. (2011). Dünden bugüne sorgulamaya dayalı eğitim. *TÜBA Güncel*, *42,* 25-28.

Kaya, A. (2020). Türkiye örnekleminde STEM eğitimi alanında yapılan çalışmaların içerik analizi. *İstanbul Aydın Üniversitesi Eğitim Fakültesi Dergisi*, *6*(2), 275-306.

Keçeci, G., Alan, B. ve Kırbağ Zengin, F. (2017). 5. sınıf öğrencileriyle STEM eğitimi uygulamaları. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi, 18*, 1-17.

Kelley, T. R. & Knowles, J. G. (2016). A conceptual framework for integrated STEM education. *International Journal of STEM Education*, *3*, 1-11.

Kennedy, T. J. & Odell, M. R. L. (2014). Engaging students in STEM education. *Science Education International, 25*(3), 246-258.

Milli Eğitim Bakanlığı. (2016a). *STEM eğitimi raporu*. Erişim adresi: http://yegitek.meb.gov.tr/STEM_Egitimi_Raporu.pdf

Milli Eğitim Bakanlığı. (2018). *Scientix projesi: Proje tanımı.* Erişim adresi http://scien tix. meb.gov.tr/

Mohr-Schroeder, M. J., Cavalcanti, M. & Blyman, K. (2015). *STEM education: Understanding the changing land scape.* In A practice-based model of STEM teaching (pp. 3-14). Brill Sense.

National Research Council (2012). *A Framework for K-12 science education: Practices, cross cutting concepts, and coreideas.* Washington, DC: The National Academic Press.

OECD. (2018). *Turkey Student Performance 2018.* https://gpseducation.oecd.org/CountryProfile?primaryCountry=TUR&treshold=10&topic=PI

Okulu, H. Z. (2019). *STEM eğitimi kapsamında astronomi etkinliklerinin geliştirilmesi ve değerlendirilmesi.* (Yayımlanmamış Doktora Tezi), Muğla Sıtkı Koçman Üniversitesi Eğitim Bilimleri Enstitüsü, Muğla.

Özcan, H. ve Koca E. (2019). STEM'e yönelik tutum ölçeğinin Türkçe'ye uyarlanması: Geçerlik ve güvenirlik çalışması. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, *34*(2), 387-401.

Özçelik, A. ve Akgündüz, D. (2018). Üstün/özel yetenekli öğrencilerle yapılan okul dışı STEM eğitiminin değerlendirilmesi. *Trakya Üniversitesi Eğitim Fakültesi Dergisi, 8*(2), 334-351.

Pekbay, C., Yavuz, S. ve Kaptan, F. (2020). Ortaokul öğrencilerinin STEM eğitim yaklaşımına dayalı olarak hazırlanan etkinlikler ile ilgili görüşleri: Yeşil Mühendislik Etkinlikleri. *İnönü Üniversitesi Eğitim Fakültesi Dergisi*, *21*(2), 840-857.

Rosholt, R. L. (1966). *An administrative history of NASA, 1958-1963* (No. NASA-SP-4101).

Sanders, M. (2009). STEM, STEM education, STEM mania. *Technology Teacher, 68*(4), 20-26.

Sharma, J. & Yarlagadda, P. K. (2018). Perspectives of 'STEM education and policies' for the development of a skilled work force in Australia and India. *International Journal of Science Education, 40*(16), 1999-2022.

Siouli, S., Dratsiou, I., Antoniou, P. E. & Bamidis, P. D. (2018). Primary School STEM Education Through Co-Creative Methodologies. *In Cc-Tel/Tackle@ Ec-Tel.*

Taşcan, M. (2019). *Astronomi eğitimi üzerine geliştirilen fen etkinliklerinin 5. sınıf öğrencilerinin uzamsal becerileri ve akademik başarıları üzerine etkisi.* (Yayımlanmamış Doktora Tezi), İnönü Üniversitesi Eğitim Bilimleri Enstitüsü, Malatya.

Taşçı, M. ve Şahin, F. (2020). Tersine mühendislik uygulamalarının ortaokul öğrencilerinin akademik başarı ve problem çözme becerilerine etkisi. *Necatibey Faculty of Education Electronic Journal of Science & Mathematics Education, 14(1),* 387-414.

Tekin Poyraz, G. (2018). *STEM eğitimi uygulamasında Kayseri ili örneğinin incelenmesi ve uzaktan STEM eğitiminin uygulanabilirliği.* (Yayımlanmamış Yüksek Lisans Tezi), Anadolu Üniversitesi, Eskişehir.

Tunca, Z. (2002). Türkiye'de ilk ve orta öğretimde astronomi eğitim öğretiminin dünü, bugünü, *V. Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi*, Ankara.

Türk Sanayicileri ve İş İnsanları Derneği (2014). *STEM alanında eğitim almış işgücüne yönelik talep ve beklentiler araştırması.* İstanbul: SİS Matbaacılık.

Türk Sanayicileri ve İş İnsanları Derneği (2017). *2023'e doğru Türkiye'de STEM gereksinimi.* Erişim adresi: https://www.tusiadstem.org/images/raporlar/2017/ STEM-Raporu-V7.pdf

Ulutan, E. (2018). *TEOG fen bilgisi başarısını etkileyen değişkenlerin çok düzeyli regresyon modeli ile incelenmesi.* (Yayımlanmamış Yüksek Lisans Tezi), Hacettepe Üniversitesi Eğitim Bilimleri Enstitüsü, Ankara.

Vasquez, J. A., Sneider, C. I. & Comer, M. W. (2013). *STEM lesson essentials, grades 3-8: Integrating science, technology, engineering, and mathematics* (pp. 58-76). Portsmouth, NH: Heinemann.

West, S. S., Vasquez-Mireles, S. & Coker, C. (2006). Mathematics and/or science education: Separate or integrate. *Journal of Mathematical Sciences and Mathematics Education, 1*(2), 11-18.

Wissehr, C., Concannon, J. & Barrow, L. H. (2011). Looking back at the Sputnik era and its impact on science education. *School, Science and Mathematics*, 111(7), 368-375.

World Economic Forum, (2016). What are the 21st-century skills every student needs? https://www.weforum.org/agenda/2016/03/21st-century-skills-future-jobs-students/ (Erişim tarihi: 06.12.2020)

Yamak, H., Bulut, N. ve Dündar, S. (2014). 5. sınıf öğrencilerinin bilimsel süreç becerileri ile fene karşi tutumlarına FeTeMM etkinliklerinin etkisi. *Gazi Üniversitesi Gazi Eğitim Fakültesi Dergisi, 34*(2), 249-265.

Yazar, F. (2019). *STEM yaklaşımının fen derslerine yansımasına yönelik bir uygulama: çocuk üniversitesi örneği.* (Yayımlanmamış Yüksek Lisans Tezi), İnönü Üniversitesi Eğitim Bilimleri Enstitüsü. Malatya.

Yıldırım, P. (2017). Fen, teknoloji, mühendislik ve matematik (STEM) entegrasyonuna ilişkin nitel bir çalışma. *Atatürk Üniversitesi Kazım Karabekir Eğitim Fakültesi Dergisi, (35)*, 31-55.

Examination of English Theses Written on "Critical Thinking" in Türkiye between 2000-2021

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Abstract

The aim of the research is to evaluate the master's and doctoral theses written in English on critical thinking in our country according to various criteria. Postgraduate theses were accessed from the website of the Council of Higher Education by writing "critical thinking" in the thesis scanning part. In the study, 57 theses, which were written between the years 2000-2021 and have permission to be published, were analyzed by content analysis method. Data were analyzed using SPSS. According to the results obtained, these studies, most of which are master's theses, are mostly carried out with female researchers, the theses are mostly consulted by male faculty members, professor doctor faculty members provide thesis advisory more than others and it has also been observed that more studies are carried out on critical thinking especially in Middle East Technical and Çukurova Universities on the basis of universities, and in the Central Anatolia Region on a regional basis. In addition, considering the years when the theses were made, it has been concluded that more theses were made between 2015-2021, it was preferred more to have three-person thesis juries, the number of pages between 101-200 and titles consisting of 11-20 words, also, there are more theses with 0-5 sub-problems, more students' opinions are taken, the sample size is mostly between 0-5 and there are studies conducted with the mixed method.

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Introduction

In today's information age, while people have to cope with many variables at the same time, they also need to maintain healthy social relations, develop the ability to adapt to the environment and protect it. It is not enough to access information in this context because how to integrate knowledge into everyday life is also of great importance, and the way one thinks also shapes one's behavior.

We live in the world of information and the amount of information is increasing every day. Both increased dependence on science and technology and other rapid innovations require people with the skills to successfully find and implement this information. People should know to think critically, think carefully, be able to simplify a problem in the complexities of the changing world. As Albert Einstein once said, "everything should be as simple as possible, but not simpler." Learning critical thinking to keep up with the rapidly changing world is becoming one of the most important skills. People need the ability to think critically (CT) to not only take advantage of the world's great opportunities but also to direct their lives and learning.

Critical thinking has a vital importance in modern education today as it was 2400 years ago. That's why researchers are looking for the best ways to teach critical thinking to students, especially younger students. Critical thinking is not a skill that every individual has, but it is a skill that can be developed when supported (Demirel, 1999). The development of critical thinking is built on a set of pioneering skills that develop from early childhood through adolescence and adulthood. Therefore, there are many factors that affect the development of critical thinking (Ormrod, 2018). Pioneering skills such as social and emotional development, experience, play, communication, mental representations of the environment, and abstract thinking skills form the basis of critical thinking skills in children (Murphy, et al., 2014). Shaw (1997) states that education can and should be done to influence social, moral and intellectual discovery by stimulating critical thinking behaviors in young people. Developing students' critical thinking skills is an important part of education, while education prepares students for real-life challenges. In the last few decades with the increasing importance of education, most of the teachers / trainers are trying to focus on activities that develop students' critical thinking skills.

Although critical thinking is a seemingly new concept and its importance is mostly accepted, it has a long history dating back to ancient Greek times (Facione, 1990). Critical thinking, one of the high-level thinking skills, has been one of the most widely researched and discussed agendas among educators, scholars, and scientists, as it has benefited individuals from facilitating their efforts to understand the world. In addition, critical thinking increases the quality of thought and human life quality by enabling one to get away from lies, misconceptions, dogmas, false beliefs and baseless arguments (Presseisen, 1985).

Since the beginning of critical thinking was based on Ancient Greece, Socrates was the first to define it. Socrates made people think by asking questions in his time. Today, this method is known as Socratic method of interrogation. Davis (2003) says this method is the most popular method of critical thinking. Davis (2003) offers teachers suggestions on how to conduct Socratic interrogation in a learning environment. According to him, in his critical thinking model teachers should respect the ideas of the students, repeat what is spoken at certain intervals, not ask yes/no questions, wait a few seconds before receiving answers from the student, schedule course flow and ask important questions, ask clear, understandable questions, continue the discussion environment in the classroom and draw the attention of the students to the discussion.

According to Özmen (2008), Socrates' method of questioning was persistent and cynical as it showed people that they did not know much about what they were thinking. However, since the beginning of the last century, critical thinking has become easier to understand, starting to become more involved in cognitive work. According to Lewis and Smith (1993), while psychologists tried to define critical thinking, they also emphasized problem solving. According to Bailin (2002), researchers tried to observe behaviors and skills to define critical thinking, since it is impossible to observe the stages of thinking. Sternberg (1986) defines critical thinking as a process. According to him, critical thinking is a technique that people use to solve problems, make decisions and explore

new perspectives. According to Willingham (2008), critical thinking; multidimensional approach to the problem, being open to new ideas and reasoning logically.

One of the most important definitions of critical thinking was made in a panel of the American Philosophical Association, in which a group of theorists and critical thinking and evaluation experts took part. In this panel, critical thinking skills were divided into 'cognitive' and 'dispositional'. After the panel, after two years of work, the Delphi report was published and the Delphi technique was defined as the attitude of self-control that resulted in critical thinking, analysis, inference, and interpretation (Demir, 2008).

As can be seen, many different definitions and studies have been put forward about critical thinking. In fact, this subject has attracted the attention of many disciplines and has been the subject of studies in the field of education. With the aim of integrating critical thinking into education, in 1956 Benjamin Bloom and a group of educators developed a framework for classifying the goals and objectives of education. This system, which extends from remembering information to evaluation, consists of six categories and each layer has a different level of thinking skill. When ordered from simple to complex; this classification, which is knowledge-comprehension-application-analysis-synthesis-evaluation, was rearranged in 2001 by Lorin Anderson and a group of cognitive psychiatrists. While 'synthesis' is in the fifth rank in Bloom's taxonomy, it is in the sixth rank under the name of 'creation' in the rearranged form. In the field of education, the 'creation' step is known as the highest critical thinking skill.

One of the educational goals of our age is to equip individuals with the highest level of thinking skills. In order to achieve this, it is necessary to make students adopt the concept of critical thinking. Critical thinking should be taught to students from an early age because this skill enables students to critically look at different situations in daily life and facilitates the processes of keeping up with the flow of life. It is the duty of teachers to provide students with intellectual equipment and to prepare them for the information age.

Many people have trouble forming their thoughts in a logical and coherent order. Therefore, the difficulties faced by a critical thinker also differ from person to person. To clarify this issue, some researchers have divided these difficulties into groups. Vaughn (2010) suggested that there are two barriers to critical thinking. The first is the obstacles to how we think, and the other is the difficulties about what we think. The first of these obstacles is related to psychological factors such as our motivation and desires, and the second is the obstacles that arise as a result of philosophical decisions. As knowledge accumulates over time, some people accept information directly without questioning it. However, this is a wrong attitude. Because the critical thinker never says enough about knowledge. He even continues to question the knowledge he has. "Knowledge is a prerequisite but not sufficient. It is also necessary to understand the principles that govern a particular field" (Momentus, Snippets, Spirals, 2013).

In the mid-20th century, it was John Dewey who first used the terms "critical/reflective thinking" in the field of education. According to him, education should serve to develop the ability to "learn to think". In the light of Dewey's ideas, students were placed at the center of the teaching and learning environment. Teaching methods and techniques such as cooperative learning and role-playing were designed in accordance with Dewey's ideas.

In summary, the tools and resources of the critical thinker have greatly increased throughout the history of CT, and a large number of well-known names dealing with various major disciplines have contributed to its development. What is most important in the field of education, however, is the development of basic standards for critical thinking.

In the modern era, critical thinking is seen as a vital element in education because it is believed to improve students' ability to understand arguments significantly and help students critically evaluate what they have learned in the classroom in order to produce well. In the modern era, critical thinking is seen as a vital element in education because it is believed to improve students' ability to understand arguments significantly and help students critically evaluate what they have learned in the classroom in order to produce well. Critical thinking activities should be designed critically and used in teaching and learning to stimulate students' minds and provide them with the opportunity to analyze

and synthesize situations. When we look at the literature, it is seen that the thesis or article reviews on critical thinking (Akkaş and Memiş, 2020; Batur and Özcan, 2020; Gönül, Başar and Demir, 2021) have been increasing in recent years in our country. However, since these studies do not specifically focus on critical thinking theses written in English, this study aims to analyze postgraduate theses written in English for the sake of critical thinking.

Method

Within the scope of this research, first of all, the English theses, which were published when the keywords "Critical Thinking" were typed on the thesis search page of the Council of Higher Education and were allowed to be published, were downloaded. 57 studies between the years 2000-2021 obtained from the survey were subjected to detailed examination. In this direction, while determining the theses to be examined, attention was paid to the fact that the theses were in the field of education.

Study group

The study group of the research consists of 47 master's theses and 10 doctoral theses written in English on "critical thinking" in the field of education. These theses were conducted in Türkiye between the years 2000 and 2021, and they are allowed to be accessed in the National Thesis Center. While determining the documents, the criteria that were taken into consideration were the theses being accessible at the National Thesis Center and the content of the theses being about critical thinking.

Data Collection Tool

In the study, which was prepared by adopting the qualitative research method, the data were obtained by the document analysis method. In the analysis of the data, a form consisting of 20 predetermined criteria was used. The criteria were determined according to the criteria in previous similar studies. The data was collected based on graduating degree of the study (master's – doctoral thesis), gender of the author, gender of the advisor, the title of the advisor, the geographical region of the university, the university, institute and year of the thesis, the number and titles of the jury participating in the defense, the number of words in the title of the thesis, the location of the research, the number of pages of the thesis, the number of sub problems/objectives, the method used, the distribution of techniques and models, the distribution of thematic topics, the sample size, the number of results, the number of suggestions given and the number of resources used.

Data analysis

The data of the postgraduate theses examined with the help of the SPSS package program were tried to be analyzed and the findings were tabulated and interpreted according to the sub-problems. Data is collected according to graduate degree of the study (master's-doctoral thesis), gender of the author, gender of the consultant, title of the consultant, geographical region of the university, university where the thesis was written, institute and year of the thesis, the number and titles of the jury participating in the defense, the number of words in the title of the thesis, the location of the research, the number of pages of the thesis, the number of sub-problems/objectives, the method used, the technique and model distribution, the thematic topic distribution, the sample size, the number of results reached, the number of suggestions given and the number of resources used.

Findings

Findings are arranged in tables in accordance with the order of the sub-problems addressed in the research.

Table 1. Situation of thesis by graduate degree

Postgraduate degree	Frequency (f)	Percent (%)
Master	47	82.4
Doctor's Degree	10	17.5
Total	57	100.0

Looking at Table 1, it is understood that master's theses on critical thinking outnumber doctorate theses. 82.4% of these theses are master's theses and 17.5% are doctorate theses. The reason

for the high number of master's theses can be shown as the fact that there are more master's programs in universities.

Table 2. Situation in terms of thesis author's gender

Gender	Frequency (f)	Percent (%)
Female	38	66.6
Male	19	33.3
Total	57	100.0

Looking at the Table 2, it is seen that the number of male researchers is less than the number of female researchers on critical thinking. 66,6% of the theses studied in the reseach were prepared by women and 33,3% of the theses were prepared by men. This may be due to the fact that the number of female students in master's and doctoral programs is higher than the number of male students.

Table 3. Situation in terms of the thesis advisor gender

Gender	Frequency (f)	Percent (%)
Female	25	43.8
Male	31	54.3
Unspecified	1	1.7
Total	57	100.0

Looking at Table 3, it is seen that male faculty members mostly provide in counseling in postgraduate studies on critical thinking. In these studies, 54,3 % of the advisors were male, while 48,8% were female advisors. The reason for this may be that male advisors participate more in studies on critical thinking. Another reason may be that the number of male academicians is higher than the number of female academicians.

Table 4. Situation in terms of thesis advisor's title

Title	Frequency (f)	Percent (%)
Professor	20	35.8
Associate Professor	16	28.7
Assistant Professor	9	15.7
Doctoral Lectural (Dr)	11	19.2
Unspecified	1	1.7
Total	57	100.0

When Table 4 is examined, it is seen that mostly the professors provide the advisory in the studies on critical thinking. Accordingly, 35,8% of the advisors are professors, 28,7% are associate professors, 15,7 % are assistant professors, and 19,2% are doctoral lecturers. The fact that a high percentage of doctoral or graduate students have worked with professors in these theses on critical thinking shows that these studies are carried out under the supervision of expert in the field.

Table 5. Situation in terms of the geographical region of the university

Geographical region	Frequency (f)	Percent (%)
Central Anatolia	24	42.1
Marmara	15	26.3
Mediterrenian	12	21.5
Black Sea	2	3.5
Aegean	2	3.5
Eastern Anatolia	2	3.5
Total	57	100.0

When Table 5 is examined, it is seen that the theses on critical thinking are mostly studied in the universities which are located in the Central Anatolia Region with the rate 42,1%. The fact that the number of universities in the Central Anatolia Region is higher than other regions directly affects the number of master's and doctoral programs. This may be the reason why the studies conducted are

mostly concentrated in the Central Anatolia Region. When the studies are examined, it is seen that the distribution to other geographical regions is Marmara Region (26,3%), Mediterranean (21,5%), Black Sea Region, Aegean Region and Eastern Anatolia Region (3,5%). While the most studies were in the Central Anatolia Region, it was revealed that there was no English study for critical thinking in the South East Anatolia Region.

Table 6. Situation by the universities where the thesis was conducted

University	Frequency (f)	Percent (%)
Çukurova University	8	14
Gazi University	7	12.3
Bahçeşehir University	3	5.3
Çağ University	2	3.5
Dokuz Eylül University	2	3.5
Ahi Evran University	1	1.7
Atatürk University	1	1.7
Marmara University	3	5.3
Boğaziçi University	2	3.5
Yıldız Technical University	1	1.7
Akdeniz University	2	3.5
Balıkesir University	1	1.7
Ondokuz Mayıs University	1	1.7
Uludağ University	1	1.7
Başkent University	1	1.7
Yeditepe University	1	1.7
Onsekiz Mart University	1	1.7
Middle East Technical University	8	14.0
Karadeniz Technical University	1	1.7
Bilkent University	3	5.3
Hacettepe University	2	3.5
Kafkas University	1	1.7
İstanbul University	1	1.7
Eskişehir Anadolu Univeristy	2	3.5
Ankara University	1	1.7
Total	57	100.0

Table 6 shows the distribution rates of theses according to universities. Considering the number of universities in our country, it is seen that there are not many master's and doctoral theses on critical thinking. The reason for this may be that although critical thinking is not a new concept in our country, the preference for writing in English is low. As seen in the table, most studies in the field of critical thinking were conducted at Çukurova University and Middle East Technical University with a rate of 14%. Being in the first place of these two universities may be due to the fact that the foundation years go back. Gazi University is in the second place with a rate of 12,3%. Bahçeşehir, Marmara, and Bilkent Universities take the third place with a rate of 5,3%. Çağ, Dokuz Eylül, Marmara, Boğaziçi, Akdeniz, Karadeniz Technical University, Hacettepe and Eskişehir Anadolu Univesities follow with 3,5%. On the other hand, it is seen that studies are carried out in the remaining universities (Ahi Evran, Atatürk, Yıldız Teknik, Balıkesir, Ondokuz Mayıs, Uludağ, Başkent, Yeditepe, Onsekiz Mart, Kafkas, İstanbul University, Ankara University). When the distribution ratio of the universities in the Central Anatolia Region is summed up, it is seen that most studies were done in this region, which supports table 5. In table 6, it is noteworthy that there is no university in South East Anatolia where thesis on critical thinking is done.

Table 7. Situation according to the institutes where the thesis was conducted

Institute	Frequency (f)	Percent (%)
Instıtute of Social Sciences	29	50.8
Institute of Educational Sciences	26	45.6
Institute of Science	1	1.7
Institute of Postgraduate Education	1	1.7
Total	57	100.0

When Table 7 is examined, the Institute of Social Sciences ranks first with 50,8% of 29 theses on critical thinking. Then, there is the Faculty of Educational Sciences with 26 theses and 45,6%. The reason why the most thesis among the institutes is in the Institute of Social Sciences may be due to the later establishment of the Institutes of Educational Sciences and therefore the fact that the branches related to education stand within the Institute of Social Sciences for years. One study was conducted in English at the Institutes of Science and Postgraduate Education.

Table 8. Situation according to the years of the thesis

Years	Frequency (f)	Percent (%)
2000-2005	2	3.5
2006-2010	16	28.7
2011-2014	11	19.2
2015-2021	28	49.1
Total	57	100.0

When looking at the distribution of theses by years, it is seen that more theses on critical thinking have been written in recent years. 28 theses written between 2015-2021 prove this. The least thesis was conducted between 2000-2005. The increase in the number of theses as we get closer to the present shows that more studies were conducted in English in the field of critical thinking.

Table 9. Situation according to the number of juries in thesis defence

Number of juries	Frequency (f)	Percent (%)
2	2	3.5
3	30	52.6
4	1	1.7
5	14	24.5
Unspecified	10	17.5
Total	57	100.0

Table 9 shows the number of juries participating in the thesis defense. Information about the jury couldn't be reached in the 10 theses examined. When we look at the table, it has been found that the number of juries of 6 and 7 people participating in the defense is not available. In the table, the jury with 3 lecturers comes first with 52.6%. This rate is followed by the 5 lecturers with 24.5%. The number of juries was determined by the defense with a ratio of 3.5% to 2, and a jury with 4 lecturers has the minimum percentage with 1.7%. Although the thesis juries are formed based on the operations of the relevant institutes that include the departments of the Council of Higher Education within the scope of the frameworks, with this study, it has been tried to reveal the number of juries preferred by our institutes and thesis advisors.

Table 10. Title of faculty members in the jury

Title	Frequency (f)	Percent (%)
Professor	54	30.6
Associate Professor	43	24.4
Assistant Professor	31	17.6
Doctoral Lecturer (Dr)	38	21.5
Unspecified	10	5.6
Total	176	100.0

Looking at the table 10, it is seen that 30,6% of the theses studied in English are professors, 24,4% are associate professors, and 17,6% are assistant professors. There are 38 juries having the title of doctoral lecturer (Dr) with a rate of 17,6. Most of the lecturers holding the title of Doctor (Dr) belong to Bilkent University. It is noticed that the ratios are not far from each other. In the 10 theses examined, the titles of the faculty members were not specified. Considering the table showing the titles of thesis advisors, the guidance of the instructors with the most professor titles supports the table 10.

Table 11. Situation in terms of word count in the title

Title word count	Frequency (f)	Percent (%)
0-10	5	8.7
11-20	40	70.1
21 and more	12	21.5
Total	57	100.0

The title part of an academic work is very important in terms of understanding what the subject is, so it should be carefully prepared. The use of unnecessary words both confuses the reader and drowns the researcher in unnecessary details. The title should be written as short as possible and should reflect the research content. Titles should not exceed fifty (50) letters (Karasar, 2018).

When the number of titles of the theses is examined in table 11, it is seen that 8,7% of the theses consist of 0-10 words. The range of 11-20 has the highest rate, constituting 70,1% of the works. Theses with 21 and more words account for 21,5%. When we look at the table in general, we see 12 theses with 21 and more words. Considering that the theses are written in a foreign language, it can be concluded that the adverb used, and the prepositions increase the number of words.

Table 12. Situation according to the location of research

Residential area	Frequency (f)	Percent (%)
City	40	70.1
District	10	17.5
Region	1	1.7
Unspecified	6	10.5
Total	57	100.0

When the table 12 is examined, it is seen that 70,1% of the studies were conducted in the provinces. The reason for this can be considered as the fact that universities are generally located in the city centers and the work is carried out in the central districts close to there. 17,5% of the studies were located in the districts and in 10,5% of the studies, the settlement conducted was not specified. In one of the theses, the place of residence is not mentioned. It is a study on the examination of English books. This study was prepared by the Faculty of Educational Science of Akdeniz University. In other words, it may be right to give an example of qualitative studies in this context. In the research, it is seen that only 1 thesis was made on a regional basis with 1,7%.

Table 13. Situation in terms of page count

Page count	Frequency (f)	Percent (%)
0-100	18	31.5
101-200	28	49.1
201-300	7	12.2
301 and more	4	7.1
Total	57	100.0

Looking at table 13, it is seen that the theses are examined in terms of the page count. While 31,5% of the examined theses were made in the range of 0-100 pages, it is seen that mostly, 49,1% of the theses were studied between 101-200 pages. Next, the theses between 201-300 are seen with a rate of 12,2%, while the thesis between 301 and more pages is seen with a rate of at least 7.1%. It is

understood that in the examined theses, research questions, methods, techniques, and the work's being a doctoral thesis or not increased the number of pages of the research.

Table 14. Situation in terms of the number of sub- objectives

Sub- problem- Number of objectives	Frequency (f)	Percent (%)
0-5	46	80.7
6-10	11	19.2
Total	57	100.0

In table 14, it is seen that the studies are examined according to the number of sub-objectives. Here it is striking that in theses prepared on critical thinking, sub-problems or goals are determined mostly between 0-5. This range covers 80,7% of the overall study. It is seen that 11 theses were made in the range of 6-10, which constitutes 19,2% of the total rate. Taken together with the next table, it is seen that fewer sub-problems are raised in studies using quantitative and mixed designs. Looking at the studied theses, the aim of trying to reveal the views of students, teachers, teacher candidates or lecturers about critical thinking or the relationship of critical thinking with different variables is seen. In addition, it is noticed that these aims reveal the situation that differs according to various variables.

Table 15. Situation in terms of method, technique, and model

Method, technique, and model	Frequency (f)	Percent (%)
Quantitative	11	19.2
Qualitative	7	12.2
Mixed	17	29.8
Experimental	5	8.7
Descriptive	6	10.5
Correlation Study	1	1.7
Action Research	1	1.7
Phenomenology	1	1.7
Survey Model	1	1.7
Unspecified	7	12.2
Total	57	100.0

In this study, the method titles of the theses were also examined. As a result of this examination, the information has been obtained according to the methods put forward by the thesis authors. In other words, the method that the researchers expressed for their work was taken as the basis without questioning. When table 15 is examined, it has been determined that researchers use mixed models with a rate of 29,8%. The mixed model gives flexibility to the research, and the researcher gets the chance to use both quantitative and qualitative methods as needed while doing his research. While using the quantitative method, researchers want to prove and present their research results through numbers. Quantitative method ranks second in theses with 19,2%. Qualitative method was used with 12.2% of the examined theses. There are 7 theses that didn't specify which technique was used at the same rate. Descriptive method was used in 6 theses with a rate of 10,5%. It is seen that experimental designs are used with a rate of 8,7% in theses. Experimental design and quasi-experimental design allow the researcher to practice without wasting time, as they provide the opportunity to work with the prepared groups. On the other hand, it was understood that correlation study, action research, phenomenology and survey techniques (1,7%) were studied in one thesis.

Table 16. Situation in terms of hematic subject distribution

Distribution of thematic subject	Frequency (f)	Percent (%)
Teacher Candidate Opinion	12	19.3
Student Opinion	37	59.6
Teacher Opinion	6	9.6
Instructor's Opinion	5	8.6
Document Review	2	3.2
Total	62	100.0

In table 16 it is seen that 59,6% of the theses of critical thinking refer to student opinion and 19,3% reflect the opinion of the pre-service teacher. When the opinion of the teacher comes in the third place, the opinion of the lecturer comes in the fourth place with a rate of 8,6%. The lowest rate is included in the document review with a rate of 3,2%. The majority of the theses examined consist of the opinions of the teacher candidates and students. The distribution of thematic topics in this way is welcomed in terms of students' self–criticism, reviewing their critical thinking skills and raising awareness. On the other hand, it is seen that very little space is given to the views of teachers, instructors, and written documents.

Table 17. Situation in terms of sample / study group size

Sample/ study group size	Frequency (f)	Percent (%)
0-50	19	33.3
51-100	14	24.5
101-200	11	19.2
201- 300	2	3.5
300 and more	6	10.5
Unspecified	5	8.7
Total	57	100.0

The sample part of the research is critically important. After determining the appropriate methods and techniques for the research to be conducted, the appropriate sample should be selected. Studies proceed through this sample. When the relevant table is examined in the study, it is seen that the rate of theses with samples between 0-50 is 33,3%. While the selected groups between 51-100 constitute 24,5% of the study, the sample size between 101-200 is 19,2%. The sample size between 201-300 takes the last place with 3,5%. While the sample selection between 300 and more constitutes 10,5% of the study, there are 5 theses with a rate of 8,7% and their sample is not specified. Although creating a sample is fast and practical way of obtaining information, it becomes difficult to generate statistical data in a thesis with a large sample size and generalizing information becomes difficult.

Table 18. Situation in terms of number of result

Number of results	Frequency (f)	Percent (%)
0-5	32	56.1
6-10	20	35.8
11-20	5	8.7
Total	57	100.0

The conclusion part of the thesis is as important as the other parts. In the conclusion section, people who do not know about the thesis can also have information. The conclusion part, created as a result of long studies, research and analysis, sheds light on the readers. The table above shows various ranges in terms of the number of results. At most 0-5 results were found in the theses. This constitutes 56,1% of the research. The range of 6-10 consists of 20 theses and has a rate of 35,8%. The research results, which are expected to be parallel to the purpose of the research, are the sources where descriptive results are mostly presented from sources such as students and teachers for purposes such as critical thinking skills, orientations, and attitudes, and the results related to their relationship with various variables are the sources of the research.

Table 19. Situation in terms of the number of suggestions

Number of suggestion	Frequency (f)	Percent (%)
0-5	29	50.8
6-10	24	42.1
11-15	3	5.2
16-20	1	1.7
Total	57	100.0

The suggestions given in the thesis are extremely important in terms of forming ideas for new thesis studies related to critical thinking. When the related table is examined, it is seen that the most suggestions were given in 29 theses with a rate of 50,8%, between 0-5. The range of 6-10 covers a rate of 42,1%. While there are 3 theses with 11-15 suggestions, there are 1 thesis between 16-20 suggestions with 1,7%. It is understood that the title of the suggestion, which is expected to be parallel to the results of the research, mostly consists of suggestions for the Ministry of National Education, school administrations, teachers, students and parents.

Table 20. Situation in terms of the number of references

Number of references	Frequency (f)	Percent (%)
0-100	28	49.1
101-200	27	47.3
201 and more	2	3.5
Total	57	100.0

At the end of the research report, references part is included to reinforce the accuracy of the information and to respect the owner of the information. In table 22, it is seen that 49,1% of the theses written on critical thinking used references between 0-100. While there are 27 theses and 47,3% references in the range of 101-200, there are 2 theses with 201 and above. It can be stated that the rate of foreign work in the sources is higher than the Turkish ones.

Discussion, Conclusion and Suggestions

People face many problems in both social and business lives. In some cases, these problems can be easily solved, but sometimes they can be complicated to deal with. In order to get rid of this confusion, it is necessary to adopt the right approach first. Analyzing the events and finding the solution steps help people greatly. At this point, the critical thinking approach helps to eliminate problems by providing analytical thinking competence.

Critical thinking as a high-level thinking skill is evaluating the accuracy and reliability of the information. Today, when the flow of information is intense, critical thinking has become a necessity for children in preschool, middle childhood and adolescence, to be protected from deception and to reach the right information (Tozduman Yaralı, 2019). The mind, which does not think critically, cannot produce alternative ways to the problems. Sometimes it experiences chaos and the problems become more complex. Therefore, gaining critical thinking skills is important to determine the right step for a solution. For this reason, critical thinking research become important.

In this study, 57 theses written in English between the years of 2000-2021 in Türkiye were examined. There are 47 master's and 10 doctoral theses which are scanned with the keyword "critical thinking."

When the data related to the postgraduate degrees of the theses in the study are analyzed, it is seen that the number of postgraduate theses on critical thinking is higher than the doctoral theses. The reason for this can be considered as fewer people do doctorate in our country or not many doctoral theses have been written on the subject of critical thinking.

Considering the data in terms of the gender of the thesis author, it is understood that there are many female lecturers whose thesis is on the subject of critical thinking. This may be due to the high number of female lecturers in our country.

When the data on the situation of the study in terms of the gender of the thesis advisor are examined, it is seen that the number of male advisors is higher than the number of female advisors. This may be due to the fact that advisors generally consist of assistant professors, associate professors, and professors.

When the data on the situation of the study in terms of the title of thesis advisor are examined, it is seen that the number of professors is higher. The title of professor is followed by the title of associate professor.

According to the data of the study about the geographical regions, it is understood that most studies were carried out in the Central Anatolia Region. The reason for this may be that many of the well-established universities are located in the Central Anatolia Region. The Central Anatolia Region is followed by the Mediterranean and Marmara. It has been seen that the Black Sea, Aegean, and Eastern Anatolia Regions are the geographical locations that do the least research on the subject of critical thinking.

When the data of the situation according to the universities where the thesis was made are examined, it is seen that the universities that wrote the most theses on the subject of critical thinking are Middle East Technical University and Çukurova.

When we look at the universities, where the theses are made, it is seen that most of the theses on the subject of critical thinking were written in the institute of social sciences. The reason for this may be that educational sciences institutes were established later in our country.

When the data on the situation of the theses according to the years are examined, it is seen that most theses were written between 2015-2021. The reason for this may be that the concept of critical thinking has attracted the attention of educators more. As we approach today, it is understood from the increase in studies on critical thinking that this concept will be an integral part of education in raising new generations. According to the research, the least theses written on critical thinking are between 2000-2005.

When the data are analyzed according to the number of juries participating in the thesis defense of the research, it is observed that the number of juries is generally 3 or at least 4 people. In these juries, it was noticed that there were more academicians with the title of professor and lecturer.

Findings on the title of those in the defense jury are examined and it is seen that the number of lecturers who has the title of professor is the highest. According to the data, it can be understood that the number of lecturers who has the title of Assistant Professor is the least. Considering the table showing the titles of thesis advisors, the number of professor advisors takes the first place. This supports Table 10.

When the data showing the number of words in the title are examined, it is seen that the majority of the titles are between 11-20. The title that has the minimum number of word is between 0-10. Considering that the theses were written in a foreign language, it can be concluded that the adverbs and prepositions increase the number of words.

In the study, the data are examined in terms of the settlement where the research is conducted, is seen that the majority of the theses are made on the basis of provinces. The reason for this may be that the collection and the analysis of the data become more difficult as the region grows.

The data are examined in terms of the number of pages, it is seen that mostly the theses written about critical thinking are between 101-200 pages. Looking at this range of pages, it may be due to the fact that there are not many doctoral theses on critical thinking.

When the data are examined in terms of the number of sub-objectives, it is seen that the number of sub – objectives are mostly between 0-5. The reason for this may be that as the number of objectives in the theses increases, the amount of subjects to be searched will also increase.

Looking at the data in terms of the method, technique and model used, it can be concluded that mixed models are used more. Mixed models gives flexibility to the research and the researcher gets the chance to use both quantitative and qualitative methods as needed while doing his research. However, it has been observed that one thesis is based on correlation study, action research, phenomenology and survey model techniques.

When the data on the thematic topic distribution were examined, it was seen that in most of the theses, students' opinions were taken in most of the theses. The reason for this may be that many of the theses are on the effect or development of critical thinking on students.

When this study is evaluated in terms of sample/study group size, it can be seen that the rate of theses that has the most samples between 0-50 is 33,3%. It is determined that there was at least 201-300 sample selection.

In the studies, the most memorable part for the reader is the conclusion part. When the data were examined in terms of the number of results, it was found that the number of results between 0-5 was higher. The fact that the number of sub-objectives is between 0-5 can be seen as the reason why the number of results is between 0-5.

When the data is examined in terms of the number of suggestions, it is seen that the suggestions between 0-5 and 6-10 are in the majority. According to the study, it is understood that suggestions are given as much as the number of goals.

When the data is analyzed according to the number of references, it is seen that the majority is between 0-100. As the number of sources in a research increases, the information richness of that research also increases. We have stated that the number of pages of most of the examined theses is between 101-200, and according to this number of pages, it can be considered reasonable that the number of bibliographies is between 101-200.

The results of the research are similar in many ways to the results of the research prepared by Akkaş and Memiş (2020). In the related study, the researchers examined 268 theses between 1999-2019 and it was seen that these studies were mostly master's theses, and the quantitative research method was used at a rate of 80%. The sample of the study is mostly teacher and teacher candidates' opinions.

Another thesis evaluation study about critical thinking was conducted in 2021. (Gönül, Başar&Demir, 2021). In the article prepared, it is important that the increase in the critical thinking studies which have become more valuable today, and the general tendencies of the studies are examined. In the study in which similar criteria were examined, 332 theses between 1999-2020 were evaluated using the content analysis method. It is seen that most of these theses, which are analyzed using frequency and percentage techniques, are master's theses. It is understood that the number of female researchers is higher and male faculty members are mostly thesis advisors. It is observed that the theses examined were mostly studied at Gazi, Çukurova, Hacettepe and Atatürk Universities. In this context, it has been found that most thesis is prepared in Central Anatolia Region. Similarly, in the study, it was seen that there was a thesis jury of mostly 3 people and titles consisting of 11-15 words were preferred. The range of 0-5 is the most preferred range as the number of sub-problems.

The data obtained as a result of this study can be a guide for the researchers. More detailed studies can be conducted on the deficiencies mentioned in the evaluation. For example, as a result of the study, it was seen that the opinions of teachers and instructors were not included much. However, the views of teachers and instructors who train students on critical thinking are very valuable. More research on these views and attitudes would be beneficial in terms of removing the obstacles to critical thinking. Again, as a result of this study, it is striking that most of the theses prepared in English on critical thinking are master's theses. However, it is thought that there is a need for doctoral theses in this field.

Considering the number of universities in our country, it is expected that more academic studies have been carried out in the field of critical thinking. Since these studies are limited to 26 universities and there is no study in the Southeastern Anatolia Region. These studies should be focused on the universities or regions where critical thinking studies are rare. This approach will be useful for mental processes such as reasoning, analyzing, and evaluation to reach more people.

References

Akkaş, B. & Memiş, E. (2020). Developing critical thinking skills in the thinking-discussion-writing cycle: the argumentation-based inquiry approach. *Asia Pacific Education Review,21* (3), 441-453.

Gonul, A., Basar, B. & Demir, M. K. (2021). Evaluation of theses on critical thinking. *Jass Studies-The Journal of Academic Social Science Studies, 14*(84), 19-35.

Bailin, S. (2002). Critical thinking and science education. *Science & Education, 11*(4), 361-375.

Batur, Z. & Özcan, H. Z. (2020). Bibliometric analysis of postgraduate theses on critical thinking. *International Journal of Turkish Literature, Culture and Education, 9*(2), 834-854.

Davis, H. A. (2003). Conceptualizing the role and influence of student-teacher relationships on children's social and cognitive development. *Educational Psychologist, 38*(4), 207-234.

Demir, M. K. (2008). Social studies curriculum's effects on students' critical thinking skills. *Eurasian Journal of Educational Research, 33*, 113-126.

Demirel, Ö. (1999). *Kuramdan uygulamaya eğitimde program geliştirme*. Ankara: Pegem.

Facione, P.A. (1990). Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction- executive summary- The Delphi Report. Accessed from www.researchgate.net

Karasar, N. (2018). *Reporting in research.* (20 th edition), Ankara: Nobel.

Lewis, A. & Smith, D. (1993). Defining higher order thinking. *Theory into Practice, 32*(3), 131-133.

Murphy, P. K, Rowe, M. L., Ramani, G. & Silverman, R. (2014). Promoting critical-analytic thinking in children and adolescents at home and in school. *Educational Psychology Rewiev, 26*(4), 561-578.

Ormrod, J.E. (2008). *Learning psychology.* (Çev. Editörü Mustafa Baloğlu). Ankara: Nobel.

Özmen, K.S. (2008) Current state and understanding of critical thinking in higher education. *Gazi University Journal of Faculty of Education, 28* (2), 109-127.

Presseisen, B. Z. (1985). Thinking skills: Meanings, models, materials. A. Costa (Ed.), *Developing Minds* (pp. 43-48). Alexandria, VA: Association for Supervision and Curriculum Development.

Shaw, V. F. (1997). Increasing achievement and motivation in mathematics and science learning in schools. *Journal of Math Education Science Technology*, 28(2), 289–301.

Sternberg, R.J. (1986), *Critical Thinking: Its nature, measurement, and improvement.* National Inst. Ugh Education (ED), Washington, D.C. 1986, 37.

Tozduman Yaralı, K. (2019). *Okul öncesi çocukların eleştirel düşünme becerilerine öyküleştirme yöntemine dayalı eğitim programının etkisi.* (Yayımlanmamış Doktora Tezi), Gazi Üniversitesi Eğitim Bilimleri Enstitüsü, Ankara.

Vaughn, L. (2010). *The power of critical thinking*. New York: Oxford University Press.

Willingham, D. T. (2008). Critical thinking: Why is it so hard to teach? *Arts Education Policy Review, 109* (4), 21-32.

An Analysis on Conflicts in Educational Organizations and Informal Mediator Roles

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Abstract

In the current study, which aimed to examine the conflicts experienced in educational organizations and the informal mediator roles undertaken in these conflict processes, descriptive survey model which is one of the quantitative research methods, was used. Opinions of the participating teachers or administrators determined by using the criterion sampling method in the study were taken using an online form. The data obtained were analyzed within the framework of research questions using the descriptive analysis technique and the data were brought together under various categories and themes. In light of the findings of the study, it was determined that the conflicts in schools are caused by teachers, school administration or parents and the conflicts are mostly caused by factors such as communication problems, work distribution, differences, administrative disagreements, sharing, expectations, physical conditions, pressure and discrimination. When the characteristics of the people who undertake the role of informal mediator are examined, it is seen that traits such as strong communication skills, composure, impartiality, result and solution-orientedness, tolerance and being positive and optimistic come to the fore. When the methods used by the informal mediators were examined, it was determined that they use methods such as effective communication, active listening to the parties, managing the situation with a fair understanding, offering joint solutions, bringing the parties together, creating a suitable environment and using their expertise.

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Introduction

Conflict is a state of intra-organizational disagreement that generally occurs between individuals or groups and where each person or group tries to impose their views and expectations on others (Thakore, 2013). The life of the individual in the organization causes these conflicts to occur and the internal conflicts in the organization can generally arise due to communication problems, resource scarcity, task distribution, differences, organizational roles and external factors (Madalina, 2016). Although conflicts are often seen as destructive, when evaluated and managed constructively, they contribute to understanding and solving problems and strengthening relationships (Tjosvold, 2006). In addition to this, beneficial outcomes can also be created through conflicts such as developing team skills, emerging new ideas and alternatives and improving critical thinking (Ronquillo et al., 2022). However, the roles assumed in the management of the conflict in the conflict process are important. There are many different types of conflict management including the "avoiding approach", which requires getting away from and ignoring the conflict experienced during the conflict process, the "competing approach", where one side wins and the other loses, resulting in resentment, the "compromising approach", in which both sides make concessions and both sides sacrifice some of their own interests and the "collaborating approach", where both parties come together and produce the best solution for both parties within the framework of effective listening and respectful communication (Sample, 2017).

Although conflict processes are tried to be resolved between the individuals and groups that make up the parties, individuals who play the role of mediator are often involved in the resolution of such conflicts. Mediators are people who play a role, sometimes formally and sometimes informally, as a third party to resolve conflicts (Şahin, 2021). These persons take the initiative as facilitators in the resolution of the conflict that may be experienced between the disputing parties (Haselgrove-Spurin, 2002). Mediators generally follow three stages in the conflict process (Rahman, 2012); (1) by being involved in the relations of the parties in conflict, they ensure that the parties understand and recognize the issue of conflict and help the interaction of individuals or groups on the subject by maintaining their impartiality, (2) by learning the needs and expectations of individuals or groups from the parties involved, they take action by creating an impartial negotiation environment and (3) within the framework of the negotiations, the terms of reconciliation are determined and they ensure that the parties agree on a common solution without blaming anyone or declaring anyone innocent. On the other hand, there are different approaches and styles adopted by people who assume the role of mediator (Initiative Mediation Support Deutschland, 2017); (1) some mediators exhibit facilitative mediation by uncovering the causes and interests underlying the requests and simply guiding communication in a non-directive and non-advisory manner, (2) some other mediators suggest different solutions in order to end the conflict process by structuring the process in such a way as to lead to a solution and (3) some mediators direct the conflict process and exhibit power-based mediation by using power elements based on punishment or reward to reach a solution.

Educational institutions, like other organizational structures, constitute an intense communication area where conflicts are experienced and felt (Bayar, 2015). In this context, while peer mediation for the resolution of conflicts between students is widely kept up-to-date (Malek, 2013; Trevaskis, 1994), informal mediation roles (Paçacı & Erdem, 2019), which also play a role in conflict processes among teachers, have also started to become widespread. As a matter of fact, individuals who assume informal roles take voluntary initiatives as individuals who act without being prescribed these roles and take responsibility in informal communication and contact processes (Dubin, 1958). Due to the intense communication in educational institutions, conflicts based on various problems may occur, especially between teachers, between teachers and school administration or between teachers and parents. For example, according to Polat and Demir (2021), conflicts can occur between teachers from different generations due to differences in attitudes and understanding of education and discipline and this can cause negativities in educational organizations. According to Ekici (2020), communication problems between teachers and administrators cause conflicts and negatively affect the educational goals of the school. While Bingöl (2013) states that there are conflicts experienced between teachers and school administrators due to reasons such as not being able to empathize, not being open to criticism, always seeing themselves as right and not accepting their mistakes, Başsayın

(2022) states that conflicts at school are generally related to communication problems, differences of opinion, unfair behaviours of administrators and the environment of competition. In this context, as Özdogru (2022) also determined, teachers need a mediator in the conflicts they experience in schools.

Informal mediators, who assume a role and take action for the resolution of all these conflict processes between teachers and other stakeholders, try to eliminate the conflict by being involved in the process within the framework of their reputation, talent and motivation. These individuals are generally patient, reliable, objective, self-controlled, adaptable, able to take responsibility and sensitive to problems (Sam Imperati, 2017). At the same time, they try to understand the people around them, can empathize, are not prejudiced or judgmental and are willing to listen to others and their problems (NERIS Analytics, 2022). In conflicts in educational institutions, people who have these personality traits and assume the role of informal mediator are sometimes school principals, sometimes assistant principals and sometimes teachers and they take the initiative in the conflict process (Şentürk, 2006; Kurt, 2019; Özdoğru, 2022).

In this connection, in the current study, it was aimed to examine the conflicts experienced in educational organizations and the informal mediator roles of teachers or administrators in these conflict processes. In the context of this subject, the studies in the literature are insufficient and there is only one study conducted by Özdoğru (2022) in which the mediator role of school principals was evaluated. Most of the research on mediation in educational organizations has been conducted in the context of peer mediation for students (Benson & Benson, 1993; Johnson & Johnson, 1996; Çetin & Türnüklü, 2015; Aytekin, 2019; Gökalp & İnel, 2019) and thus there is a lack of research on informal mediator roles related to teachers and administrators. In this regard, the current study sought answers to the following sub-questions;

1. What are the conflicts experienced by teachers and administrators working in state-owned educational institutions?
2. Who are the persons assuming the role of informal mediator between the parties in the conflicts, what are the characteristics and methods of these persons?
3. What are the main elements and methods that make the mediation role successful and contribute to the resolution of conflict?

Method

Research model

The survey model was used in this research. In survey models, the current situation related to a specific subject or phenomenon is tried to be described, and the subject, event or situation investigated is evaluated and defined within its own conditions (Singleton & Straits, 2009; Kuzu, 2013). In this framework, descriptive survey model, which is one of the survey models, was used and the opinions and perceptions of teachers and administrators were consulted to reveal the conflicts experienced in educational organisations and the informal mediation roles undertaken in these conflicts (Check & Schutt, 2012; Karakaya, 2012).

Sample

The criterion sampling method, which is one of the purposive sampling methods, was used in the study. In this sampling method, the criteria determined by the researcher are taken into consideration and the participants are selected accordingly (Yıldırım & Şimşek, 2006; Büyüköztürk et al., 2012; Patton, 2014). Thus, within the context of the study, participants who work in state-owned educational institutions and have experienced intra-organizational conflicts were included in the study. In this way, a total of 114 participants were accessed and the demographic information about the participants is given below.

Table 1. Demographic information about the participants

	Groups	N	%
Gender	Female	67	58.8
	Male	47	41.2
Job	Teacher	95	83.3
	School Principal	8	7.0
	School Assistant Principal	11	9.6
School Type	Pre-school	2	1.8
	Primary School	32	28.1
	Secondary School	66	57.9
	İmam Hatip Secondary School	1	0.9
	Anatolian High School	8	7.0
	Vocational and Technical High School	4	3.5
	Imam Hatip High School	1	0.9
Length of Service	0-5 Years	21	18.4
	6-10 Years	21	18.4
	11-15 Years	16	14.0
	16-20 Years	19	16.7
	21 Years and More	37	32.5

When Table 1 is examined, it is seen that 58.8% of the participants are female and 41.2% are male. In addition, 83.3% of the participants are teachers, 7% are school principals and 9.6% are school assistant principals. Of the participants, 1.8% work in pre-school institutions, 28.1% work in primary schools, 57.9% work in secondary schools, 0.9% work in İmam Hatip secondary schools, 7% work in Anatolian high schools, 3.5% work in vocational and technical high schools and 0.9% work in İmam Hatip high schools. When the distribution of the participants according to their length of service is examined, it is seen that 18.4% have been working as a teacher for 0-5 years, 18.4% for 6-10 years, 14% for 11-15 years, 16.7% for 16-20 years and 32.5% for 21 years and more.

Data collection tools and data collection

In the study, an online form consisting of structured and semi-structured questions was used as the data collection tool. In structured questions, participants are not allowed to go beyond the questions asked in the study and response options are limited and fixed, while in semi-structured questions, partial flexibility is allowed for the answers of the respondent (Çokluk et al., 2011). The online form prepared within this framework was sent to the participants in October 2022 and data analysis was carried out on the answers given by the participants. Some of the questions asked to the participants are as follows:

1. Who are the persons who assume the role of mediator between the parties in a conflict you have experienced or witnessed in the school environment?
2. Can you list the personality traits of the individuals who assumed the role of mediator between the parties in this conflict?
3. Can you explain the method that enables the persons who engage in mediation to be successful?

Data analysis

In the study, the descriptive analysis technique was used for the analysis of the data and the data obtained were brought together under categories and themes within the framework of the research questions. In the description, it is aimed for the researcher to reveal the phenomena related to a situation and the obtained data are organized and interpreted by the researcher (Altunışık et al., 2001; Yıldırım & Şimşek, 2006). In this context, the data obtained in order to reveal the current state of the informal mediator roles undertaken by individuals within the framework of the conflicts in state schools are described and presented under categories and themes (Bryman & Burgess, 1994).

Findings

Situations subject to conflicts in the school environment

When the findings obtained in the study are examined, it is seen that the situations expressed by the participants as the subjects of conflicts are diverse. In this context, the situations that are the subjects of conflicts are discussed under three main themes: teacher-induced, school administration-induced and parent-induced.

Table 2. Teacher-induced situations that are subjects of conflicts in the school environment

Theme	Category	Subjects of conflict	*f*
Teacher-Induced	Parents	Communication problems with parents	9
		Disagreements with parents	7
		Teachers' making discrimination between parents	1
	Group of Branch Teachers	Work distribution within the group of branch teachers	2
		Differences of opinion between the members of the group of branch teachers on the curriculum	1
		Jealousy	1
		Selection of the classes to be taught	1
		Disagreements on who will teach morning and afternoon classes in double shift schools	1
	Differences	Political differences of opinion	1
		Differences of opinion in meetings	1
	Administrative Disagreements	Disputes on taking time off work with the school administration	2
		Teacher arriving late to school or arriving late to class	2
		Disputes with the administration about the way regulations are implemented	1
	Expectations	Teacher's class schedule and expectations	6
		Duty of overseeing the school and students and places of this duty	3
		Asking for a free day	1
	Communication	Personal problems between teachers	3
		Communication problems between teachers	2
		Prejudice or misunderstandings	1
	Reflection	Reflecting personal problems to work life	1

As can be seen in Table 2, teacher-induced situations that cause conflict are handled in seven sub-categories. In the category of "*Parents*", the communication problems and disagreements of teachers with the parents of the students come to the fore. The stakeholders with whom teachers interact most are the parents of the students and the expectations of the parents about their children are reflected on teachers and this can sometimes cause conflicts. In the category of "*group of branch teachers*", it is seen that the distribution of tasks within the group, differences of opinion on the curriculum, jealousy and not being able to share classes cause conflicts. In this context, the difference of teacher performance in schools, especially within the group of branch teachers and the fact that some teachers gain prestige by coming to the forefront in the group of branch teachers may cause jealousy. At the same time, conflicts may arise due to unfair sharing within the group of branch teachers and the dominant character of the head of the group or the informal leader. This conflict usually manifests itself during the sharing.

In the category of "*Differences*", political views and differences of opinion cause conflicts. Teachers also have different views, unions or political ideas as in the whole society in general, which sometimes cause teachers to have different opinions about the operation of the school or various professional decisions and may pave the way for conflicts.In the category of "*Administrative Disagreements*", there are conflicts about taking time off work with the school administration, some teachers' being late for school or class and the way regulations are implemented also cause conflicts.As in most organizational life, there may be teachers who disrupt or abuse their professional responsibilities in school functioning, this situation can sometimes put school administrations in a difficult situation and situations such as continuously taking off time and late arrival can cause

grievances. Moreover, some administrators' deficiencies in the implementation of regulations or their putting pressure on teachers by using regulations may also cause such conflicts.

In the category of *"Expectations"*, situations that are not in compliance with the regulations such as teachers' expectations about the curriculum, making various requests about duty or places and requesting a free day cause conflict. Although the curriculum or the list of duties of overseeing the school and students are prepared by the school administration and the decisions regarding the functioning of the school are made by the school administration, the school administration generally has to deal with the requests coming from teachers that do not comply with the legal regulations. In this context, requests made by teachers such as wanting a free day, not wanting classes at certain times, wanting to teach a specific class, etc. are handled in line with the flexibility of the school administration, yet the fact that such requests are against the legislation is ignored by teachers.

In the category of "*Communication*", personal problems, communication problems and prejudices, misunderstandings between teachers cause conflicts. In the active and intensive communication processes of the school environment, the emergence of communicative problems among teachers can be seen as a natural process. Teachers constantly come together in meetings and environments in the regular functioning of the school and this can cause misperceptions and personal enmities. On the other hand, in the "*Reflection*" category, it is seen that teachers' reflecting their personal or private life problems to the school causes conflicts. Problems related to teachers' own private lives can sometimes be a cause of conflict that goes beyond individual boundaries and reflects on school stakeholders or professional life.

Table 3. School administration-induced situations that are subjects of conflicts in the school environment

Theme	Category	Subjects of Conflict	f
School Administration-Induced	Administrative Discretion	Administrative applications	1
		Problems between parents and teachers due to administrative vacuum	1
		Continuously finding parents right	1
		School principal avoiding responsibility	1
	Classes-Course Schedule	Parent-administration conflict due to elective courses	1
	Physical Conditions	Shortcomings in physical conditions	2
		Materials used in classrooms	2
		School cleaning	1
		Crowded classrooms	1
	Pressure	Administrative pressure and mobbing	3
		Imposing a workload on the teacher	2
		Insulting the teacher	1
		Provocative attitudes	1
	Discrimination	Administrative favouritism and discrimination	4
		Unfair practices in the assignment of classes to teachers	2
	Communication	Communication problems and disagreements with teachers	6

As can be seen in Table 3, the situations caused by the school administration that cause conflicts are discussed in six categories. In the category of "*Administrative Discretion*", it is seen that the administrative practices of the school administration, the administrative vacuum created in the school, the administrative approach that does not defend the teacher and administrators' ignoring their responsibilities cause conflicts. The leadership displayed by the administrators in the school can sometimes harm the school climate. In this context, it should be taken into account that administrative practices that victimize teachers and stakeholders, or cause conflict can increase diputes and disagreements. In the category of "*Classes-Course Schedule*", there may be disagreements with the parents of the students, especially regarding the selection of elective courses. In fact, due to the intensity of the class hours and curriculum and physical conditions in schools, sometimes school administration can impose elective courses without allowing flexibility on students and parents and this can be the subject of conflicts.

In the category of "*Physical Conditions*", the physical deficiencies of schools, lack of various materials, school cleaning and crowded classrooms cause conflicts. The parents of the students see the

school administration as responsible for the deficiencies or negativities experienced in the school and in this context, they return as the problems reflected to the school administration, which can cause arguments and disagreements with the parents of the students. In the category of "*Pressure*", it is seen that the pressures of school administrators, their mobbing, imposing workload, insulting and provocative attitudes cause conflicts.In this context, the imposition of psychological or verbal pressure on the teacher by school administrators becomes a negative stimulus that directly disrupts the peace environment in the school, which can sometimes lead to consequences that are brought to the judiciary.

In the category of "*Discrimination*", favouritism of school administrators and unjust behaviours in various sharing cause conflicts. It is easier for teachers who feel the environment and climate of discrimination to see and evaluate this as a factor that will cause conflict. In the category of "*Communication",* the communication problems of school administrators with teachers cause conflicts. Misunderstandings or prejudices can increase in schools where there is no transparent and active communication environment and sometimes the communication problems of school administrators can prepare the ground for these conflicts.

Table 4. Parent-induced situations that are subjects of conflicts in the school environment

Theme	Category	Subjects of Conflict	*f*
Parent-Induced	Demand/Request	Pressure of expectations	2
		Not liking the teacher	1
		Comparing teachers	1
		Demands for changing classes	1
	Not accepting	Not accepting negative student behaviours	4
	Accusing	Accusing the administration of the problems experienced by students	1
		Seeing the teacher responsible for student disputes	1
	Putting Pressure	Parental violence	3
		Seeing the teacher as a caregiver	1
		Threatening the teacher with political power	1
		Making allegations against teachers	1
	Intervening	Intervention of parents in disagreements between students	1
		Intervention in the professional field of the teacher	1
		Intervention in the teacher's private life	1
	Communication	Creating tension	1
	Administrative Functioning	Insisting on student enrolment	1
		Student disciplinary proceedings	1

As can be seen in Table 4, parent-induced situations that cause conflict are discussed in seven categories. In the category of "*Request/Demand*", situations such as the pressure created by parents with their expectations on teachers and the school administration, their selecting teachers, making comparisons between teachers and their demands for class change cause conflicts. Most parents have the desire to reach the "best" in general, these expectations generally put pressure on teachers and school administration and may negatively affect their professional activities. In the category of *"Not accepting*", parents' ignoring their children's negative behaviours causes conflicts. The problems experienced by students in the communication processes in the school environment and the behaviours they exhibit can sometimes cause disputes between the school administration and teachers and parents not wanting to accept that their children misbehaved.

In the category of "*Accusing*", parents' blaming the school and teachers for the problems experienced with their children and seeing the teacher and school administration as the responsible part cause conflicts. It is thought that the above-mentioned perception of denial and the understanding of seeking someone to blame are effective in experiencing this situation. In the category of "*Putting pressure*", verbal or physical violence created by the parents of the students against the teacher and the school administration, the perception of seeing teachers as caregivers and putting teachers in a difficult situation by making various allegations about them or threatening them with political power cause conflicts.Parents of students may seek various justifications or engage in practices of violence, especially in cases of expectations that they cannot resolve with school stakeholders or that do not

comply with the legislation. This situation shows that the existence of violence and oppression is felt not only in certain sectors such as health but also in education.

In the category of "*Intervening*", parents' intervention in the problems experienced among students, parents' various interventions with teachers' professional skills, abilities, and methods and with teachers' private lives (such as wanting to contact the teacher at late hours) cause conflicts. This situation can be explained by the change in parents' perception of "teacher" as a result of new tools of communication. In the category of "*Communication*", parents' occasional disputes with teachers leading to tension can cause conflicts, while in the category of "*Administrative Functioning*", insisting on enrolling in certain classes or choosing certain teachers and disciplinary inspections on students can cause conflicts. In short, it has become easier for parents to reach the "school" and the "teacher" compared to the past, and this creates pressure on the teacher or the school administration and creates conflicts because of dissatisfied expectations and wishes.

Informal mediator roles in the conflicts experienced

According to the data obtained in the study, the person or people who assume the role of informal mediator in the conflicts in the school climate, the characteristics of these people and the main findings on the methods that make the mediation activity successful are presented below.

Table 5. People assuming the role of informal mediator in the conflicts experienced in school

Position	f	%
School Principal	21	18.5
School Assistant Principal	18	16.0
Administration	19	16.7
School Counsellor	9	7.9
Representatives of the Union	1	0.8
Head of the Group of Branch Teachers	1	0.8
Senior Teachers	1	0.8
Female Teachers	1	0.8
Other Teachers	36	31.5
No Mediation	7	6.0

As can be seen in Table 5, the person or people who assume the role of informal mediator in conflicts are mostly in administrative positions. The ratio of informal mediator roles assumed by the school principal, assistant principal and administration is around 51%, followed by the informal mediation carried out by colleagues working in the same school (31.5%), the school counsellor (7.9%) and then representatives from the union, the head of the group of branch teachers, senior teachers and female teachers. In general, it is seen that school administrators or leaders feel responsible for the conflicts in schools, as the conflicts that occur harm the school climate and disrupt the school functioning. For this reason, it can be considered as a natural process for school administrators to assume this role.

Table 6. Characteristics of the people assuming the role of informal mediator in conflicts in school

Categories		Characteristics	f
Informal Mediator	Knowledge	Establishing Strong Communication	2
		Having Knowledge and Experience	7
		High Capacity to Persuade	2
		Knowing about Human Psychology	1
		Experienced in Crisis Management	1
	Behaviour/Attitude	Sensible and Calm	3
		Having Leadership Qualities	8
		Patient	8
		Compatible	6
		Listening	6
		Loving-Sincere	5
		Constructive	4
		Active-Sociable	3
		Problem Solver	3
		Acting in Compliance with Ethical Values	2
		Self-confident	2
		Frank	2
		Determined	2
		Respectful	2
		Altruistic	1
		Friendly	1
		Self-sacrificing	1
		Disciplined	1
		Outspoken	1
		Genial	1
		Sensitive	1
		Consistent	1
		Courageous	1
	Way of Thinking/Approaching	Neutral (Objective)-Fair	1
		Result-Solution Oriented	6
		Tolerant	0
		Understanding	9
		Naive-Well-Intentioned	6
		Agreeable	5
		Multi-directional	4
		Reasonable	3
		Responsible	3
		Mature	3
		Democrat	2
		Peaceful	2
		Fostering Different Perspectives	1
		Honest	1
		Practical	1
	Emotion	Positive (Optimistic-Modest)	2
		Empathetic	9
		Prudent	3
		Devoted	1

As can be seen in Table 6, the characteristics of individuals who assume the role of informal mediator in conflicts in school are discussed under four categories. In the category of "*Knowledge*", the participating teachers stated that the people who assume the role of informal mediator in conflict

processes are experienced and knowledgeable, know people and human psychology, have experience in crisis management, have strong communication skills and have high persuasion skills. Individuals who assume the role of mediator in conflict processes gain experience in this process. At the same time, the fact that they are individuals who analyze people and their psychology well fosters their success in the persuasion process. However, as seen in the findings, the most distinguishing characteristic of these individuals in the role of informal mediator is that they have strong and effective communication skills. This characteristic brings these people to the forefront in conflict processes and makes them effective in the mediation process.

In the category of "*Behaviour/Attitude"*, the participating teachers stated that those who assume the role of informal mediator in conflict processes are sensible and calm, have leadership qualities, are patient and compatible, listen to the parties effectively, are loving and sincere, constructive and active individuals. In addition, according to the participating teachers, informal mediators are problem-solvers, ethical, self-confident and frank, determined and respectful, self-sacrificing and altruistic, friendly and genial, sensitive and consistent. When the findings presented in this framework are considered, it is seen that informal mediators generally have positive personality characteristics. Actually, it is not possible for individuals who do not have a positive attitude and behaviour to establish trust and be successful in conflict processes. In this context, these individuals, who make an impact on people with their positive behaviours and attitudes and command trust, become problem solvers and sought-after individuals in organizational life. In the findings, especially the sensible and clam attitudes of these individuals, their leadership qualities and patient attitudes attract attention.

In the category of "*The Way of Thinking/Approaching*", the participating teachers stated that individuals who assume the role of informal mediator in conflict processes are impartial and fair, well-intentioned and understanding, tolerant and honest, peaceful and with different perspectives.However, according to the participating teachers, informal mediators are versatile people who focus on resolution, think logically and practically, are responsible, mature, believe in democratic values and are peaceful. In this context, it is seen that the people who assume the role of mediator should be fair and objective, be result or solution-oriented and act with a tolerant mindset. Acting impartially in mediation processes is an element that the conflicting parties pay attention to and that affects the conflict process and its outcome. At the same time, it is considered as an expected approach in conflict processes to achieve a result that will satisfy people and their interests by acting in a solution-oriented manner. In this context, the mediator's understanding based on tolerance is important for the effectiveness of the process.

In the category of *"Emotion*", the participating teachers stated that individuals who assume the role of informal mediator in conflict processes are positive and optimistic, empathetic, prudent, and dedicated. In this context, it is seen that individuals who are modest, optimistic, and empathetic are better in the mediator role. As a matter of fact, empathizing and approaching the events positively in conflict processes serve as a driving force for the solution.

Table 7. Methods used by people who assume the role of informal mediator in conflicts in school

Theme	Categories	Methods Used	f
Methods Used	Communication	Establishing good and effective communication	17
		Trying to understand by listening to the parties	6
		Trying to persuade for a solution	4
		Helping parties to understand each other through empathy	4
		Using a positive language	3
		Establishing a healthy dialogue between the parties	3
		Activating the elements of persuasion	2
		Showing that you are listening to and understanding the parties	2
		Analyzing the situation by listening to the parties	2
		Trying to persuade by setting the rules	1
	Impartiality	Managing the situation from a fair and unbiased perspective	5
	Result-Orientedness	Presenting joint solution suggestions and being solution-oriented	10
		Generating solutions to eliminate conflict-inducing problems	1
		Suggesting alternative solutions	1
		Commanding trust for finding a solution	1
		Creating willingness to find a solution	1
		Generating solutions that both parties can be satisfied with	1
	Authority/Power	Acting in accordance with the legislation-reminder of official grounds	2
		Using bureaucratic power	2
		Using local and cultural elements of power and recognition	1
		Reminding the parties of their rights and responsibilities	1
	Expertise	Making them feel that you are in control of the situation and the event	2
		Correctly diagnosing the problem and its source	2
		Implementing crisis management processes	1
	Attitude/Flexibility	Exhibiting a determined attitude	3
		Focusing on the positive aspects of the conflict	1
		Taking the personality traits of the parties into consideration	1
		Making the good-intentioned effort felt	1
		Making them feel that you are open to suggestions	1
		Allowing the parties to self-criticize	1
		Enabling the parties to understand and realize the issue of conflict and the problem experienced	1
		Assuming a humble attitude towards the reactions of individuals	1
		Taking into account the interests of the parties	1
		Exhibiting democratic and tolerant attitudes	1
	Bringing People Together	Bringing the parties together	2
		Enabling the parties to listen to each other and express themselves	2
		Highlighting common points	2
	Creating a Suitable Environment	Creating a peaceful dialogue environment	4
		Removing disturbing elements from the environment	1
		Getting them to accept the elements that create the conflict	1
		Calmly approaching the event or situation	1
		Creating an environment of mutual understanding	1

As can be seen in Table 7, the methods used by individuals who assume the role of informal mediator in conflicts experienced in school are discussed under eight categories. In the category of "*Communication*", the participating teachers stated that the most popular methods used by informal mediators in conflicts are to establish good and effective communication and try to understand the parties by listening to them. Communication used in the management of conflict processes and its quality constitute one of the most effective elements determining how the role of mediator is fulfilled. Moreover, listening to the parties effectively and trying to understand the situation are of vital

importance, especially in terms of starting a process towards a solution. In addition, according to participating teachers, other methods used by mediators include using the power of persuasion, making the parties understand each other through empathy, using a positive language, establishing healthy dialogue, showing that you are listening to and understanding the parties, and analyzing the situation by listening to the parties. When we look at the frequencies of the methods, it is seen that the communication elements and communicative methods are more frequently used in the mediator role. In this context, the main driving force of persuasion in conflict processes is generally directly related to the communication elements used, but the right communication styles accelerate the persuasion process.

In the category of "*Impartiality*", the participating teachers stated that those who assume the role of mediator in conflicts generally manage the situation and the process with a fair and unbiased perspective. So, this seems to be the most popular method. The lack of impartiality and justice in complex and crisis environments such as conflict processes may negatively affect the success of the mediator role.

In the category of "*Result-Orientedness*", the participating teachers stated that methods such as presenting joint solution suggestions, focusing on the solution, eliminating the source that caused the conflict, suggesting alternative solutions, commanding trust for finding a solution, creating willingness to find a solution, and generating solutions that both parties can be satisfied with are used. Basically, in conflict processes, the parties usually seek solutions in line with their own interests, in this context, the mediator's acting with a result and solution-oriented perspective and approaching the process with common solution suggestions shorten the time to reach the result and command trust. In this connection, sometimes there are solutions that will satisfy all parties, but sometimes there are alternative and result-oriented mediator approaches that partially satisfy the parties but provide a solution. At this point, the critical element can be thought of as the mediator's commanding trust necessary to persuade the parties for a solution and creating willingness.

In the category of "*Authority/Power*", the participating teachers stated that the people who assume the role of mediator in conflicts use methods such as reminding the parties of the legislation and applying the rules of the legislation, using the bureaucratic power, activating the elements of local recognition and cultural power, and reminding the parties of their rights and responsibilities. Although bureaucratic, cultural or legislative power provides a short-term solution in conflicts, it does not completely eliminate conflicts due to its official nature, and in this context, it can cause weakness in the role of informal mediator. However, the elements of authority and power, which are reminded informally in conflict situations leading to a deadlock, can be beneficial in terms of ensuring organizational sustainability.

In the category of *"Expertise"*, the participating teachers stated that methods based on expertise such as making the parties feel that you are in control of the situation and the event, correctly diagnosing the problem and its source and implementing crisis management processes are used. Having expert knowledge and competence about the conflict process can create an advantage for mediators. This expertise provides people with knowledge and experience in terms of approaching style and method and contributes to the correct management of the process.

In the category of "*Attitude/Flexibility*", the participating teachers stated that the people who play the role of mediator in conflicts use methods such as exhibiting a determined attitude, focusing on positive aspects, taking into account the personality characteristics of the parties, making the good-intentioned effort felt and being open to suggestions, allowing self-criticism, making the parties aware of the problem, assuming a humble attitude towards the reactions of individuals, taking into account the interests of the parties and exhibiting democratic and tolerant attitudes. The attitudes and behaviours of the mediator in the conflict process are vital for the success of this role. A mediation approach that is well-intentioned, positive, considers differences and acts within the framework of a tolerant attitude and flexibility contributes to the success of the process and satisfaction of the parties.

In the category of "*Bringing People Together*", the participating teachers stated that people who play the role of mediator in conflicts use methods such as bringing the parties together in reasonable situations, enabling the parties to listen to each other and express themselves and

highlighting the common points. In this context, creating environments in which parties or common ideas are brought closer to each other and they are made to understand each other play a driving role in achieving results.

In the category of "*Creating a Suitable Environment*", the participating teachers stated that the people who play the role of mediator in conflicts use methods such as creating a peaceful dialogue environment, removing the disturbing elements from the environment, getting them to accept the elements that create the conflict, calmly approaching the event and situation and creating an environment of mutual understanding. It is important to establish calmness in conflict processes first, and in this context, eliminating the stimuli that negatively affect the environment and then increasing the dialogue and ensuring that the problem is accepted by the parties contribute to the accomplishment of efficient mediation.

Discussion

When the findings obtained in the study are examined, it is seen that conflicts in schools are caused by teachers, school administration or parents. In this context, it is seen that the communication problems of teachers with the parents of the students, the disagreements, the distribution and sharing of tasks within the group, the differences of opinion among teachers, the disagreements they have with the school administration regarding their duties and rights, the expectations about the curriculum and duty of overseeing the school and students and personal problems between teachers cause conflicts. In addition, it is seen that the administrative practices of the school administration, deficiencies in physical conditions or materials, oppressive attitudes and behaviours, favouritism and discrimination, and communication problems with teachers are the subjects of conflict. At the same time, the various demands, expectations and wishes of students' parents, their not accepting their children's negative behaviours, their accusing teachers and school administration about the problems experienced, their threatening teachers and imposing violence and pressure on teachers, their interventions with the professional and personal lives of teachers and the administrative procedures such as student registration and discipline cause conflicts between parents and teachers and school administration. In this regard, as Madalina (2016) states, organizational roles and life in the organization can bring along communication problems or differences can cause conflicts among individuals. Thus, it is seen that the effect of organizational roles on conflict processes is important in that individuals' personality characteristics, goals, relationship styles and perceived roles can cause conflicts in the school environment (Çağlayan, 2006). Mohamed (2016) points out that situations such as role ambiguity and distributions within the group, problematic relationships between individuals, inability to share resources and competition for interests can trigger disagreements. Seen from this perspective, individuals' personality, values, goals, position, communicative elements such as interpersonal relations, misunderstandings, power struggles and rivalries, unfair practices, sharing relations and previous interactions are also effective in school organizational life and affect school stakeholders (Wall & Callister, 1995). As can be understood from the findings of the current study, the intensity of conflicts among teachers, between teachers and school administration or between teachers and administrators and parents of students in school organizational life is more frequent than other organizations (Bingöl, 2013; Ekici, 2020; Polat & Demir, 2021; Başsayın, 2022) and it is obvious that this situation creates an expectation that a mediator is needed for teachers and school administrations (Özdoğru, 2022).

When we look at the informal mediation roles undertaken in the conflicts, it is seen that the school administration and administrators generally mediate in these conflicts, while colleagues and school counsellor also play a role in this process. As conflicts in the school disrupt the school climate and functioning, the fact that school administration and administrators take a role, take action voluntarily and take initiative by considering the organizational benefit has a possible effect on the emergence of this result (Dubin, 1958; Açıkalın, 1994; Özdemir, 2018). On the other hand, voluntary peer mediation, which aims to transform the relations between the conflicting parties (Kelman, 1992) and focuses on the solution, is also common in educational institutions. In addition, because of the duties the school counsellor needs to fulfil within the framework of remedial, preventive and protective psychological help and counselling activities in schools (Pamuk & Yıldırım, 2016), school counsellors feel obliged to assume the role of mediator in conflicts.

When we look at the personality and characteristics of teachers or administrators who take on the role of informal mediators, these people generally have knowledge and experience, can communicate strongly, are sensible and calm, have leadership qualities, are patient and harmonious, act impartially, are result-solution oriented, tolerant and understanding, well-intentioned and agreeable, positive and empathetic. In general, it is seen that informal mediator teachers have positive personality characteristics and are responsible, empathetic, sensitive individuals who are trusted in their environment, act fairly and take initiative in a self-controlled manner (Howden, 2015; Fraser & Bryan, 2017; Sam Imperati, 2017; NERIS Analytics, 2022). Teachers with these qualities come to the forefront in conflict processes and act voluntarily and show sensitivity without external stimuli. Seen from this perspective, it can be said that personality characteristics and the impressions left by the individual on other people are important factors for the success of informal mediators (Bercovitch & Houston, 1993)

When the methods used by teachers or administrators who assume the role of informal mediator in the mediation process are examined, it is seen that communicating well and effectively, trying to understand by listening to the parties, displaying a fair and impartial attitude, acting in a solution-oriented manner by offering common or alternative solutions, displaying a determined attitude, using their knowledge and experience, creating dialogue environments to bring the parties closer, revealing common points and removing disturbing elements from the environment are among the methods used by them. From these results, it is seen that people who undertake informal mediation mostly use methods based on integration and reconciliation. In this respect, in the study conducted by Özdemir (2018), it was determined that teachers mostly use these methods in conflicts.In this context, it is seen that finding common points, facilitating (Shonk, 2022), bringing the parties together and transforming relations (Zumeta, 2018) and establishing effective communication (Işık, 2016) create solution-oriented effects on the parties as can be understood from the results of the current study.

Conclusion and Suggestions

As a result, the intense communication and interaction structure of educational institutions brings along conflicts. It is seen that these conflicts generally arise from communication problems, work distribution, different mindsets, administrative procedures, teacher expectations, personal problems, injustices such as favouritism and discrimination, pressures and disagreements originating from parents. It can be thought that the main factor that creates these conflicts is related to roles and expectations about roles, as different social groups take on various roles in different environments and people carry the burden and responsibilities of the duties and communication required by these roles (Gökçe & Şahin 2003; Dozier, 2005). In this process, the emergence of mismatched interests after the interaction between different roles accelerates the conflict processes in the organizational environment. In this context, the teaching profession also requires interacting with different roles and social groups, and the deficiencies, demands and expectations and uncertainties encountered while fulfilling the responsibilities of a position can put the school environment under pressure with conflicts.

The existence of informal mediators, who act in an internally controlled manner and carry out voluntary activities in schools, as in organizational life, contributes to the resolution of conflicts. It is seen that the people who undertake this role are mostly school administration and administrators, and that teachers also play a role in the process. This shows that the mediator role is not only formal in nature, but also has social and informal aspects. Teachers or administrators, who have personality characteristics revealed in the current study, can undertake this role within the framework of the social environment of the organization. This situation reveals that the informal aspects of mediation are more effective and should be taken into account in research. Therefore, conducting more research on informal or social mediation will be beneficial in terms of deepening the subject area. However, considering that the conflicts experienced in educational organisations are intense and diverse, it is important to train voluntary informal or social mediator individuals by taking into account the personality traits revealed in the research in order to prevent these conflicts from reaching a dimension (complaints, investigations and investigations) that will negatively affect the organisation and individuals. Since this research is limited to the context of educational organisations, it would be

useful to conduct research on the functioning of informal mediation in other sectors and organisations in order to understand the depth of the subject.

References

Açıkalın, A. (1994). *Çağdaş örgütlerde insan kaynağının personel yönetimi*. Personel Eğitim Merkezi Yayınları.

Altunışık, R., Coşkun, R., Yıldırım, E. & Bayraktaroğlu, S. (2001). *Sosyal bilimlerde araştırma yöntemleri-SPSS uygulamalı*. Sakarya Kitabevi.

Aytekin, M. G. (2019). *Lise akran arabuluculuğu programı: Geliştirme, uygulama ve arabuluculuk becerilerine etkisini inceleme* (Yüksek Lisans Tezi). Marmara Üniversitesi

Başsayın, N. (2022). *Ortaokullarda görev yapan öğretmenlerin çatışma ve çatışma yönetimine ilişkin görüşleri* (Yüksek Lisans Tezi). Pamukkale Üniversitesi.

Bayar, A. (2015). Bir örgüt olarak okulda meydana gelen çatışma nedenleri ve çözüm yollarına yönelik okul müdürlerinin görüşleri. *Sakarya University Journal of Education, 5*(3), 130-141. https://dergipark.org.tr/tr/download/article-file/192378

Benson, A. J. & Benson, J. M. (1993). Peer mediation: Conflict resolution in schools. *Journal of School Psychology, 31*(3), 427-430. https://doi.org/10.1016/0022-4405(93)90006-5.

Bercovitch, J. & Houston, A. (1993). Influence of mediator characteristics and behavior on the success of mediation ın internatıonal relations. *International Journal of Conflict Management, 4*(4), 297-321. https://doi.org/10.1108/eb022730

Bingöl, A. (2013). *İlköğretim kurumları yöneticileri ile öğretmenler arasındaki iletişim sorunları*. (Yüksek Lisans Tezi). Hasan Kalyoncu Üniversitesi.

Bryman, A. & Burgess, G. (1994). *Analyzing qualitative data*. Routledge.

Check, J. & Schutt, R. K. (2012). Survey research. In J. Check & R. K. Schutt (Eds.). *Research methods in education (*pp. 159–185). Thousand Oaks, CA: Sage Publications.

Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2012). *Bilimsel araştırma yöntemleri*. Pegem Akademi.

Çağlayan, O. A. (2006). *Örgütsel çatışma yönetimi ve bir araştırma*. Yüksek Lisans Tezi. Pamukkale Üniversitesi.

Çetin, C., Türnüklü, A. & Turan, N. (2015). Anlaşmazlıkların çözümünde akran arabuluculuk modelinin dönüştürücü etkileri: Arabulucu öğrenciler gözünden bir değerlendirme. *Dokuz Eylül Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 16*(3), 383-411. https://doi.org/10.16953/deusbed.97238

Çokluk, Ö., Yılmaz, K. & Oğuz, E. (2011). Nitel Bir Görüşme Yöntemi: Odak Grup Görüşmesi. *Kuramsal Eğitimbilim, 4*(1), 95-107. https://keg.aku.edu.tr/arsiv/c4s1/c4s1m6.pdf

Dozier, D. M. (2005). İletişim ve halkla ilişkiler uygulayıcılarının örgütsel rolleri. J. E. Grunig (ed), *Halkla İlişkiler ve İletişim Yönetiminde Mükemmellik* (Çev: Elif Özsayar) (pp. 349-377). Rota Yayınları.

Dubin, R. (1958). *The world of work. Industrial society and human relations*. Prentice-Hall Sociology Series.

Ekici, C. (2020). İlkokul yöneticileri ile öğretmenler arasındaki iletişim durumlarının incelenmesi. *Uluslararası Eğitim Araştırmacıları Dergisi, 3*(2), 292-311. https://dergipark.org.tr/tr/download/article-file/1238662

Fraser, W. & Bryan, P.C. (2017). *5 Characteristics of a great mediator*. Fwblawtx. https://fwblawtx.com/5-characteristics-great-mediator/

Gökalp, A. & İnel, Y. (2019). Akran arabuluculuk eğitiminin ortaokul 5. sınıf öğrencilerinin hoşgörü eğilimlerine etkisi ve akran arabuluculuğuna yönelik görüşleri. *Üçüncü Sektör Sosyal Ekonomi Dergisi, 54(*1), 638-661. https://doi.org/10.15659/3.sektor-sosyal-ekonomi.19.03.1116

Gökçe, O. & Şahin, A. (2003). Yönetimde rol kavramı ve yönetsel roller. *Sosyal Ekonomik Araştırmalar Dergisi, 3*(6), 133-156. https://dergipark.org.tr/tr/pub/susead/issue/28437/302923

Haselgrove-Spurin, C. (2002). *The role of the mediator*. Autumn Conference 2002 Of The Society Of Expert Witnesses. 18th October 2002. United Kingdom.

Howden, D. (2015). *Seven traits of highly effective mediators*. Focus. https://www.shibleyrighton.com/TLW_Feb13_pg12.pdf

Initiative Mediation Support Deutschland (2017). *Basics of mediation: Concepts and definitions*. Federal Foreign Office & Initiative Mediation Support Deutschland (IMSD). Peacemaker. https://peacemaker.un.org/sites/peacemaker.un.org/files/Basics%20of%20Mediation.pdf

Işık, S. (2016). Mediation as an alternative dispute resolution method and mediation process in Turkish law system: An overview. *Annales de la Faculté de Droit d'Istanbul, 48*(65), 55-87. https://dergipark.org.tr/tr/pub/iuafdi/issue/50190/645703

Johnson, D. W. & Johnson, R. T. (1996). Conflict resolution and peer mediation programs in elementary and secondary schools: A review of the research. *Review of Educational Research*, *66*(4), 459-506.

Karakaya, İ. (2012). Bilimsel araştırma yöntemleri. A. Tanrıöğen (Edt.) *Bilimsel araştırma yöntemleri*. Anı Yayınları.

Kelman, H. C. (1992). Informal mediation by the scholar/practitioner. J. Bercovitch & J. Rubin (Ed.). *Mediation in International Relations (pp. 64-96)*. St. Martin's Press.

Kurt, E. (2019). *İlkokul yöneticileri ile öğretmenler arasında yaşanan çatışmalar ve yöneticilerin uyguladıkları çözüm yolları* (Yüksek Lisans Tezi). Maltepe Üniversitesi.

Kuzu, A. (2013). Araştırmaların planlanması. A. A. Kurt (Edt.) *Bilimsel araştırma yöntemleri* (s. 19-45). Anadolu Üniversitesi Yayınları.

Madalina, O. (2016). Conflict management, a new challenge. *Procedia Economics and Finance*, (39), 807-814. https://doi.org/10.1016/S2212-5671(16)30255-6.

Malek, C. (2013). *School-based mediation.* Beyond intractability. https://www.beyondintractability.org/coreknowledge/school-based-mediation

Mohamed, T. (2016). Organisational conflict: A review of the literatüre. *International Journal of Science and Research (IJSR)*, *6*(12), 547-553. https://doi.org/10.21275/ART20178652

NERIS Analytics (2022). *Who is a mediator*? https://www.16personalities.com/infp-personality#:~:text=A%20Mediator%20(INFP)%20is%20someone,approach%20to%20everything%20they%20do.

Özdemir, N. (2018). Okullarda öğretmenlerin yaşadığı çatışma ve çatışma yönetim stilleri. *Cumhuriyet Üniversitesi Fen-Edebiyat Fakültesi Sosyal Bilimler Dergisi, 42*(2), 93-116. http://cujos.cumhuriyet.edu.tr/tr/pub/issue/41012/495677

Özdoğru, M. (2022). Öğretmenlerin yaşadıkları çatışmaların çözümünde okul müdürlerinin arabuluculuk davranışları. *Milli Eğitim Dergisi, 51*(234), 1457-1472. https://dergipark.org.tr/en/download/article-file/1405992

Paçacı, M. & Erdem, R. (2019). Örgütlerde informal roller üzerine kavramsal bir inceleme. *Süleyman Demirel Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 2*(33), 1-28. http://dergipark.org.tr/sbe/issue/41368/510418

Pamuk, M. & Yıldırım, T. (2016). Psikolojik danışmanların bireysel psikolojik danışma uygulamaları ve bu uygulamalardaki yeterliklerine ilişkin algıları. *İnönü Üniversitesi Eğitim Fakültesi Dergisi, 17*(2), 1-20. https://doi.org/10.17679/iuefd.17275647

Polat, S. & Dereli Demir, N. (2021). Ortaokul öğretmenleri arasında yaşanan kuşaklararası çatışma: Nedenleri, öğretmenlere etkileri ve çözüm yöntemleri. *Adnan Menderes Üniversitesi Eğitim Fakültesi Eğitim Bilimleri Dergisi, 12* (2), 20-33. https://dergipark.org.tr/tr/download/article-file/1795662

Patton, M. Q. (2014). *Nitel araştırma ve değerlendirme yöntemleri* (Çev. M. Bütün & S. B. Demir). Pegem Akademi.

Rahman, K. A. (2012). Mediation and mediator skills: A critical appraisal. *Bangladesh Research Foundation Journal, 1*(1), 223-232.

Ronquillo, Y., Ellis, V. L. & Toney-Butler, T. J. (2022). *Conflict management*. StatPearls Publishing

Sam Imperati, J. D. (2017). *Traits of a mediator*. Mediate. https://www.mediate.com/traits-of-a-mediator/

Sample, J.(2017). *Thomas-Kilmann conflict mode instrument*. Cpp. https://www.skillsone.com/Pdfs/smp248248.pdf

Shonk, K. (2022). *Types of mediation: Choose the type best suited to your conflict*. Harvard Law School. https://www.pon.harvard.edu/daily/mediation/types-mediation-choose-type-best-suited-conflict/

Singleton, R. A. & Straits, B. C. (2009). *Approaches to social research* . New York: Oxford University Press.

Şahin, Y. (2021). Uyuşmazlıkların çözümünde üçüncü taraf rolü olarak arabuluculuk. *Güvenlik Çalışmaları Dergisi, 23*(2), 220-242. https://dergipark.org.tr/tr/download/article-file/1957756

Şentürk, N. (2006). *İlköğretim okullarında yaşanan çatışma türleri ve yöneticilerin izledikleri çözüm yöntemleri* (Yüksek Lisans Tezi). Trakya Üniversitesi.

Thakore, D. (2013). Conflict and conflict management. *IOSR Journal of Business and Management, 8*(6), 7-16. https://www.iosrjournals.org/iosr-jbm/papers/Vol8-issue6/B0860716.pdf

Tjosvold, D. (2006). Defining conflict and making choices about its management: Lighting the dark side of organizational life. *International Journal of Conflict Management, 17*(2), 87-95. https://doi.org/10.1108/10444060610736585

Trevaskis, D. K. (1994). *Mediation in the schools*. ERIC Clearinghouse for Social Studies/Social Science Education Bloomington. Ericdigests. https://www.ericdigests.org/1995-2/mediation.htm

Wall, J.A. & Callister, R. R. (1995). Conflict and its management. *Journal of Management, 21* (3), 515-558. https://doi.org/10.1177/014920639502100306

Yıldırım, A. & Şimşek, H. (2006). *Sosyal bilimlerde nitel araştırma yöntemleri*. Seçkin Yayıncılık.

Zumeta, Z. (2018). *Styles of mediation: Facilitative, evaluative, and transformative mediation*. Mediate. https://www.mediate.com/styles-of-mediation-facilitative-evaluative-and-transformative-mediation/

Primary School Students' Sense of Belonging towards Ethical Values and Ethical Value Concerns Scale: Validity and Reliability Study

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Abstract

The aim of this study is to develop a valid and reliable measurement tool that can measure the attitudes towards ethical values and ethical value concerns of primary school students at the basic education level. The study group of the research consists of 2nd, 3rd and 4th grade primary school students studying in 144 primary schools in Kars City Centre in the 2021-2022 academic year. With in the scope of the validity and reliability studies of the scale, explanatory factor analysis (EFA), confirmatory factor analysis (CFA), total item correlation, and Cronbach Alpha coefficient were used. EFA and CFA findings were obtained from a sample group of 435 participants selected by stratified purposive sampling method. According to the findings of the validity and reliability analyses of Senses of Belonging towards the Ethical Values and Ethical Values Concern Scale, it was determined that the scale is a valid and reliable scale with its structure consisting of 8 dimensions and 28 items. The sub-dimensions of the scale are "Love/Respect, Justice, Friendship/Honesty, Patience, Responsibility, Selfcontrol, Benevolence and Patriotism". The high scores obtained from the sub-dimensions of the scale indicate that the students' level of predisposition to values is high, while low scores indicate that the students do not have sufficient knowledge about values and do not develop sufficient attitudes. Cronbach's Alpha coefficient of the scale is 0.90; Cronbach's Alpha coefficients of the sub-dimensions vary between 0.68 and 0.80. The item-total correlation was found to be above 0.30 in all items (between 0.37 and 0.61). Based on the results, it was determined that the scale is a valid and reliable measurement tool that can be used.

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Introduction

Considering the needs of societies and individuals in a digitalised world, raising children is an important responsibility. The ways of raising a child well, require the professionalism of knowing the child well, getting opinions/support from experts and consulting experts (Furman, 2021). The acquisition, teaching and transfer of ethical values is an important need for the good upbringing of children who constitute the building blocks of society. When it comes to ethical values, the concept of ethical climate comes to the fore. Ethical climate is defined as ethically based methods and practices (Victor & Cullen, 1988). Ethical climate is a broad spectrum that includes school culture. In general, ethical climate studies are conducted outside the school and educational organisations. However, school environments are the places where ethical value climate will form and take root. For this reason, ethical value studies to be carried out in schools are more important. The education given within the framework of ethical climate is usually formulated as the need to teach students the difference between right and wrong, and students are generally expected to transform this theoretical knowledge into actions. In this case, the tasks of moral behaviour and value education can be listed as follows: Defining appropriate values, transferring the defined values to the students, and finally transforming the theoretical values transferred to the students into behavioural patterns (actions) (Clarkeburn, 2002, p.308).

Education should be shaped in the perspective of ethical climate. Because students, staff, teachers, and administrators under the roof of the school may face numerous problems. The segment most affected by these problems is undoubtedly students. Educational institutions should be environments where children realise themselves by living in a healthy, happy, and free way (Bilgen, 1994, p.23). In this context, teachers and administrators are faced with questions and problems such as "What can I do in this situation?", "What should I do?", "Is this behaviour right?", "Is it right for me to behave in this way?". These situations in school culture cause teachers and administrators to deal with more and more problems related to ethical fields. Ethics in education and teaching is an issue that should be taken into consideration in educational outcomes, different contents, transferred values and educational process. Ethics in education is an area that should be examined primarily in terms of many variables. The reason for this situation is that education, which is the process of creating behaviour change in individuals, occurs as an initiative (Aydın, 2013).

As in daily life, there are ethical principles and rules that students are obliged to comply with in educational institutions. Ethical principles are broad statements that help individuals transform conceptual and philosophical beliefs into ethical behaviour (Gauthier, Pettifor & Ferrero, 2010). Ethical principles that must be followed in educational life create various rights and responsibilities for the individual receiving education in the educational institution.

Individuals shape their moral codes and universal values through the values education they receive in educational institutions. In this context, values education is the educational activities carried out for children and adults to realise positive values and to develop these values according to their own potential (Meydan, 2014). Educational activities are fed by educational philosophies. The definition and scope of values education is influenced by the philosophical background of the education system that makes this definition. The philosophical source from which the education given to the individual is fed may also have a shaping effect on values education. When we look at idealism, it is seen that the ideas that exist in reality are not perceived by our five senses, and that the ideas that exist in reality are eternal and perpetual (Cevizci, 2017). From this perspective, it is seen that root values are also abstract and integrative. In addition, idealism is seen to have basic views such as giving importance to the personality of the individual, encouraging the individual to search for the truth, and creating an ideal human and society (Küçükaslan, Elkılıç & Ulu, 2021).

Ethical values, root values, character education and values education are important in an idealist education system. Values should be given importance in idealist education (Küçükaslan et. al., 2021). According to idealists, education should assume a role that will lead people to the beautiful, the right and the good. In this context, an idealist education system cannot be considered independent of values and moral codes. The traditional tissues that should be present in the individual and the modern identities gained as a result of changes and transformations in technology can be reconciled with the education given. In this respect, aim of education should be to enable the individual to reach the best

and ideal values. It should also provide the necessary environment for the individual to have a good personality and character (Kurt, 2016). Education, from the perspective of idealists, is surfacing of values with an institutional understanding and is accompanied by idealist ideas. In this context, education should be the monopoly of the state, but educational institutions should prioritise education that develops cognitive, affective and psychomotor skills, educate virtuous individuals, and be designed in a way that will lead the individual to the ideal of good (Kılıç, 2016). It is thought that the study to be carried out in this regard will also serve idealist and other philosophies of education.

Societies have ethical value concerns for the progress and development of countries in the context of ethical values in many fields. It is possible to prevent these concerns through the acquisition of ethical values and the transfer of ethical values to the existence of ethical values. This situation is also the case for Türkiye. In the 18th National Education Council held in 2010 (NEC, 2010), in the 29th article under the title of "Sports, Arts, Skills and Values Education", the statement "A nationwide field survey should be conducted by the Ministry of National Education to determine the values of our children and young people and this survey should be updated every 4 years." expresses the concern about ethical values.

Cognitive, affective and psychomotor development areas of the individual constitute an integrity. In this integrity, moral development is also important for the individual. In order for the individual to progress in all areas of development, emotions should mobilise the individual. In this respect, anxiety is one of the emotions that are part of the development process. In parallel with the change and progress of age and developmental processes in children, anxiety can be experienced in different ways such as separation anxiety as a result of separation from the person who takes care of the child, sibling anxiety, school and homework anxiety, anxiety about making friends, anxiety about being humiliated by the behaviours shown as a result of ethical principles. While it is considered normal for the child to experience anxiety in the face of different events in daily life, it is considered pathological for the child to experience anxiety continuously except for unusual events (Alisinanoğlu & Ulutaş, 2003; Çifter, 1985).

The researcher who decides to develop a scale can finalise the scale by following the eight steps given below. These steps can be listed as follows (Şahin & Öztürk, 2018):
1.Firstly, it should be decided 'what is to be measured'. The theoretical structure of the variable to be measured and related variables should be presented in detail,
2.Creation of an item pool,
3.Deciding on the format of the measurement tool,
4.Review of the items by experts,
5.Ensuring item validity,
6.Application of the scale,
7.Evaluation of the items,
8.Finalising the scale.

There are many studies on ethical values. When the word "ethics" is typed in the National Thesis Scanning Centre, 1139 master's and doctoral thesis studies appear. 227 of these studies are on education and teaching and 34 of them are doctoral thesis studies. Seven of the doctoral thesis studies were prepared with qualitative research method (Börü, 2015; Canan, 2016; Coşkun, 2020; Coşkun, 2016; Tekel, 2018; Türker, 2017; Yayla, 2004). 17 doctoral thesis studies were prepared with quantitative research methods (Acar, 2011; Beyza, 2011; Çiçek, 2017; Dolaşır, 2005; Eser, 2018; Kahveci, 2019; Koçyiğit, 2017; Manolova, 2011; Mısırlı, 2016; Ölçüm, 2021; Özbek, 2003; Uğurlu, 2009; Sakin, 2007; Tarım, 2020; Tekel, 2018; Toytok, 2014; Turhan, 2007; Yılmaz, 2006). Nine doctoral thesis studies were carried out with mixed method research (Erdemir, 2015; Esmer, 2017; Haban, 2018; Karabulut, 2015; Kaya, 2020; Minaz, 2017; Mutlu, 2018; Özdiyar, 2015; Özyıldırım, 2018). The remaining 193 studies are master's thesis studies on education and teaching. Also, Tunca, Şahin, Sever & Aktaş (2015), Yardimciel (2015), Çalışkan (2016), Uzunöz, Aktepe & Köybaşı (2018), Tarım (2020), Korku (2021), Luckowski (1996), Mikulics (1998), Haydon (2004), Chandler (2005), Blake (2011), Pucci (2012), Arthur & Carr (2013), Pellechia (2018) are studies on ethics/ethical values/values education. However, the lack of studies examining or addressing primary school students' attitudes towards ethical values and ethical value concerns among these studies can be interpreted as a gap in the literature. Since this study aims to develop a measurement tool that can

measure the ethical value attitudes and ethical value concerns of primary school students, it can contribute to obtaining more valid and reliable information about the ethical value attitudes and ethical value concerns of students at the basic education level.

In addition, it is thought that this study will be a source for the studies to be carried out at the basic education level and course curricula at the basic education level. In this context, the current research aims to develop a valid and reliable scale that can determine the attitudes towards ethical values and ethical value concerns of 2nd, 3rd and 4th grade students at the basic education level, and its main scope is the answer to the question "What is the level of primary school students' attitudes towards ethical values and do primary school students have ethical value concerns?".

Method

In this section, information about the research model, study group, data collection and data analysis are presented. For the study, permission was obtained from Atatürk University Social and Human Sciences Ethics Committee on 23/09/2022 with the number 10/10.

Research Design

This research is a quantitative scale development study conducted in the survey model. The survey model is a research model that describes an existing situation as it is without any intervention to reach a general conclusion (Karasar, 2012). Scales are developed to reveal what and how the individual's characteristics such as interest, attitude, anxiety, and motivation that cannot be directly observed (Kovancı, 2020). Accordingly, the aim of this study is to develop a data collection tool that measures the attitudes of primary school 2nd, 3rd and 4th grade students towards ethical values and the level of their ethical value concerns.

Study Group

The study group of the research consists of 2nd, 3rd and 4th grade primary school students studying in 144 primary schools in Kars city centre in the 2021-2022 academic year. In the study, explanatory factor analysis (EFA) and confirmatory factor analysis (CFA) findings were obtained from the study group consisting of 435 people selected by multi-stage stratified purposive sampling method. Multi-stage stratified purposive sampling was used in the study. Accordingly, it was aimed to sample every student in the universe at the rate in the universe. Then, the schools in Kars city centre where the application was carried out were determined and it was ensured that they were represented in the sample as much as they were represented in the universe. The classes in the schools to which the scale would be applied were determined by simple random sampling method. Comrey and Lee (1992) stated that the number of participants in scale development studies should be between 200 and 300 (as cited in Erçetin, 2021, p. 1053). The demographic information of the participants is shown in Table 1 according to their demographic characteristics.

Table 1. Distribution of the study group according to variables

Demographic Variable	Groups	n	%
Age	1	23	5.3
	2	282	64.8
	3	130	29.9
Grade	2	122	28.0
	3	157	36.1
	4	156	35.9
Gender	1	206	47.3
	2	229	52.6

When the descriptive analyses of 435 students who participated in the scale research studies are examined; when the distribution of the students included in the sample according to the age variable is examined, 23 (5.3%) of the primary school students participating in the research are in the 6-7 age range; 282 (64.8%) are in the 8-9 age range and 130 (29.9%) are in the 10-11 age range. Among the primary school students participating in the study, 122 students (28.0%) were in 2nd grade, 157 students (36.1%) were in 3rd grade and 156 students (35.9%) were in 4th grade. When the

distribution of the students included in the sample according to gender was analysed, 206 (47.3%) of the primary school students participating in the study were female and 229 (52.6%) were male.

Data Collection Process

While determining the scale development studies to be examined in the process of preparing the draft scale items, the words "ethics, value, ethical values, ethics and morality" were scanned in the research titles and the studies conducted in the field were analysed. While creating the item pool, "Ethical Values Disposition Scale: Validity and Reliability Study" by İbrahim Kaya (2015) was also benefitted. In addition, an interview form about "ethical values" was prepared, and interviews were conducted with 2nd, 3rd and 4th grade students and certain data were obtained as a result of these interviews and these data were used in the development of the scale. As a result of the analyses, an item pool of 69 items was formed.

In order to determine whether the items in the draft scale determine the behaviour to be measured in terms of quantity and quality (Büyüköztürk, 2011), the draft scale was submitted to expert opinion for the content and face validity of the item pool. The item pool was examined by two professors, two associate professors, two doctoral faculty members and two linguistics experts (Guidance and Psychological Counselling, Curriculum and Instruction). In order to make the expressions in the draft scale more comprehensible in terms of spelling and meaning, the opinions of the language experts of the Department of Turkish Language Teaching were also consulted. After all these examinations and partial corrections of overlapping items, the 76-item draft scale was finalised and the implementation phase started.

As a result of the feedback received from the experts, the scale draft was presented to some students in terms of comprehensibility, and it was determined that the draft was comprehensible as a result of the feedback received.

The scale was prepared in 5-point Likert type and the scale items were formed as "1" completely disagree, "2" disagree, "3" undecided, "4" agree and "5" completely agree. The 76-item draft of the "Primary School Students' Sense of Belonging towards Ethical Values and Ethical Value Concern Scale" was delivered to 480 students in 5 different schools not included in the study group, and 435 of the returned scales were subjected to analyses without including the incomplete and incorrect ones. In this study, SPSS 21.0 and AMOS 22.0 statistical programmes were used to analyse the data. Explanatory factor analysis (EFA), confirmatory factor analysis (CFA), item-total correlation, and Cronbach Alpha methods were used in the validity and reliability studies of the scale.

Explanatory factor analysis (EFA) can be defined as a multivariate statistic that aims to find and discover a smaller number of conceptually meaningful new variables by bringing together a large number of interrelated variables (Çokluk, Şekercioğlu, & Büyüköztürk, 2010). In explanatory factor analysis, a process is carried out to find factors based on the relationships between variables. In explanatory factor analysis, firstly, the adequacy of the sample is evaluated by Kaiser Meyer Olkin and Barlett's Sphericity Test. In general, KMO>0.70 and p<0.05 for Barlett's Sphericity Test are expected. There are various factor generation techniques, but the most commonly used one is principal component analysis. On the other hand, rotated factor matrix is obtained by using one of the rotation methods. In social science applications, Varimax technique, one of the orthogonal rotation methods, is most commonly used. After Varimax rotation, the load of the items on the factor to which they belong, the load on other factors and the difference between the loads on more than one factor are analysed. In factor analysis, when eliminating the items that do not measure the same construct, it should be paid attention that the factor load values are high (0.45 or higher is a good measure, but this ratio can be reduced to 0.30) and that the items have high load values in a single factor and low load values in other factors (the factor load difference between the factors other than the factor where each item has the highest factor load is at least 0.10) (Büyüköztürk, 2011).

Confirmatory factor analysis (CFA) is a highly developed technique based on testing theories about latent variables and used in advanced research. It is an analysis that tests whether a previously defined and restricted structure is confirmed as a model. Confirmatory factor analysis is one of the structural equation models, and in structural equation models, model fit must first be ensured. In the evaluation of model fit, the ratio of the "Chi-square statistic to the degrees of freedom" (X2/sd), "statistical significance of individual parameter estimates" (t value), "fit indices based on residuals"

(SRMR, GFI), "fit indices based on independent model" (NFI, NNFI, CFI) and "root mean square error of approximation (RMSEA)" is commonly used. (Çokluk, Şekercioğlu, &Büyüköztürk, 2010). The expected coefficients for the model fit indices are given in Table 2.

Table 2. Model fit indices.

Indexesof Fitness	GoodFit	PerfectFit
X^2 /sd	<5	<3
RMSEA	≤0,10	<0,08
SRMR	≤0,08	<0,05
GFI	≥0,90	>0,95
NFI	≥0,90	>0,95
NNFI	≥0,90	>0,95
CFI	≥0,90	>0,95

Source: Çokluk, Şekercioğlu and Büyüköztürk, 2010.

Item-total correlation, one of the item analysis methods applied within the scope of reliability study, explains the relationship between the scores obtained from the test items and the total score of the test. A positive and high item-total correlation indicates that the items sample similar behaviours and the internal consistency of the test is high. In general, it can be said that items with an item-total correlation of 0.30 and higher distinguish individuals well, and items between 0.20-0.30 can be includedin the test if deemed necessary. Cronbach Alpha is used to examine the internal consistency between test scores. The calculated reliability coefficient of 0.70 and higher is generally considered sufficient for the reliability of the test scores (Büyüköztürk, 2011).

<div align="center">

Findings

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Explanatory Factor Analysis Results

In the explanatory factor analysis of the Sense of Belonging towards Ethical Values and Ethical Value Concerns Scale, KMO was found to be 0.88 and Bartlett's sphericity test significance level was found to be p<0.01; therefore, it was observed that the sample was sufficient for explanatory factor analysis. The results of the explanatory factor analysis are presented in Table 3.

Table 3. Initial results of expanatory factor analysis

Item No	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
love1	0.50	0.12	0.12	-0.04	0.06	0.09	0.03	0.17	0.22	0.00
love2	0.51	0.30	0.09	0.04	0.05	0.20	0.20	0.15	-0.08	0.06
love3	0.15	0.07	0.02	0.07	0.03	0.16	0.42	0.09	0.05	-0.11
love4	0.50	0.15	0.12	-0.13	-0.03	0.00	0.11	0.20	0.12	0.15
love5	0.66	0.05	0.07	-0.07	0.10	0.04	0.14	0.09	0.05	0.04
love6	0.35	0.17	0.01	0.00	0.03	0.01	0.49	-0.06	0.01	0.02
love7	0.65	0.12	0.24	0.00	0.16	-0.03	0.01	0.12	0.00	0.15
love8	0.19	0.10	0.07	0.15	0.39	0.08	0.22	-0.12	0.17	-0.10
respect1	0.58	0.16	0.12	0.00	-0.01	0.01	0.15	0.22	-0.01	0.06
respect2	0.51	0.02	0.15	0.01	0.31	-0.02	0.12	0.08	0.00	0.00
respect3	0.53	0.13	-0.06	0.03	0.05	0.06	0.04	0.01	0.14	-0.05
respect4	0.40	-0.02	0.12	-0.02	0.06	0.06	0.56	-0.03	0.08	0.08
respect5	0.55	0.42	0.22	-0.09	0.23	-0.04	0.07	0.09	0.05	0.01
respect6	0.42	0.41	0.04	-0.03	0.18	0.17	0.05	0.07	0.11	-0.06
respect7	0.37	-0.01	-0.03	-0.04	0.41	0.24	-0.05	0.06	0.20	0.00
respect8	0.37	0.03	0.07	-0.07	0.25	0.13	0.34	-0.01	0.09	0.10
respect9	0.67	0.12	0.11	0.01	-0.03	-0.03	0.30	-0.01	0.00	0.04
justice1	0.46	0.20	0.10	-0.12	0.37	0.19	-0.02	-0.03	0.10	0.13
justice2	0.07	0.09	0.06	0.12	0.36	0.23	0.38	-0.04	-0.06	-0.15

Table 3. Initial results of expanatory factor analysis (Continued)

Item No	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
justice3	0.49	0.17	0.23	0.18	0.23	0.17	-0.08	-0.13	-0.09	-0.09
justice4	0.23	0.35	0.10	0.28	0.25	0.04	0.03	-0.03	-0.12	-0.13
justice5	0.58	0.20	0.07	0.05	0.18	0.19	0.01	-0.07	-0.15	0.09
justice6	0.44	0.25	0.20	0.00	0.13	0.13	0.19	-0.06	-0.01	-0.03
friendship1	0.18	0.59	0.02	-0.01	0.08	0.23	-0.11	0.03	0.07	0.08
friendship2	0.08	0.73	0.20	0.01	0.12	0.18	0.14	0.10	0.02	0.01
friendship3	0.07	0.69	0.22	-0.08	0.15	0.05	0.16	0.02	0.18	0.09
friendship4	0.22	0.53	-0.01	0.02	0.03	0.00	-0.01	0.05	0.17	-0.07
friendship5	0.13	0.35	-0.05	0.12	0.23	0.06	-0.15	-0.05	0.32	-0.06
friendship6	0.24	0.63	0.20	0.02	-0.11	0.07	0.13	0.16	0.14	0.08
honesty1	0.33	0.47	-0.09	0.12	0.17	0.20	-0.03	0.11	-0.03	0.10
honesty2	0.23	0.53	0.15	0.04	0.13	0.17	0.16	0.12	0.04	0.22
honesty3	0.25	0.51	0.19	0.12	0.15	-0.03	0.26	-0.11	-0.15	0.17
honesty4	0.25	0.33	0.11	0.14	0.09	0.25	0.23	0.14	0.03	-0.01
honesty5	0.18	0.22	0.12	0.03	0.40	0.17	0.23	-0.04	-0.02	0.14
honesty6	-0.10	0.19	0.00	0.38	0.00	-0.01	0.08	-0.08	0.57	0.11
honesty7	0.14	0.30	0.33	0.05	0.21	0.10	0.12	0.00	-0.02	0.33
honesty8	0.05	0.06	0.00	0.11	0.04	0.11	0.08	0.06	0.22	0.80
honesty9	0.09	0.07	0.00	0.15	0.05	0.12	-0.10	0.03	0.14	0.78
honesty10	-0.10	-0.02	-0.11	0.46	0.02	0.02	-0.02	0.02	0.24	0.04
honesty11	-0.05	0.01	-0.18	0.51	-0.01	0.03	0.03	0.09	0.37	0.20
honesty12	0.16	0.08	0.03	0.31	-0.06	0.22	-0.10	-0.05	0.06	0.34
patience1	0.14	0.14	0.17	0.01	0.07	0.66	0.16	0.14	0.13	0.13
patience2	0.10	0.19	0.09	0.03	0.08	0.69	0.11	0.12	0.04	0.11
patience3	0.07	0.16	0.05	0.09	0.15	0.62	0.12	0.12	0.08	0.11
patience4	0.02	0.10	0.12	0.55	0.06	0.22	-0.10	-0.17	-0.03	0.01
patience5	0.06	0.21	0.12	0.50	0.08	0.11	0.00	-0.29	0.08	0.06
self-control1	0.24	0.24	0.18	0.16	-0.22	0.34	0.25	0.04	0.05	0.05
self-control2	0.41	0.29	0.25	0.12	-0.02	0.29	0.35	-0.02	-0.05	0.09
self-control3	-0.06	-0.03	0.00	0.66	0.05	0.08	0.01	0.10	-0.05	0.11
self-control4	0.20	0.10	0.25	0.26	0.14	0.27	0.31	-0.06	-0.17	0.17
self-control5	-0.01	0.07	0.08	0.51	0.07	0.07	0.21	0.04	-0.06	0.16
self-control6	0.02	0.15	0.09	-0.54	0.00	0.20	0.01	-0.26	-0.19	0.16
self-control7	0.25	0.01	0.28	0.14	-0.13	0.06	-0.02	0.48	-0.11	0.17
self-control8	0.08	0.07	0.14	-0.54	0.08	0.23	0.01	-0.25	-0.25	0.17
self-control9	0.05	0.08	0.07	0.14	-0.02	0.11	-0.07	0.58	0.00	-0.03
self-control10	0.09	0.00	0.18	0.40	-0.02	-0.18	0.17	0.26	0.02	0.09
self-control11	0.21	0.24	0.12	0.09	0.37	0.01	0.19	0.34	-0.09	0.25
responsibility1	0.02	0.15	0.16	0.01	0.26	0.19	0.08	0.37	0.24	-0.06
responsibility2	0.27	0.24	0.37	-0.05	0.25	0.14	0.08	0.44	0.05	0.07
responsibility3	0.22	0.08	0.19	-0.01	0.33	0.11	0.10	0.46	0.22	0.07
responsibility4	0.19	0.17	0.17	-0.04	0.23	0.28	-0.07	0.40	-0.07	0.00
responsibility5	0.02	0.29	0.50	0.08	0.26	0.02	0.18	0.25	-0.06	0.23
responsibility6	0.12	0.21	0.20	-0.06	0.27	0.23	0.31	0.32	0.11	0.03
benevolence1	0.19	0.23	0.26	0.08	0.35	0.08	-0.01	0.12	0.14	0.05
benevolence2	0.20	0.18	0.23	0.04	0.45	0.02	0.05	0.17	0.06	0.02

Table 3. Initial results of expanatory factor analysis (Continued)

Item No	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
benevolence3	0.28	0.16	0.25	0.10	0.54	-0.04	-0.01	0.15	0.14	0.12
benevolence4	0.15	0.10	0.39	0.03	0.26	0.06	0.08	0.11	0.50	-0.03
benevolence5	0.02	0.17	0.50	-0.11	0.26	-0.01	0.24	0.09	0.10	0.19
benevolence6	0.15	0.10	0.15	0.08	0.05	0.18	0.12	-0.01	0.57	0.24
benevolence7	0.16	0.12	0.21	0.16	0.12	0.05	-0.05	0.05	0.61	0.20
patriotism1	0.06	0.35	0.49	-0.03	0.24	-0.02	0.26	0.11	0.04	0.06
patriotism2	0.14	0.25	0.57	0.04	0.09	0.02	0.31	0.16	0.07	0.00
patriotism3	0.10	0.14	0.68	0.02	0.18	-0.03	0.13	0.06	-0.03	0.04
patriotism4	0.19	0.06	0.60	0.00	0.06	0.25	-0.07	0.19	0.16	-0.12
patriotism5	0.24	0.11	0.71	-0.01	-0.08	0.22	-0.05	0.11	0.18	-0.04
patriotism6	0.23	-0.13	0.73	0.02	0.02	0.14	-0.14	0.00	0.03	-0.04
Variance	8.77	6.76	6.19	4.29	3.97	3.78	3.37	3.27	3.22	3.12
Total Variance (%)					46.74					

According to the results of the explanatory factor analysis, it was determined that the total variance explained by 76 items in the scale was 46.74% and the total variance obtained was quite low considering the number of items in the scale. On the other hand, it was determined that there were items with low factor loads in the dimension to which they belonged and high factor loads in other dimensions. When the expressions of the items in the scale were analysed, it was observed that some of these items were related to other dimensions in terms of the meaning they carried. For this reason, firstly, items with low factor loads in the factor to which they belonged and items with high factor loads in other factors that they were not related in terms of meaning were gradually removed and the results in Table 4 were obtained as a result of repeated Varimax rotations.

Table 4. Explanatory Factor Analysis Results (32 items)

Item No	F1	F2	F3	F4	F5	F6	F7	F8
love4	0.17	0.10	0.07	0.06	0.66	0.16	-0.07	0.20
respect1	0.13	0.14	0.21	0.21	0.67	0.05	0.06	-0.01
respect2	0.00	0.15	0.27	0.21	0.60	-0.05	0.19	-0.11
respect9	0.16	0.11	0.00	0.32	0.59	-0.05	0.26	0.08
justice1	0.17	0.01	0.25	0.51	0.26	0.12	0.06	0.22
justice3	0.11	0.22	0.00	0.64	0.11	0.12	0.13	0.09
justice5	0.14	0.02	0.10	0.69	0.32	0.10	0.13	-0.04
justice6	0.22	0.12	0.13	0.68	0.10	0.03	0.12	0.09
friendship1	0.59	-0.04	0.12	0.04	0.15	0.28	0.06	0.08
friendship2	0.74	0.17	0.27	0.28	-0.09	0.12	0.03	-0.04
friendship3	0.73	0.17	0.23	0.17	-0.03	0.00	0.05	0.16
honesty1	0.54	-0.10	0.13	0.18	0.27	0.16	0.11	0.08
honesty2	0.62	0.10	0.11	-0.01	0.34	0.23	0.15	0.12
honesty3	0.61	0.13	-0.05	0.20	0.18	-0.03	0.34	-0.07
patience1	0.18	0.22	0.12	0.15	0.03	0.74	0.15	0.04
patience2	0.22	0.09	0.16	0.19	0.03	0.75	0.09	0.08
patience3	0.09	0.00	0.27	-0.04	0.08	0.58	0.34	0.12
self-control1	0.14	0.09	0.08	0.13	0.07	0.23	0.53	0.10
self-control2	0.29	0.16	0.10	0.30	0.21	0.23	0.53	-0.01
self-control4	0.08	0.08	0.11	0.11	0.08	0.11	0.77	0.06
responsibility1	0.12	0.13	0.58	-0.07	0.09	0.19	-0.06	0.18
responsibility2	0.27	0.30	0.59	0.20	0.12	0.08	0.04	0.17
responsibility3	0.12	0.19	0.60	0.03	0.18	0.06	0.08	0.17
responsibility4	0.02	0.07	0.64	0.23	0.08	0.18	0.13	-0.09
responsibility6	0.22	0.12	0.62	0.11	0.10	0.07	0.18	0.02
benevolence6	0.08	0.06	0.09	0.17	0.02	0.14	0.13	0.82
benevolence7	0.10	0.13	0.15	0.04	0.10	0.03	0.03	0.81
patriotism2	0.33	0.53	0.22	0.10	0.00	-0.09	0.37	0.13
patriotism3	0.17	0.64	0.23	0.06	0.09	-0.19	0.27	0.05
patriotism4	0.08	0.71	0.21	0.20	0.04	0.23	-0.09	0.01
patriotism5	0.12	0.72	0.14	0.07	0.15	0.22	0.09	0.18
patriotism6	-0.10	0.79	0.07	0.06	0.18	0.09	0.05	0.01
Variance	9.99	8.86	7.98	7.43	7.01	6.45	6.03	5.27
Total Variance (%)				59.02				

As a result of the gradual elimination of items in the explanatory help factor analysis, it was observed that 32 items remained in the scale and the variance explained by the remaining items wasmuch higher (59.02%) than the structure consisting of 76 items. In other words, the power of the 32-item structure of the scale to measure feelings of belonging towards ethical values and ethical value concerns is higher than 76 items. According to the results of the explanatory factor analysis, the contribution of the dimensions to the variance is between 5.27% and 9.99%. Some of the items in two dimensions were eliminated due to item reduction in the scale and the remaining items were combined with other dimensions. Three items in the "friendship" dimension, which was originally planned as six items, were removed from the scale and the remaining three items (I trust my friends, I try to be honestwith my class teacher, I try to be honest with my friends) were combined with the honesty dimension. Similarly, seven items in the affection dimension were removed from the scale and only one item (I like my school) was combined under the affection-respect dimension. As a result of the explanatory factor analysis, the structure consisting of 8 dimensions (love-respect, justice, friendship-honesty, patience, self-control, responsibility, benevolence, patriotism) and 32 items wastested with

confirmatory factor analysis.

Confirmatory Factor Analysis Results

Table 5 shows the fit indices obtained as a result of confirmatory factor analysis (CFA) conducted with the 32 items remaining after EFA in the Sense of Belonging towards EthicalValues and Ethical Value Concerns Scale. Since it was determined that the model fit indices were not at acceptable levels, but the factor loads were at high levels, firstly, covariance connections were established, and the model fit indices were tried to be improved.

Table 5. Model Fit Indices obtainedin confirmatory factor analysis

Model Fit Indices	DFA1 32 items	DFA2* 32 items	DFALast* 28 items
X^2/sd	2.59	2.38	1.96
SRMR	0.05	0.05	0.04
GFI	0.86	0.87	0.90
NNFI	0.83	0.85	0.90
CFI	0.85	0.87	0.91
RMSEA	0.06	0.05	0.04
Factorload	0.50/0.79	0.49/0.78	0.54/0.82
Correlation between factors	0.31/0.76	0.30/0.77	0.34/0.74
Number of covariances	-	8	5

*: With covariance links

In the first stage of confirmatory factor analysis, it was determined that inappropriate model fit indices did not reach a sufficient level with appropriate covariance links. In the modification proposal, it was determined that more covariance connections were proposed than the number of items, there were 8 proposed connections between the items in the same dimension, and the other proposed connections were with the items in the (other) dimensions to which the item did not belong. Despite the 8 connections, it was determined that the model fit indices did not reach appropriate levels. Since a high correlation with the items in the dimension to which an item does not belong indicates that they are overlapping, 4 items with high correlation with items in other dimensions (friendship2, friendship3, honesty3, patience3) were gradually removed from the scale (starting from the item with the highest correlation) and a structure consisting of 28 items was obtained. With the remaining 28 items in the scale, it was determined that all of the model fit indices reached good and very good level sand the 28-item and 8-dimensional structure of the scale was confirmed. In Table 6, the factor loads, item total correlation and Cronbach Alpha statistics obtained from the confirmatory factor analysis of the Sense of Belonging towards Ethical Values and Ethical Value Concerns Scaleare presented.

Table 6. CFA results of the sense of belonging towards ethical values and ethical value concerns scale

Substance and Dimension	Std.β	t	r	α	Substance and Dimension	Std.β	t	r	α
Love and Respect				0.71	Self-regulation				0.63
1.love4	0.53		0.42		14.self-control1	0.53		0.41	
2.respect1	0.66	9.20**	0.48		15.self-control2	0.79	9.48**	0.59	
3.respect2	0.60	8.45**	0.43		16.self-control4	0.52	7.84**	0.41	
4.respect9	0.68	9.12**	0.47		Responsibility				0.73
Justice				0.72	17.responsibility1	0.49		0.38	
5.justice1	0.67		0.52		18.responsibility2	0.77	9.27**	0.61	
6.justice3	0.55	9.29**	0.45		19.responsibility3	0.61	8.51**	0.48	
7.justice5	0.71	10.84**	0.49		20.responsibility4	0.52	7.80**	0.44	
8.justice6	0.65	10.45**	0.49		21.responsibility6	0.61	8.23**	0.49	
Integrity				0.68	Benevolence				0.71
9.friendship1	0.59		0.41		22.benevolence6	0.75		0.40	
10.honesty1	0.63	9.36**	0.44		23.benevolence7	0.73	7.69**	0.37	
11.honesty2	0.73	10.09**	0.55		Patriotism				0.80
Patience				0.76	24.patriotism2	0.54		0.53	
12.patience2	0.82		0.49		25.patriotism3	0.57	10.76**	0.44	
13.patience3	0.75	11.94**	0.48		26.patriotism4	0.74	9.79**	0.48	
					27.patriotism5	0.81	10.29**	0.55	
					28.patriotism6	0.69	10.14**	0.39	

r: Itemtotal correlation   **p<0,01   α: Cronbach

According to the reliability findings in Table 6, the Cronbach Alpha coefficient of the scale is 0.90, the Cronbach Alpha coefficients of the sub-dimensions are between 0.68 and 0.80, and the item-total correlation is above 0.30 in all items (between 0.37 and 0.61).

After the confirmatory factor analysis of the scale, the validity of which was determined with 32 items in the explanatory factor analysis, the EFA was repeated to determine the final status of the variance explained due to the removal of 4 items from the scale and the results in Table 7 were obtained.

Table7. Explanatory factor analysis results (28 items)

Item No	F1	F2	F3	F4	F5	F6	F7	F8
love4	0.08	0.07	0.01	0.73	0.17	0.01	0.17	0.19
respect1	0.13	0.22	0.20	0.67	0.14	0.06	0.03	0.01
respect2	0.15	0.28	0.27	0.57	0.00	0.12	-0.06	-0.13
respect9	0.10	0.00	0.31	0.62	0.11	0.29	-0.04	0.07
justice1	0.06	0.26	0.61	0.10	0.33	-0.02	0.04	0.17
justice3	0.24	-0.03	0.59	0.12	0.11	0.17	0.11	0.09
justice5	0.03	0.09	0.71	0.33	0.07	0.13	0.10	-0.03
justice6	0.11	0.15	0.68	0.12	0.08	0.15	0.08	0.10
friendship1	0.03	0.13	0.09	0.04	0.74	0.10	0.17	0.04
honesty1	-0.02	0.14	0.29	0.13	0.68	0.07	0.02	0.06
honesty2	0.15	0.17	0.06	0.23	0.70	0.17	0.16	0.09
patience1	0.17	0.19	0.15	0.02	0.15	0.18	0.78	0.05
patience2	0.05	0.18	0.13	0.08	0.20	0.18	0.76	0.09
self-control1	0.05	0.11	0.08	0.13	0.05	0.60	0.26	0.11
self-control2	0.14	0.14	0.31	0.21	0.21	0.56	0.25	-0.01
self-control4	0.09	0.10	0.13	0.07	0.10	0.76	0.03	0.04
responsibility1	0.12	0.59	-0.10	0.12	0.09	-0.02	0.18	0.18
responsibility2	0.30	0.58	0.17	0.16	0.19	0.12	0.08	0.17
responsibility3	0.18	0.65	0.07	0.11	0.12	0.05	0.05	0.16
responsibility4	0.10	0.62	0.27	0.01	0.11	0.08	0.09	-0.09
Responsibility6	0.09	0.64	0.10	0.14	0.08	0.24	0.09	0.03
benevolence6	0.05	0.11	0.17	0.02	0.06	0.14	0.13	0.82
benevolence7	0.14	0.16	0.05	0.09	0.10	0.02	0.01	0.82
patriotism2	0.54	0.22	0.08	0.01	0.24	0.44	-0.10	0.13
patriotism3	0.67	0.21	0.10	0.10	0.08	0.26	-0.22	0.04
patriotism4	0.68	0.24	0.17	0.07	-0.05	-0.05	0.32	0.04
patriotism5	0.73	0.14	0.06	0.16	0.10	0.11	0.20	0.17
patriotism6	0.81	0.08	0.10	0.10	-0.02	-0.02	0.08	-0.01
Variance	9.94	9.02	8.45	7.55	7.10	6.83	6.11	5.85
Total Variance (%)					60.85			

After confirmatory factor analysis, it was determined that the total variance explained by the remaining 28 items did not decrease and relatively increased compared to 32 items (from 59.02% to 60.85%) and the item-dimension relationship was preserved. According to the findings of the validity and reliability analyses, it was determined that the scale is a valid and reliable scale with its structure consisting of 8 dimensions and 28 items.

Descriptive Findings

Table 8 shows the descriptive statistics of the total and sub-dimension scores of the Sense of Belonging towards Ethical Values and Ethical Value Concern Scale.

Table 8. Descriptive statistics of scale and sub-dimensions scores

Sub-dimensions	N	Min.	Max.	$\bar{x}$	ss
Love and respect	435	1.00	3.75	2.89	0.31
Justice	435	1.00	3.00	2.81	0.37
Integrity	435	1.00	3.00	2.78	0.41
Patience	435	1.00	3.00	2.82	0.46
Self-regulation	435	1.00	3.33	2.77	0.44
Responsibility	435	1.00	3.00	2.82	0.34
Benevolence	435	1.00	3.00	2.60	0.62
Patriotism	435	1.00	3.00	2.87	0.34
TOTAL	435	1.00	3.09	2.80	0.27

According to Table 8, the score obtained by the students participating in the study from the scale of sense of belonging towards ethical values and ethical value concerns was found to be 2.80±0.27, and considering the lowest (1) and highest (5) scores that can be obtained, it can be said that the sense of belonging towards ethical values and ethical value concerns scores of the students participating in the study are in the "undecided" range. When the scores obtained from the sub-dimensions are analysed, it is seen that the score ranges are similarly in the "undecided" range.
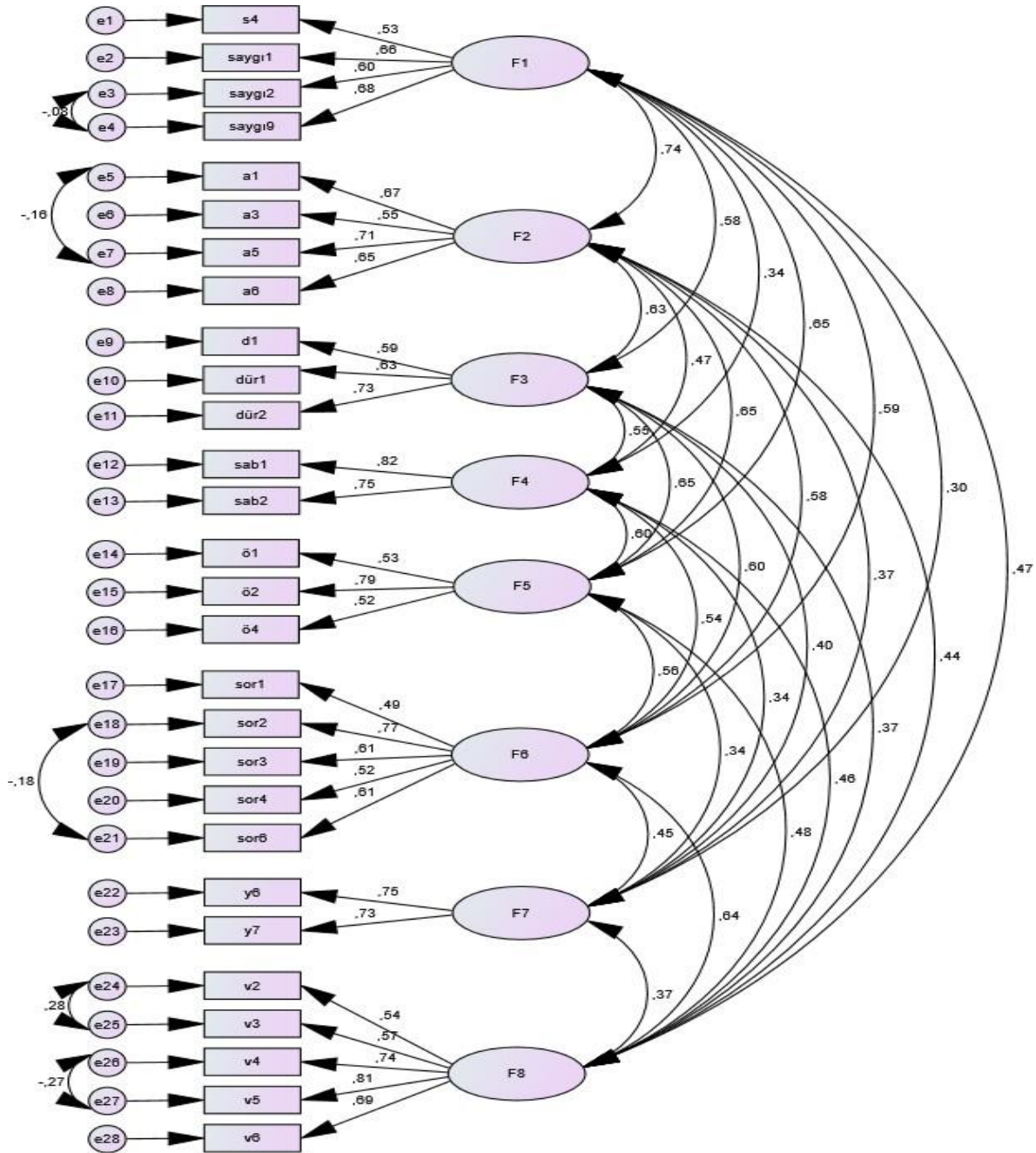
Figure1. CFA diagram of sense of belonging towards ethical values and ethical value concerns scale

Discussion, Conclusion and Suggestions

The aim of this study is to develop a valid and reliable measurement tool that can measure the effectiveness of ethical value attitudes and ethical value concerns of primary school 2nd, 3rd and 4th grade students. The validity and reliability studies conducted on the data of the study showed that the scale is a psychometrically appropriate measurement tool.

CFA was conducted to determine whether the scale structure that emerged as a result of EFA could be confirmed or not. According to the CFA results, all items of the scale were found significant at p<.01 level in terms of t values. In addition, it was determined that the correlation values between the dimensions of the scale were above 0.30 in all items and ranged between 0.37 and 0.61 in all items and were significant at p<.001 level.

The reliability analysis of the scale was determined by calculating Cronbach's Alpha reliability coefficient. It was found that Cronbach's Alpha reliability coefficient was 0.90 and Cronbach's Alpha

coefficients ranged between 0.68 and 0.80 in all sub-dimensions. Considering that the reliability coefficient of the measurement tools is .70 and higher in terms of the reliability of the scale data (Hair vd., 2014), it can be said that all sub-dimensions of the scale and the entire scale are reliable. As a result, according to all the EFA and CFA findings of the study, it is understood that the "Primary School Students' Sense of Belonging towards Ethical Values and Ethical Value Concerns Scale" is a valid and reliable measurement tool that can measure students' attitudes towards values and ethical value concerns.

According to the findings of the validity and reliability analyses of the Sense of Belonging towards Ethical Values and Ethical Value Concerns Scale, it was determined that the scale is a valid and reliable scale with its structure consisting of 8 dimensions and 28 items. The sub-dimensions of the scale are "Love/Respect, Justice, Friendship/Honesty, Patience, Responsibility, Self-control, Benevolence and Patriotism". The high scores obtained from the sub-dimensions of the scale indicate that the students' level of predisposition to values is high, while lowscores indicate that the students do not have sufficient knowledge about values and donot develop sufficient attitudes.

This scale was designed to emphasise the importance of ethical values, values education and moral development in educational institutions. It is thought that a good values education and ethical values education can contribute to personal development and academic success. In this respect, the field of this education in schools should be developed/expanded and revised as needed. Therefore, ethical values should be made an important part of the education process.

Seminars, webinars and other interactive organisations on values education, ethical values and moral development should be organised in order to increase the knowledge, awareness and participation of educational administrators, teachers and other stakeholders to be more efficient and qualified in accordance and in harmony with the education and teaching processes.

In future studies, the validity and reliability of the scale can be repeated with larger and different study groups.

New scale development studies can be conducted for different age groups and different education/training periods (secondary school/highschool/university). In addition, it can be investigated whether the scale, whose validity and reliability study were conducted according to teachers' opinions, has the same psychometric properties by taking the opinions of school administrators, parents, students or other school stakeholders.

References

Acar, G. (2011). *The relationship between the ethical leadership behaviors by school managers and the organizational justice and motivatio nlevels of physical education teachers* (Thesis No.298511). [Doctoral thesis, Gazi University-Ankara]. National Thesis Center of the Council of Higher Education.

Alisinanoğlu, F. & Ulutaş, İ. (2003). A study on the relationship between children' s anxiety levels and their mother's anxiety levels. *Education and Science, 28*(128), 65-71.

Arthur, J. & Carr, D. (2013). Character in learning for life: A virtue-ethical rationale for recentresearch on moral and values education. *Journal of Beliefs & Values,* 34(1), 26-35, doi: https://doi.org/10.1080/13617672.2013.759343

Aydın, İ. (2013). Children, internet and ethics. *Journal of Youth Research, 1*(2), 100-119.

Beyaz, H. (2011). *Ethical principles and ethical training of crime scene experts and police crime laboratory forensic experts* (Thesis No.302905). [Doctoral thesis, Ankara University-Ankara]. National Thesis Center of the Council of Higher Education

Bilgen, N. (1994). *Modern and democratic education*. Ankara: National Education Printing House.

Blake, N. L. (2011). *Lack of school values leave children behind: A study of the impact school mission statements   have on academic achievement* (Thesis No. 3468654). Availablefrom ProQuest Dissertations & Theses   Global. (888457734). Retrieved fromhttps://www.proquest.com/dissertations- theses/lack-school-valuesleave-childrenbehind-study/docview/888457734/se-2?accountid=120621

Börü, N. (2015). *Behaviors and characteristics of principals as an ethical leader based on high school teacheropinions (The case of Eskişehir)* (Thesis No.395188). [Doctoral thesis, Anadolu University-Eskişehir].   National Thesis Center of the Council of Higher Education.

Büyüköztürk, Ş. (2011). *Scientific research methods.* İstanbul: Pegem Academy.

Büyüköztürk, Ş. (2017). *Data analysis handbook for social sciences statistics, research design, spss applications and interpretation.* Ankara: Pegem Academy.

Çalışkan, A. (2016). *Examination of works included in world literature that participate in elementary 100 essential readings from the point of education of values* (Thesis No. 430687) [Master's thesis, Necmettin Erbakan University-Konya]. National Thesis Center of the Council of Higher Education.

Canan, S. (2016). *A linguistic analysis of Kısasü'l–Enbiya (Rabguzî)* (Thesis No.436850). [Master's thesis, Erciyes University-Kayseri]. National Thesis Center of the Council of Higher Education.

Cevizci, A. (2017). *Ancient philosophy.* İstanbul: Say Publications.

Chandler, L. A., Million, M. E. ve Shermis, M. D. (1985). The incidence of stressful life eventsof elementary school-aged children. *American Journal of Community Psychology,13*(6), 743–746.

Çiçek, E. (2017). *Investigation of aesthetic, plastic and ethical conscious reflection of undergraduate students in social media, in photography and video* (Thesis No.470333). [Doctoral thesis, Yıldız Teknik University-İstanbul]. National Thesis Center of the Council of Higher Education.

Çifter, A. (1985). *Psikiyatri I.* Ankara: Gata Education Posted.

Clarkeburn, H. (2002). The aims and practice of ethics education in an undergraduate curriculum: Reasons forchoosing a skills approach. *Journal of Further and Higher Education, 26*(4), 307-315. doi: https://doi.org/10.1080/0309877022000021711

Çokluk, Ö., Şekercioğlu, G. ve Büyüköztürk, Ş. (2010). *SPSS and LISREL applications for multivariate statistics for social sciences*. Ankara: Pegem Academy.

Comrey, A.L. & Lee, H.L. (1992). *A firstcourse in factoranalysis,* Hillsdale, New Jersey: Erlbaum.

Coşkun, B. (2020). *For religious education in Qur'an-i Kerim the professional moral education* (Thesis No. 633103). [Master's thesis, Uludağ University-Bursa] National Thesis Center of the Council of Higher Education.

Coşkun, N. (2016). *The views of students of faculty of education and faculty members regarding teaching professional ethics values: Hidden curriculum while gaining professional ethics values* (Thesis No. 435886) [Doctoral thesis, Adnan Menderes University-Aydın]. National Thesis Center of the Council of Higher Education.

Dolaşır, S. (2005). *The Athlete and coach thoughts in relationto compliance levels to Professional ethic codesof coaches* (Thesis No.205192). [Doctoral thesis, Ankara University-Ankara]. National Thesis Center ofthe Council of Higher Education.

Erçetin, Ş. S. (2021). The efficiency of health management scale at schools (EHMSS): A study of validity and reliability. *Journal of Atatürk University Institute of Social Sciences*, *25*(3), 1050-1066.

Erdemir, B. (2015). *Psychological abuse in higher education in relation to leader ship and ethical climate* (Thesis No.439236). [Doctoral thesis, Orta Doğu Teknik University -Ankara]. National Thesis Center of the Council of Higher Education.

Eser, İ. (2018). *An analysis of the effects of mediative role of positive psychological capital on the relationship between ethical leadership perceptions and work engagement of teachers'* (Thesis no.503883). [Doctoral thesis, GaziantepUniversity-Gaziantep]. National Thesis Center of the Council of Higher Education.

Esmer, Y. (2017). *Mediating role of ethical leadership in the impact of perception of psychological contract breach on prosocial behaviors: A research on academicians* (Thesis no.483935). [Doctoral thesis, Mehmet Akif Ersoy University-Burdur]. National Thesis Center of the Council of Higher Education.

Furman, C. (2021). This child: Descriptive review in support of parental ethics. *Ethics and Education, 16*(3), 1-15. doi: 10.1080/17449642.2021.1927344.

Gauthier, J., Pettifor, J. & Ferrero, A. (2010). The universal declaration of ethical principles for psychologists: A culture-sensitive model for creating and reviewing a code of ethics, *Ethics & Behavior, 20*(3-4), 179-196, DOI: 10.1080/10508421003798885

Global (1459371208). Retrieved from https://www.proquest.com/dissertationstheses/ethical-values-deaf education-do-preferences/docview/1459371208/se2?accountid=120621

Haban, M. M. (2018). *A mixed-method study on the ethical leadership behaviors of secondary school administrators* (Thesis No.503855). [Doctoral thesis, GaziantepUniversity-Gaziantep]. National Thesis Center of the Council of Higher Education.

Hair J. R., Black, W. C., Babin, B. J. & Anderson, R. E. (2008). *Multivariate data analysis.* (7th ed.) Upper Saddle River, NJ: Pearson/Prentice Hall.

Haydon, G. (2004). Values education: maintaining an ethical environment. *Journal of Moral Education, 33*(2), 115-129.

Kahveci, A. (2019). *The effect of organisational virtuousness on ethical climate and psychological well being* (Thesis No.607086). [Doctoral thesis, Selçuk University-Konya]. National Thesis Center of the Council of Higher Education.

Karabulut, S. D. (2015). *Ethics education in nursing and a model for curriculum* (Thesis No.417252). [Doctoral thesis, Ankara University-Ankara]. National Thesis Center of the Council of Higher Education.

Karasar, N. (2012). *Scientific method of research.* Ankara: Nobel Academy.

Kaya, İ. (2015). The study of validity and reliability: The inclination to ethical values scale. *The Journal of International Social Research, 8*(41), 968- 974.

Kaya, T. (2020). *The relationship between the levels of ethical leadership general high school principals demonstrate and the levels of organizational trust and organizational identification teachers build* (Thesis No.656746). [Master's thesis, Gazi University-Ankara]. National Thesis Center of the Council of Higher Education.

Kılıç, E. (2016). Plato's educational conception in the context of his dialogue 'republic'. *Felsefe Arkivi,* (45), 67- 84. https://dergipark.org.tr/en/pub/iufad/issue/44683/555031

Koçyiğit, M. (2017). *A code of ethics for teaching profession* (Thesis No.469677). [Doctoral thesis, Osmangazi University-Eskişehir]. National Thesis Center of the Council of Higher Education.

Korku, N. (2021*). The effect of ethical leadership behaviors of school managers on organizational silence: Erzurum province, Oltu district sample* (Thesis No. 667617) [Master's thesis, Avrasya University-Trabzon]. National Thesis Center of the Council of Higher Education.

Kovancı, M. S. (2020). *Thvalidity reliability study of the morale distress revised-scale Turkish form for pediatric nurses* (Thesis No. 623094) [Master's thesis, Hacettepe University-Ankara]. National Thesis Center of the Council of Higher Education.

Küçükaslan, A., Akto, A., Erkılıç, T. A. & Ulu, H. (2021). An evaluation on the comparison of idealist and realist educational philosophies*, JEDUS, 10*(19), 118-137.

Kurt, İ. (2016). *Nature of philosophy of education, functions and a study of the future* (Thesis No. 433845) [Master's thesis, Atatürk University-Erzurum]. National Thesis Center of the Council of Higher Education.

Luckowski, J. (1996). *Professional ethics among practicing educators*, (ERIC Document Reproduction Service No. ED395926).

Manolova, O. (2011). *Theopinions of primary education teachers in Turkeyand Moldova about the professional ethics principles* (Thesis No. 302869). [Doctoral thesis, Ankara University-Ankara]. National Thesis Center of the Council of Higher Education.

Meydan, H. (2014). An evaluation on the role of values education in school and values education approaches. *Journal of Theology Faculty of Bülent Ecevit University, 1*(1), 93-108. https://dergipark.org.tr/en/pub/beuifd/issue/3453/47056

Mikulics, M. P. (1998). *A Systematic classification of approches in values ethics/moral/ character education* (AAT. 9904085) [Doctoral Thesis, United States International University-San Diego]. ProQuest Dissertations and Thesis.

Minaz, M. N. (2017). *Teachers' perception on ethical leadership behaviours of school principals in terms of corruption* (Thesis No.469568). [Doctoral Thesis, Marmara University-İstanbul]. National Thesis Center of the Council of Higher Education.

Mısırlı, Ö. (2016). *Investigation of teacherc and idates' views about behaviours related to social media ethic: Eskisehir sample* (Thesis No.438236). [Doctoral thesis, Anadolu University-Eskişehir]. National Thesis Center of the Council of Higher Education.

Mutlu, Ş. (2018). *The professional ethics principles of Qur'anic course instructiveness according to the view of the instructors* (Thesis No.534775). [Doctoral Thesis, Ankara University-Ankara]. National Thesis Center of the Council of Higher Education.

Ölçüm, D. (2021). *Analysis of prediction power of school principals' ethical approaches and personality traits on power based behavioral changes* (Thesis No. 664115) [Doctoral Thesis, Kocaeli University-Kocaeli]. National Thesis Center of the Council of Higher Education.

Özbek, O. (2003). *Principals of professional ethics of physical education teachers and compliance levels to the seprincipals* (TezNo.127829). [Doctoral thesis, Ankara University-Ankara]. National Thesis Center of the Council of Higher Education.

Özdiyar, Ö. (2015). *An investigation of the Social Sciences curriculums and student levels intermsof the restpectful and ethical minds* (Thesis No. 418178). [Doctoral thesis, Hacettepe University-Ankara]. National Thesis Center of the Council of Higher Education Merkezi.

Özyıldırım, G. (2018). *The effects of pre-service teachers' self-efficiency beliefs on their ethical sensitivity levels in classroom management* (Thesis No.512626). [Doctoral thesis, Akdeniz University-Antalya]. National Thesis Center of the Council of Higher Education.

Pucci, C. T. (2012). *Ethical values in deaf education: Do the ethical preferences of superintendents and principals leading residential schools for the deaf in america influence how teachers characterize their schools as being professional ethical learning communities?* (Thesis No. 3575139). Available from ProQuest Dissertations & Theses Global. (1459371208). Retrieved from https://www.proquest.com/dissertationstheses/ethical-values-deaf-education-do preferences/docview/1459371208/se2?accountid=120621

Şahin, M. G. & Öztürk, N. B. (2018). Scale development process in educational field: A content analysis research. *Kastamonu Education Journal*, *26*(1), 191-199.

Sakin, A. (2007). *An analysis of pre-school teachers' views about professional ethical conduct with the ir moral judgment levels and teaching attitudes* (Thesis No.210313). [Doctoral Thesis, MarmaraUniversity-İstanbul]. National Thesis Center of the Council of Higher Education.

Tarım, K. (2020). *The relationship between classroom teachers' ethical orientations, democratic attitudes and attitudes towards profession* (Thesis No. 630280) [Doctoral thesis, Gazi University-Ankara]. National Thesis Center of the Council of Higher Education.

Tekel, E. (2018). *Investigation of the moral dilemmas of the school principals in the decision-making process in terms of multiple ethical paradigms* (Thesis No.497365). [Doctoral Thesis, Osmangazi University Eskişehir]. National Thesis Center of the Council of Higher Education.

Toytok, E. H. (2014). *Theeffects of ethical leadership behaviors of school administrators organisation culture according to teachers' perceptions: Sample of Düzce city* (Thesis No.357759). [Doctoral thesis, Abant İzzet Baysal University-Bolu]. National Thesis Center of the Council of Higher Education.

Tunca, N., Alkın Şahin, S., Sever, D. & Çam Aktaş, B. (2015). Teachers' level of compliance to ethical values based on secondary students' perceptions. *Journal of Theory and Practice in Education, 11*(2), 398-419.

Turhan, M. (2007). *The effect of ethical leadership behaviors of high school and vocational high school principals on social justice in schools* (Thesis No.204758). [Doctoral Thesis, Fırat University-Elazığ]. National Thesis Center of the Council of Higher Education.

Türker, A. (2017). *Geography and ethic* (Thesis No.470333). [Doctoral thesis, Gazi University-Ankara]. National Thesis Center of the Council of Higher Education.

Uğurlu, C. T. (2008). Perception of last year high school students concerning ethical behavior of their teachers. *Kastamonu Education Journal*, *16*(2), 367- 378.

Uzunöz, A., Aktepe, V. & Köybaşı, E. (2018). Examination of student responses to honesty value through value analysis approach. *Journal of Theoretical Educational Science, 11*(3), 606-626. doi:10.30831/akukeg.350285

Victor, B. & Cullen, J. B. (1988). The organizational bases of ethical work climates. *Administrative Science Quarterly, 33*(1), 101-125. https://www.jstor.org/stable/2392857

Yardımcıel, F. & Yılar, Ö. (2022). An investıgatıon in the context of values transmıtted in Aysel Gürmen'sworks. *BELGÜ, *(7), 16-32. https://dergipark.org.tr/tr/pub/belgu/issue/73899/1193479

Yardimciel, F. (2015*). Examinations on works of Aysel Gürmen, as a writer of children's literature, over the values she conveys* (Thesis No.394808). [Master's thesis, Atatürk University-Erzurum]. National Thesis Center of the Council of Higher Education.

Yayla, A. (2004). *A Philosophcal approach to the relation of ethics and education problematic* (Thesis No.141379). [Doctoral thesis, Ankara University-Ankara]. National Thesis Center of the Council of Higher Education.

Yılmaz, E. (2006). *To Investigate the effect of school managers` ethical leadership levels on the organizationaltrust level and to test whether the organizational trust level in schools differentiate with respect to some variables or not* (Thesis no.189460). [Doctoral thesis, Selçuk University-Konya]. National Thesis Center of the Council of Higher Education.

EK 1: İlkokul Öğrencilerinin Etik Değerlere Yönelik Aidiyet Duyguları Ve Etik Değer Kaygilari Ölçeği

		LİKERT TİPİ CEVAP MADDE HAVUZU	Tamamen Katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Tamamen Katılıyorum
Sevgi -Saygı		1. Okulumu severim.					
		2. Arkadaşlarıma saygı duyarım					
		3. Arkadaşlarıma karşı kibar davranırım.					
		4. Arkadaşlarımın eşyalarını izinsiz almam.					
Adalet		1. Bütün arkadaşlarıma eşit davranırım.					
		2. Arkadaşlarım haklı olduğunda onları desteklerim.					
		3. Oyun oynarken arkadaşlarıma haksızlık yapmam.					
		4. Adil olmayı severim.					
Dostluk-Dürüstlük		1. Arkadaşlarıma güvenirim.					
		2. Hiçbir şartta yalan söylemem.					
		3. Arkadaşlarıma karşı her zaman dürüst olurum.					
Sabır		1. Görev ve sorumluluklarımı yerine getirirken sabırlı davranırım (örneğin ödevlerimi sabırla yapmaya çalışırım).					
		2. Sınıfta anlatılan dersleri sabırla dinlerim.					
Özdenetim		1. Arkadaşlarımın sırlarını tutarım.					
		2. Arkadaşlarıma karşı hata yaptığımda arkadaşlarımdan özür dilerim.					
		3. Verdiğim sözü tutmadığım zaman üzülürüm.					
Sorumluluk		1. Arkadaşlarıma örnek olmaya çalışırım.					
		2. Sınıf kurallarına uygun davranırım.					
		3. Arkadaşlarımı isimleri ile çağırırım.					
		4. Sahipolduğumeşyalara özen gösteririm.					
		5. Görevlerimi zamanın da yerine getirmekten hoşlanırım.					

		LİKERT TİPİ CEVAP MADDE HAVUZU	Tamamen Katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Tamamen Katılıyorum
Yardımseverlik		1. Arkadaşlarım küsmesinler diye onlara nazik davranırım.					
		2. Arkadaşlarım üzülmesin diye eşyalarımı paylaşırım.					
Vatan-severlik		1. Okulumdaki kaynakları israf etmem.					
		2. Sınıfımdaki kaynakları israf etmem.					
		3. Ulusal bayrağımızı severim.					
		4. Milli marşımızı severim.					
		5. Ülkemi severim.					

Evaluation of the Adequacy of Listening Contents in the 7th Grade English Curriculum in Türkiye, Portugal and Poland in Acquiring This Skill

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Abstract

This research aims to reveal the differences and similarities between the countries in English listening skill, one of the four basic language skills within the scope of secondary school seventh grade English teaching programs in practice in Türkiye, Portugal and Poland in the 2021-2022 academic year. The study data were obtained by interview, document analysis and online survey application. Mixed method research design was used in the research, including both quantitative and qualitative data collection methods. The determination of the participants was based on voluntariness and criterion sampling methods. The opinions of six English teachers from Türkiye, two from Portugal and three from Poland, who participated voluntarily within the scope of the qualitative sample, were sought. In the quantitative sample, eighty one English teachers working at secondary school level in Salihli, Manisa, Türkiye, participated in the questionnaire prepared by the researchers. The opinions of Portuguese and Polish English teachers were taken in writing due to the distance of the countries. Descriptive and content analysis were used to analyze the data. According to the data obtained from the research, compared to the English teachers in Türkiye, Portuguese and Polish English teachers stated that they can be more comfortable and flexible in educational situations and choose their own textbooks while achieving the objectives of the English curriculum. While there are no listening tests for listening content in Türkiye during the evaluation of listening skills learning outcomes, listening tests are conducted in Portugal and Poland in order to see whether the objectives of listening skills are achieved. As a result of the interviews with the teachers, Turkish and Polish English teachers found the listening content insufficient, while Portuguese English teachers stated that the listening content was sufficient. As a result of the document analysis, it has been determined that the Polish English textbook has a richer scope compared to the Turkish and Portuguese English textbooks in terms of content and redundancy of units.

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Introduction

With the effect of globalization, countries and societies are getting closer to each other, the process of getting to know each other is accelerating with technological developments, we are in an age where cultures are intertwined, different languages are integrated with the concept of "global village" and different linguistic concepts are integrated into the languages of different countries, and the function of educational institutions in such a period; is to create the manpower that will build the ways to bring our country to the level of developed societies (Şimşek, 1999). The important factor that carries countries forward, shapes them, creates the philosophy of education, political view and the conditions they are in is the curriculum that constitutes the content of education. In addition to academically developing individuals involved in the education and training process, curricula equip students with various knowledge, skills and attitudes required by the age, and enable them to take place as useful individuals in the society they live in as qualified individuals (Filiz & Yıldırım, 2019).

One of the reasons for the emergence of educational institutions is to provide societies and intercultural interaction. The most important factor in ensuring this interaction is undoubtedly language. As stated by Seçkin (2011), the English language has been a compulsory course in Türkiye since the 1950s, and it is the foreign language taught as an elective course with a rate of 98.4% and the most taught foreign language among other languages. According to Eurostat (2021) data, English is the most learned language in the European Union with a rate of 96.4%. Following the English language, 26.4% Spanish, 21.8% French, 20.3% German, 3.4% Italian, 2.6% Russian languages are learned. As can be seen in Figure 1, the dominant language in Europe is English.

The English language consists of four basic skills: Speaking, reading, writing and listening. In order for students to use the target language to meet their communicative needs, they need to develop in all areas of communicative competence (Breen & Candlin, 1980). However, despite the necessity of presenting educational situations in a way that supports the development of each other in the teaching of the English language in Türkiye, the teaching process is built on gaining only one skill due to the exam-based education system (Erdem, 2016).

The most important element of the language acquisition process is the degree of exposure to the target language. As Lenneberg (1967) stated in his "Acquisition threshold" hypothesis (critical age), English teaching has been included in the 2nd grade curriculum in order to increase the level of exposure from an early age, when people are most prone to acquire English in Türkiye. It is emphasized that despite the eleven years and more than a thousand hours of English teaching process, the targeted level of English language could not be reached (Şahin, 2018).

Four basic skills should be given equal importance in the language learning process and also, they should be employed in the teaching process. While the teaching process carried out for exams such as grammar-based high school entrance exam (Lgs) and foreign language proficiency exam (Yds), giving importance to exams, causes the ignoring of the four basic skills of listening, speaking and writing. Akbaş (2020) mentions that the four language skills are interrelated, and each skill supports the development of the other. The reasons why the listening objectives in the English curriculum cannot be achieved are the crowded classrooms, lack of teaching materials, the textbooks are not interesting, the classrooms where listening activities can be done, the absence of equipment, the lack of technological infrastructure, the intensive information load in the English education curriculums, the grammar-based exams in our country. These are the sources of problems expressed by teachers, where the situation worsens with skill-based questions called new-generation questions (Çelebi & Narinalp, 2020; Güçlü & Uçar, 2019). In the research conducted by Erdem (2016) based on the perspectives of students and teachers at the secondary and high school level, it was concluded that the English language teaching of both secondary and high school students was carried out mainly on grammar.

In Portugal, it is seen that there are studies which were carried out and inquired French, Spanish, English, and Portuguese languages' listening skill's effect on word knowledge, oral skills and reading comprehension (Magalhães, 2022; Mendes, 2021; Oliveira, Castro & Sousa 1997; Rodrigues at al., 2020; Soares at al., 2022). In accordance with Santos's (2018) research, attendees' word improvement and oral skill development greatly improved with the help of listening skill. Castro and

Cary (2003) carried out study ''Speaking and listening: Their role in learning how to read and spell'', in this research it is stated that listening improves students' oral skills and word knowledge. Another study held with the participation of second grade students, the study dealt with whether listening skill has a positive effect on word recognition and reading skill, the findings showed that listening skill enhance reading comprehension and word recognition (Ribeiro, Rodrigues, Santos, Cadime & Viana, 2016). In Poland, it is possible to come across studies that discuss the benefits of using audiobooks to improve listening skill (Vélez & Osorio 2011), ''A behavioral and event-related potential (ERP) study examined the effect of phonotactic cues on native English and native Polish listeners' perception of the consonant cluster /pt/''(Wagner, Valerie, Martin & Steinschneider, 2012). Malarski and Jekiel (2016) expresses that Polish language is a ''Rhotic'' language, and English is not a ''Rhotic'' language, in their study they research if there is favourable influence of listening to English music, the findings put forth that students with better musical ear developed better understanding English language (Santos 2018). The new possibilities, tools, and their consequences on English listening abilities are primarily the subject of research being conducted in Türkiye. In addition to the "mobile comprehensive listening" studies (Şendağ, Gedik, Caner & Toker, 2017), there are studies investigating the contribution of internet-based video applications to listening skills (Kaynar & Sadık, 2020). One of the best ways to improve listening skills in a foreign language is to watch songs in that language (Putri, Bunau & Rezeki, 2018), and there are studies that emphasize the positive effects of movies with English subtitles (Felek Başaran, 2011). In the study carried out by Taşci (2018), it was stated that the students were not actually bored during the listening activities, but their interest was short-lived, and the listening activity was negatively affected due to the behaviors of their friends that negatively affected the lesson. Arono (2014). There are studies investigating the effect of simultaneous presence of visual and auditory elements on listening skills (Göktürk & Altay, 2015; Sari & Sintia, 2021), there are resembling findings on the same subject (Balaban, 2016).

As a result of the literature review, it was determined that there is a need for this study due to the inadequacy of the studies on listening skills content in the secondary school English language curriculum and especially the study which compares countries' listening contents are rare in researches. In investigations, concerning English language listening there are numerous studies that examine the contribution of podcasts to speaking and listening skills (Abdi & Makiabadi 2019), incorporate online English language listening sources by means of websites to classrooms, thus trying to develop listening skill (Rahmaningtyas & Mardhiyyah 2021), research teacher candidates' listening skills growth whereby benefiting google audio blogs (Naeem, 2022), assess the value of techniques introduced in L2 English listening courses for students (Yeldham, 2016), involves history of listening and listening studies (Rost 2002), integrate online applications to teach listening (Kim, 2013), inquire importance of listening skill in English language teaching (LeLoup & Ponterio 2007), investigate English, Polish, Arabic, and Mandarin understandable speech in various room acoustic situations (Galbrun & Kitapci 2016). Vandergrift's (2006) ''Listening is an ability or proficiency'' study, the attendees of the research were 8th grade students who were learning English and French language at the same term and in the study, it is questioned whether English listening skill is a talent or a competence.

In this investigation, listening skill contents were examined in Türkiye, Portugal and Poland, and how the listening skill was handled in three countries and whether the listening content was sufficient to gain this skill was the subject of the study. According to the EF English Proficiency Index (2021) report, Portugal and Poland have higher English language skills than many other countries in the world, and they were included in the study due to their very high proficiency in Portugal and high proficiency in Poland. With the study carried out, differences between countries in English language teaching of English listening skills will be revealed. It is thought that together with the opinions of the teachers who have achieved their education in the field, it will give ideas to the curriculum designers about the future improvements and updates in the English language teaching curriculum on behalf of our country and will also inspire the studies to be carried out in different language teaching curriculums field.

Method

This study was carried out with a mixed method. Having Gained benefit from both the specific, contextualized insights of qualitative data as well as the generalizable, externally valid insights of quantitative data through the combination of the two forms of data. The advantages of one form of data frequently balance out its disadvantages. To be able to utilize these favorable aspects, in the research mixed method was preferred, the results of the data obtained in a purposeful and systematic way by considering the qualitative and quantitative methods together, provide a holistic perspective and result in single research (Maxwell, 2016). According to Creswell (2017), the researcher brings together qualitative and quantitative data in order to make sense of the problems within the scope of the study. Thus, using both methods get rid of the constraints that can be caused by using a single method.

Study group

The quantitative study group of the research consists of secondary school seventh grade English teachers determined by criterion sampling and easily accessible sampling methods in Salihli, Manisa, in the 2021-2022 academic year. Convenience sampling is one of the most preferred methods; The reason for this is that it gives speed and practicality to the research, but it can be used in both qualitative and quantitative studies (Yıldırım & Simsek, 1999). According to Yağar and Dökme (2018), there are criteria determined before the study is carried out in the criterion sampling method and these criteria can be determined by the researcher in advance. In the study carried out, the criteria in the selection of the participants and from which country they would attend were that the individuals were working as English teachers at the secondary school level and that the countries had "high" and "very high" levels of English proficiency in the Epi English index. Within the scope of quantitative data, data were obtained with the participation of eighty-one English teachers working at secondary school level. In the qualitative aspect of the research, there are data obtained with the voluntary participation of three English teachers from Poland, two from Portugal, and five from Türkiye, who work at secondary school level in Türkiye, Portugal and Poland.

Data Collection Process

Before the data were collected, the participants were reminded that their participation in the study was on a voluntary basis, and they were informed that they could withdraw from the study at any stage. In order to obtain the quantitative data for the research, the listening content questionnaire in the secondary school English curriculum created by the researchers was used. In order to ensure the validity and reliability of the questionnaire, the opinions of twenty English teachers, who are still working as English teachers, were consulted, and the questionnaire was applied to the participants after the necessary corrections were made. In order to obtain the qualitative data of the research, data from interviews with secondary school English teachers in Türkiye, Portugal and Poland are included, as well as document analysis of secondary school English teaching curriculums in Türkiye, Portugal and Poland in the qualitative dimension has been carried out.

Data Collection Tool

In the quantitative dimension of the research, online survey application was carried out. There were eight questions, two of the questions were demographic questions which teachers should give knowledge about their gender and professional experience as an English teacher, and in addition to this there were two yes, no questions, four questions were open-ended questions. Survey was applied to the secondary school English language teachers who were actively working at the seventh-grade level, and it was announced to the participants in the introduction part of the survey that participation in the survey was completely voluntary, and the confirmation part was included at the beginning of the survey, as ''I approve or not approve'' that their participation in the survey is of their own accord. The answers of the participants who accidentally ticked "I do not approve" but continued to answer the questions were not taken into account. The survey was designed by the researchers, the opinions of 20 English teachers who are still working as English teachers were consulted and necessary grammatical and semantic errors were resolved, after the necessary corrections were made, the questionnaire was first applied to 10 English teachers in order to see if it was understood as expected and to determine whether there was any problem in the questionnaire. After the questionnaire was ready to be applied, it

was announced to English teachers on online platforms, and necessary information was given on these platforms that participation was voluntary. Having announced the survey, eighty-one, seventh grade English language teachers participated. In the qualitative aspect of this study, in which the secondary school English teaching curriculums in Poland, Türkiye and Portugal were examined, documents such as thesis, articles, documents that are important in terms of data, statistics were examined. According to Özkan (2019), document review can be defined as accessing, examining, and questioning various documents that are considered as primary or secondary sources that constitute the data of the study. Document review covers not only printed materials, but also online materials that can be accessed with technological tools today, and the systematic of these materials to handle, evaluate and make sense of both printed and electronic materials. In order to obtain the qualitative data of the research, data were also obtained by accessing the online documents of OECD and CEDEFOP from the central education institutions of three countries, the Ministry of National Education of Türkiye, Poland and Portugal, and the Eurydice-Education in Europe Network education portal. In order to support the data obtained, interviews were conducted with English teachers working in Polish and Portuguese secondary school English classes, and semi-structured interview questions were asked to the teachers. There are three types of interview techniques in studies conducted in the field of educational science: unstructured interview, semi-structured interview and structured interview (Gubrium & Holstein, 1997). Since semi-structured interview, one of the interview types, offers a certain level of norms, standards and flexibility to the researcher, there are no restrictions like writing, filling-in questions and questionnaires in accessing data; it helps to access comprehensive information about a specific subject (Yıldırım & Şimşek, 1999). Semi-structured interviews differ from structured interviews as they are not as rigid as structured interviews and from unstructured interviews because they are not very flexible. The reason for using the semi-structured interview technique in the study is that it gives this flexibility to the researcher. It is fundamental to acquire validity and reliability measurements for the two paradigms when using the mixed research approach, which integrates the qualitative and quantitative paradigms (Creswell, 2013). Within the scope of the validity of the study, diversification was made, and more than one data collection tool and data collection method were used. The assumptions and limitations of the study were given, and the researchers contributed equally to accessing the data, data collection was continued at the point where it was thought that data saturation was reached in the data. Within the scope of the reliability of the study, the aid of professionals who had worked in the field for many years and had professional experience in developing the questionnaire and eliminating grammatical and semantic errors were sought. In the interviews held with the seventh grade English teachers abroad, it was ensured that the interviews were conducted by different experts, thus preventing abstaining answers to the questions posed by the researchers, and it was ensured that the teachers answered the interview questions in a comfortable way.

Data Analysis

After the quantitative data of the research was obtained through a questionnaire, it was turned into an excel table, and then it was loaded into the SPSS 23 package program and the percentage and frequency information was obtained, and then it was converted into tables to be used in the research. Interview and document analysis data collection techniques were used to obtain the qualitative data of the study. First of all, six items were created for the interview, and then the interview questions were asked to five teachers with more than ten years of experience in the field of English. In addition, for the Turkish version of the questions to be directed to the teachers in Türkiye, for the correct understanding of the questions, factors such as the proper use of semantic conceptual and misspelling punctuation marks were asked to five Turkish teachers who are experts in their fields. Interview questions were made into an interview form and then the participants were asked to answer the questions by writing on their own. Finally, the obtained data were analyzed by content analysis. In document analysis, which is another data collection tool used in the research, primary data, sources documents, statistics were taken from the websites of the Ministry of National Education of the relevant countries, not only that information, but also Eurydice, OECD, Cedefop, Timss, Pisa, Epi index and the data obtained as a result of the examining were included in the study and the accessed data were analyzed through descriptive analysis.

Findings

Document Review Findings

Textbooks/Resources Recommended by the Ministry of National Education of Türkiye in Language Teaching

The Turkish Ministry of National Education sends English textbooks to schools to be used at the whole country before the 1st semester starts, and these books are distributed to the students at the beginning of the 1st semester. Although English subject teacher's book was distributed to English teachers in the past, teachers' books are not distributed to schools anymore. Ministry of National Education (https://tegm.meb.gov.tr/www/ileşce-3-4-5-6-7-ve-8-sinif-ders-kitaplari-etkilesimli-hale-getirildi/icerik/569) publishes English textbooks on the online platform and English teachers download books from the online platform. In addition to English textbooks, the Ministry of National Education publishes tests for each unit on the Educational Informatics Network Platform (EIN – in Turkish EBA), which is an online platform opened within the scope of the FATIH project (Movement of Enhancing Opportunities and Improving Technology) in 2010 in order to increase the educational bond between teachers and students, to support the development of students and to follow their development processes in a healthy way (Kuloğlu & Erdal, 2019). So Turkish Ministry of National Education contribute to the textbooks through the EIN. Resources published on the EIN network only includes tests in the field of English grammar. Besides these resources, the Ministry of National Education publishes an additional supplementary book on the online platform. Resources published on the EIN network only include tests in the field of English grammar. Besides these resources, the Ministry of National Education publishes an additional supplementary book on the online platform.(https://odsgm.meb.gov.tr/www/e-kitaplar/icerik/605.html) but the supplementary books are only one at each grade level. It also shares helpful resources under the name of acquisition comprehension tests, worksheets, and skill-based tests on the website of the Ministry of National Education (https://odsgm.meb.gov.tr/). All of these resources consist of grammar tests.

Turkish English teachers, who were volunteer participants of the study, stated that they used the 7th grade English book published by Science and Culture Publications, the author of which was Ferahnaz Tan, and this book was examined in the study.

Textbooks/Resources Recommended by the Polish Ministry of Education in Language Teaching

* (Materiały Edukacyjne) Lesson materials: Burgess S., Thomas A. Gold Advanced, Pearson Central Europe Sp. z o.o.Maris A., Outcomes Upper-Intermediate. Workbook
 *Cengage Learning Evans V., Upstream Advanced. Wyd. 2, Express Publishing Evans V.
 *Upstream Proficiency, Express Publishing Dellar H., Walkley A., Outcomes Upper-Intermediate Student's Book National Geographic Learning Boyd E., Edwards L.,
 *Gold Experience 2nd edition C1 Pearson Latham-Koenig Ch., Oxenden C., English File 4th edition Oxford University Press Capel A., Sharp W., Objective First Student's Book
 *Cambridge University Press Broadhead A., O`Dell F., Objective Advanced Student's Book
 *Cambridge University Press Sunderland P., Whettem E., Objective Proficiency Workbook
*Cambridge University Press Bell J., Gower R., First Expert Pearson Bell J., Kenny N., Advanced Expert Pearson Soars L., Soars J., Hancock P., Headway Advanced
 *Oxford (I Liceum Ogólnokształcące im. Księżnej Elżbiety w Szczecinku, 2022)

A list of textbooks that can be used in the lesson is published by the Ministry of National Education for Polish English teachers every year, but English teachers have the flexibility to use English books of their own choice. Polish English teachers who were volunteers of the study stated that they used the 7th grade English book, which was published by Macmillan Education, authored by Malcom Mann and Steve Taylore Knowles.

Textbooks/Resources Recommended by the Portuguese Ministry of National Education in Language Teaching

The Portuguese Ministry of National Education publishes the list of books to be used in the courses on its website every year. However, the published list is advisory. The teacher who is responsible for the education and training process can use and select any source that he or she prefers. The English book that is recommended to be used in the 2021-2022 academic year on the website of the Ministry of National Education (https://www.dge.mec.pt/lista-de-manuais-escolares-adotados) is the book called "Engaging 7". But the Portuguese English teachers, who were volunteer participants of the study, stated that they used the 7th grade English book, which was written by Isabel Teixeira and Paula Menezes, published by the editorship of Texto, and this book was examined in the study.

Table 1. Distribution of the themes and units of the secondary school 7th grade english course book in Türkiye, Poland and Portugal

Türkiye English Textbook Distribution of Themes	Portugal English Textbook Distribution of Themes	Poland English Textbook Distribution of Themes
Theme 1 Appearance and Personality	Theme 1-2 Introducing; families and jobs	Theme 1 Czlowiek (Human Being)
Theme 2 Sports	Theme 3 Everyday actions, unusual routines	Theme 2 Miejsce Zamieszkania (Dwelling-place)
Theme 3 Biographies	Theme 4 Friends and neighbours	Theme 3 Edukacja (Education)
Theme 4 Wild Animals	Theme 5 Welcome home	Theme 4 Praca (Job)
Theme 5 Television	Theme 6 School life	Theme 5 Zycie Prywatne (Private life)
Theme 6 Celebrations	Theme 7 City	Theme 6 Zywienie (Nutrition)
Theme 7 Dreams	Theme 8 Shopping	Theme 7 Zakupy I Uslugi (Shopping and Services)
Theme 8 Public Buildings		Theme 8 Podrozowanie I Turystyka (Traveling and Tourism)
Theme 9 Environment		Theme 9 Kultura (Culture)
Theme 10 Planets		Theme 10 Sport
		Theme 11 Zdrowie (Health)
		Theme 12 Nauka I Technika (Science and Technology)
		Theme 13 Swiat Przyrody (The world of nature)
		Theme 14 Zycie Spoleczne (Social life)

When we examine the themes of the English textbooks of the three countries in Table 1, it is seen that the theme names of Türkiye and Portugal are in English, while the theme names of the English textbooks of Poland are written in their mother tongue. While Poland (N=14) has the highest number of themes, Türkiye's 7th grade English textbook consists of (N=10) themes, and Portugal has the least 7th grade English textbook (N=8) was determined.

Table 2. Distribution of the secondary school 7th grade english textbook listening contents in Türkiye, Portugal and Poland

Türkiye Listening Contents	*Listen and circle the correct word, option (Unit 1, 3, 4) *Listen and write (Unit 1, 2, 5, 6, 7, 8, 10) * Close your books. Listen to the CD and answer the questions (Unit 1, 2, 3, 4, 5, 6, 7, 8, 9, 10) * Open your books. Listen again and read the text. Then do the exercises. (Unit 1, 2, 3, 4, 5, 6, 7, 8, 9, 10) * Listen and fill in, complete the blanks, tables, and charts (Unit 1, 2, 3, 5, 6, 7, 8, 9, 10) *Listen and number (Unit 2, 6, 8, 9, 10) * Listen again and write, answer (Unit 3, 4, 7) *Listen and put, name the sentences in chronological order. (Unit 3, 4) *Listen and tick (Unit 5, 7)
Portugal Listening Contents	*Listen to the text about … (Test 1, 2, 3) *Listen to the part 1 and tick true or false (Test 1, 2, 3) *Listen to part 2 and tick the correct pictures and cross the wrong ones. (TEST 1, 2, 3) * Listen to part 2 and correct the wrong information. (Test 1) * Listen again and fill in the blanks. (Test 1, 2, 3)
Poland Listening Contents	*Listen to the talking, conversation, dialogue, people, students, someone and write, match answers (Unit 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13) *Listen and complete (Unit 10, 11, 12, 14) *Read then listen and check (Unit 4, 5, 12) *Uslyszysz dwukrotnie ogloszenie dotyczace kolka kulturowego.Uzupelnij luki 1-4 w ponizszym ogloszeniu zgodnie z trescia nagrania.Odpowiedzi zapisz w zeszycie.(Listen, fill in the gaps and write- Unit 1, 3, 5, 9, 11, 14) *Uslyszysz dwukrotnie piec tekstow. Na podstawie uslyszanych informacji w zadaniach 1-5 wybierz wlasciwaodpowiedz (A-C). Odpowiedzi zapisz w zeszycie. (Listen, choose the correct answer and write-Unit 1, 2, 3, 4, 5, 6, 8, 10, 12, 14) *Uslyszysz dwukrotnie cztery wypowiedzi na Temat noszenia mundurkowszkolnych. Na podstawie informacjizawartych w nagraniu do kazdej wypowiedzi (1-4) dopasuj wlasciwe zdanie (A-E). Jedno zdanie zostalopodane dodatkowo i nie pasujedo zadnej wypowiedzi. Odpowiedzi zapsz w zeszycie. (Listen and match then write-Unit 3, 5, 7, 9, 12, 14) * Zapoznaj sie z tekstem z ramki TIP. Uslyszysz dwukrotnie piec tekstow. Na podstawie uslyszanych informacji wybierz w zadaniach 1-5 wlasciwa odpowiedz (A-C). Odpowiedzi zapisz w zeszycie. (Read the text, choose the correct answer and write- Unit 13)

When we examine the listening contents of the secondary school English curriculum in Türkiye, Poland, and Portugal in Table 2, it is seen that the listening contents of Türkiye and Portugal are entirely written in English, but the listening contents of the Polish English curriculum are written both in English and in Polish, which is the mother tongue. In the Turkish and Polish English curricula, the books include four competencies in each unit; reading, writing, grammar, and listening are included in each unit, In Portugal's English curriculum, primarily reading and writing contents are included as the main contents, followed by the contents of listening and speaking skills at the end of the eight units. The common activities of the listening content of the three countries include gap-filling activities, talking about the situation after the listening activity, matching activities, reading activities related to the listening content. Unlike the other two countries, Portugal has a listening test after the listening activity. In the Polish English language book, there are tests and review activities for four skills in every two units, but there is no content related to testing and evaluation of listening content in the Turkish English language curriculum. Polish listening content contains more information about emerging and emerging technologies. And also, in the unit under the title of "KULTUR", which introduces their own culture. While it is seen that the Turkish and Polish English curriculum is more intensive, it has been determined that the Portuguese English curriculum has a more flexible curriculum. Another important point that has been determined is that grammar content is more common in Polish and Turkish English language curricula.

Table 3. Survey findings of Türkiye English teacher attendees' gender variable data of the research

		f	*%*
Valid	Male	16	19.8
	Female	65	80.2
	Total	81	100.0

According to Table 3, while female participants (f=65) constitute the highest participant group, male participants constitute the least participant group (f=16).

Table 4. Survey findings of Türkiye English language teachers' professional seniority frequency data

		f	*%*
Valid	1-10 years	25	30.9
	11-20 years	34	42.0
	21-30 years	19	23.5
	31years and over	3	3.7
	Total	81	100.0

According to Table 4, 42% of the study group consists of teachers with professional seniority in the range of 11-20, and the highest percentage of participation belongs to this group. The second most participating group is the teachers with 30.9% of professional seniority between 1-10 years. Following this group, 23.5% of them have professional experience in the range of 21-30 years. The group that participated the least in the study with a rate of 3.7% is those who have a professional seniority of 31 years or more. When the data in the table are examined, it is seen that a total of 80 participants participated in the study, and those with 11-20 professional seniority made up the majority of the study participants (f=34). English teachers (f=25) with 1-10 years of professional experience form another participant group. The third most participating group in the study (f=19) is English teachers with 21-30 years of seniority. The least participation (f=3) group is the group consisting of those who have 31 years and more professional seniority.

Table 5. According to the opinions of secondary school 7th grade English Teachers in Türkiye, ''Do you think the Listening Contents in the 7th Grade English Curriculum meet the wishes and needs of the students?'', ''Do you think that the Content of Listening Skills in the Secondary School 7th Grade English Curriculum is Sufficient in its Current Form?'' survey findings of the 4th and 5th item data

		I never agree	I do not agree	I'm undecided	I agree	Absolutely I agree	Total
4	I do not think that the Listening Contents in the 7th Grade English Curriculum meet the wishes and needs of the students	4,9	19,8	27,2	35,8	12,3	100
5	I think that the Content of Listening Skills of the Secondary School 7th Grade English Curriculum is Sufficient in its Current Form	11,1	56,8	16	14,8	1,2	100

As it is clearly seen in the data of item 4 in Table 5, 35.8% replied to the item "I do not think that the listening content in the English curriculum meets the needs of the students''. The rate of those who say they strongly agree is 12.3%, and with a total rate of 48.1%, approximately half of the teachers state that the "Listening content does not meet the needs of the students''. Although the rate of undecided participants in this item is 27.2%, it is seen that they are not sure about the listening content meeting the needs of the students. I do not agree 19.8%, who expressed negative opinions and stated that the listening content meets the needs of the students and the rate of those who say they do

not agree at all is 4.9%, in total, with a rate of 24.7%, the teachers stated that the listening content met the needs. When the data of item 5 in Table 5 is examined, more than half of the participants do not find the current state of the listening content of the English curriculum sufficient, with the answer of "I disagree" by 56.8%. She also states that she does not agree at all with a rate of 11.1%. With the 16% indecisive answer, it is seen that they are not sure whether their listening content is currently sufficient. 14.8% of the teachers, who gave a positive opinion, found the listening content sufficient and gave the answer i agree, and 1.2% of the teachers who gave positive answers said that they absolutely agree.

Table 6. According to the opinions of secondary school 7th grade English Teachers in Türkiye, ''How Many Years Should the Secondary School 7th Grade English Curriculum be Revised and Updated?'' survey findings of the open-ended question

1 per year	Once in two years	every 3 years	every 4 years	every 5 years	every 2-4 years	every 3-4 years	every 3-5 years	Invalid answer	total
29	22	14	4	8	1	1	1	1	81

According to the data in the table 6, it is seen that the majority of those expressing the opinion that the listening content of the English curriculum should be updated every year (f=29), it is seen that those who advocate the opinion that it should be updated every 2 years (f=22), those who think that it should be renewed every 3 years (f=14), those who say it should be renewed every 4 years (f=4), those who say it should be renewed every 5 years (f=8), trying to give an average value differently from other participants 2-4; those who say that it should be renewed every 3-4 and 3-5 years (f=1), there are invalid answers (f=1). From the table, it can be concluded that teachers have a demand for frequent renewal and updating of listening content.

Table 7. According to the opinions of secondary school 7th grade English Teachers in Türkiye, ''What Content Deficiency Does the Content of Listening Skills in the 7th Grade Curriculum of the Secondary School English Course Have?'' survey findings of the open-ended question

	f
Suitability for daily life, Current issues, dialogues, and words	21
Above-student level and abstract topics	14
Lack of context, inadequacy (word, dialogue, text)	9
Doesn't interest students and their speaking speed is too fast	9
Equipment, Lack of equipment, the inadequacy	5
Invalid answer (every year, 1, . answers)	5
Contextually very intense (excess of content such as grammar, speaking)	4
At the listening record having been spoken too fast and thus can't have understood	3
Listening activities should be supported by video or visual material.	3
There should be different listening contents according to school types.	2
Native speaker need	1
Not parallel to gains	1
Measuring size insufficient	1
Not culturally appropriate	1
Not enough time	1
No idea	1
Total	81

The deficiencies in terms of suitability for daily life, current issues, dialogues, and words (f=21), which the teachers emphasized the most, for the item "Which content deficiencies have the listening contents of the secondary school English curriculum" in Table 7, then listening content does not consist of concrete content, abstract content is predominantly (f=14), dialogue, text, words, etc. Contextual deficiencies, inadequacies, and the fact that the vocalization of the contents used during listening is very fast (f=9) were expressed. The lack of hardware, equipment, and inadequacy (f=5)

that cause the disruption of the implementation phase of the listening content is one of the important deficiencies emphasized by the teachers. Some teachers write "Every year, 1" or punctuation marks (f=5) gave invalid answers. One of the important answers stated in Table 7 as a content deficiency is that skills such as speaking, and grammar are included more than listening proficiency (f=4) instead of listening contents. A content deficiency, teachers emphasize that the fact that the listening content is too fast prevents students from understanding (f=3) and that listening activities should be supported with visual and auditory content (f=3). There are some English teachers (f=2) who state that different types of listening content should be developed for different school types as a lack of listening content. Compared to the others, the ones that are less emphasized as the lack of listening content (f=1) are: The need for a native speaker of the English language, the fact that the listening content is not in line with the achievements, the measurement dimension is insufficient, the lack of conformity with the culture, insufficient time and have no idea.

Table 8. According to the opinions of secondary school 7th grade English Teachers in Türkiye, ''What are the Positive Aspects of the Listening Skills Content of the 7th Grade Curriculum of Middle School English Lesson?'' survey findings of the open-ended question

	f
Positive in teaching pronunciation (pronunciation)	19
Thanks to their listening skills, they have the opportunity to develop their 4 basic skills (multi-dimensional).	8
Motivating the student to listen	8
Native speaker (target language native speaker) listening opportunities	7
The comprehensiveness of the content (vocabulary, grammar, etc.)	7
Ease of understanding and grasping	5
Developing and having listening proficiency	5
Topics, content interesting	4
Increasing the intelligibility of the content	4
Invalid answers such as (-), (.)	3
Having current issues	2
Be compatible with the gains and be integrated with the units	2
Easily accessible	1
Very positive, there is not enough listening.	1
Being applicable directly in the classroom with smart board integrations	1
I don't think so	1
I have no idea	1
I didn't know	1
Helps in practice exams	1
Total	81

According to the survey data in Table 8, the most important component that English teachers emphasized as a positive aspect of the listening content in the English curriculum is that it increases the pronounciability of English words (f= 19), in addition to the contribution of listening content to pronunciation, the second most frequently mentioned factor is that it contributes to four basic skills and allows for versatile development and providing motivation for the student's listening activity (f=8), following this positive aspect, the opportunity to listen to the speech of "Native speakers", that is, native English speakers, and vocabulary, grammar, etc. The comprehensiveness of the content in the fields (f=7), to facilitate understanding and comprehension of listening contents and to improve listening proficiency (f=5), to increase the intelligibility of the content and to make the topics and content remarkable (f=4), some participants of the study gave an invalid answer to the item "What are the positive aspects of listening content" by only answering with punctuation marks (f=3), as a positive contribution of the listening content, the content should have current topics and be integrated with the units (f=2), the least expressed opinions about the positive aspects of listening content are: It is easily accessible, can be applied directly in the classroom with the integration of the smart board,

contributes to the practice exams, there are not many positive aspects, the listening is not done enough, i think there is no positive side, i have no idea, i do not know (f=1).

Table 9. According to the opinions of secondary school 7th grade English Teachers in Türkiye, ''What additional qualifications do you think can be added to the 7th grade English curriculum for a more effective acquisition of listening skills?'' survey findings of the open-ended question

	f
Content should be enriched with text, images, stories, videos and student motivation should be increased.	25
Must have up-to-date and interesting content	16
Content should be taught by associating it with different skills such as speaking and reading.	6
Equipment, equipment infrastructure and materials should be improved	6
Punctuation marks such as an invalid answer (.,)	4
Voices of native English speakers should be included.	3
It should be appropriate for the level of the students.	3
The competences of teachers in the field of listening should be developed through vocational training.	2
It should be taught as a separate course in education and training planning.	2
Contents should be made more compatible with technology and technological applications should be included.	2
Lesson hours should be increased	2
Listening tests can be	2
It should take place in voiceovers in different accents	1
Post-listening activities should be included	1
Being more understandable and slower, not using too long sentences	1
Class sizes should be reduced	1
Excursions can be arranged	1
Sufficient	1
No idea	1
I'm undecided	1
Total	81

In Table 9, the most expressed qualitative requirement for the item "What other additional qualifications can be gained to the 7th grade English listening content" is to enrich the educational situation of the listening content with various texts, visuals, videos, and to make the students more willing to listen to the content (f= 25), the second most frequently stated (f=16) is the requirement for the listening content to be up-to-date and interesting. It was also expressed that the listening content should be taught in connection with other skills of the English language such as reading and speaking, and that it should be improved in the written material as well as the hardware and equipment infrastructure (f=6). Following these views, it was seen that some participants gave invalid answers (f=4) by writing punctuation marks such as semicolons. As additional qualifications that can be gained in English listening content, the content should be suitable for the level of the student, and the need for native speakers (native speakers) to be vocalized (f=3) was emphasized by the teachers. Teachers do not find the teachers sufficient for listening skills (f=2) and the need to provide vocational training to teachers in this field is suggested by teachers. In addition, there are also opinions (f=2) that mention the importance of technology in the teaching of listening content, find the course hours insufficient, and that the teaching of listening skills can be taught as a separate course. The additional qualifications that are least mentioned by the teachers are the necessity to include voiceovers with different accents, including post-listening activities, the need for slower vocalization of listening texts, reducing class sizes, trips can be made, in addition to the opinions of "I have no idea and I am undecided'', there are opinions (f=1) expressing the opinion that there is no need to add additional qualifications to the listening content by thinking differently from other teachers.

Table 10. According to the opinions of secondary school 7th grade English Teachers in Türkiye, Portugal and Poland, ''Do the Listening Contents in the Secondary School English Curriculum Meet the Wishes and Needs of the Students in Gaining This Skill?'' interview question findings

Türkiye	Portugal	Poland
Teacher 1. "No'' Teacher 2. "No'' Teacher 3. "In some units'' Teacher 4. "Does not fully meet'' Teacher 5. "Yes'' Teacher 6. "No, it does not meet.''	Teacher 1. "Yes, they do. Whenever and the more the students practice this skill, the more they gain, improve and achieve this skill.'' Teacher 2. "Yes, most of all!''	Teacher 1. "In my opinion, there should be more listening practice in the English curriculum'' Teacher 2. "Students do the listening skills but they hardly every arę really interested in the content of listening. They had to listen; they are on the lesson. But only sometimes the listenings are interesting for them. Their wishes are completed on the internet''. Teacher 3. "Yes, they do.''

When the data in Table 10 are evaluated, it can be seen that the majority of the teachers participating in the research from Türkiye think that the scope of the listening skill does not meet the students' wishes and needs. Polish English teachers, on the other hand, are of the opinion that the listening content is insufficient to attract student attention and that more attention-grabbing content can be included. Portuguese English teachers, on the other hand, emphasized that the listening content was sufficient, that it met the expectations of the students, and that what was needed was the need for students to practice more.

Table 11. According to the opinions of secondary school 7th grade English Teachers in Türkiye, Portugal and Poland, ''Is the Content of Listening Skills in the Secondary School English Curriculum Sufficient in Its Current Form?'' interview question findings

Türkiye	Portugal	Poland
T.1. "NO'' T.2. "No'' T.3. "I don't think it's enough; it can be made simpler and more fun." T.4. "I don't think it's quite enough" T.5. "Yes'' T.6. "No, it's not enough''	T.1. "The curriculum says they have to understand simple speeches, spoken in clear sentences according to the contents they are studying, to identify the main idea of a text or a special information. So, the teachers choose the contents to practice the listening skills according to the pupils and according to the curriculum.'' T.2. "Yes, we have many and different Listening activities: Texts, songs, pronounciation activities, grammar explanations, etc.''	T.1. "The curriculum needs more diverse listening practice like real live reports from news, short podcasts, film reviews – in general more everyday situation listening practice.'' T.2. "It is not sufficient. Without additional listening at home on their own they can't reach satisfactory level of that skill.'' T.3. "Yes, it is definitely sufficient.''

As it has been seen in Table 11, the majority of Turkish and Polish secondary school English teachers in the study state that the listening content of the English curriculum is not sufficient in its current form. Polish English teachers emphasize the need for students to be exposed to listening activities independently at home. Portuguese English teachers find English listening content adequate in its current form and the reason for this is the richness of the listening content and their flexibility in choosing the listening content.

Table 12. According to the opinions of secondary school 7th grade English Teachers in Türkiye, Portugal and Poland, ''How Often Should the Listening Content of the Secondary School English Curriculum be Reviewed and Updated?'' interview question findings

Türkiye	Portugal	Poland
T.1. "Every 2 years'', T.2. "Once every 2 years" T.3. "Every year" T.4. "It should be updated at most every 2 years" T.5. "Every year" T.6. "At least once every 2 years"	T.1. "The listening content curriculum was updated in 2018, and the revision and updating isn´t done by the teachers but by the government. We don´t know when it will be done again. But the teachers adapt it every year according to the pupils they have'' T.2. "Each four year!''	T.1. "All the years. We need more listening practice in general.'' T.2. "It depends. But its could be changed every 4 years. To update some information.'' T.3. "Every 10 to 15 years''

It has been seen that the English teachers of the three countries gave similar answers to the English language teachers of Türkiye, when compared to other countries, about the interval at which the English listening content should be updated and it should be updated every two years. Portugal T.2. and P.2 from Poland agree that the listening content should be changed every four years. T.3 from Türkiye the recommendations T.5., T.3. from Türkiye and T.1 from Poland for updating the listening content every year are also similar. From Portugal T.1. the last time the English curriculum was updated in 2018, teachers did not have any contribution to the curriculum update, states that the curriculum change was carried out by the Portuguese government. One of the teachers participating in the study, Polish English teacher T.3. Compared to other teachers, he was the only teacher who replied that the content should be updated every 10-15 years and that teachers can choose their own listening content.

Table 13. According to the opinions of secondary school 7th grade English Teachers in Türkiye, Portugal and Poland, ''What Content Deficiencies Do the Listening Skills Content of the Secondary School English Curriculum Have?'' interview question findings

Türkiye	Portugal	Poland
T.1. "There is a lack of songs and videos that may interest them" T.2. "Daily talk, song" T.3. "Slightly above the students' understanding level and not all of the listening texts are spoken by the native speaker" T.4. "I wish visuals could be added in dialogues in listening texts." T.5. "There could be more songs''. T.6. "There are no topics that will interest students, this is why students do not want to listen.''	T.1. "There aren´t deficiencies in the content of the listening skills because the teachers can choose how and what to do to develop this skill. They can use different ways, instruments, to practice it—filling in exercise, identifying contents, characters, vocabulary.....'' T.2. "Nothing to mention!''	T.1. "I observed that students have multiple problems in the listening practice. The pace of the speech of the native speakers is too fast for students, they don`t understand the words because of difficult intonation and pronunciation of the speaker. Also, the questions to the spoken texts are misleading and confusing. We need to work more on that skills that students don`t have the above problems in the future.'' T.2. "Currently we are using books in which three are only two lektors man and woman. In my opinion they are not native speakers☹. I think that more everyday phrases should be used some real language between tenagers. We should have more visual materials. We have some but they are about grammar. On my private lessons Im using books published by Cambridge. In my opinion, they are much better.'' T.3. "It would be nice if there were more slang/everyday expressions, sentence fillers.''

While the answers of the Turkish and Polish teachers were similar at some points, the Portuguese English Teachers gave completely different answers on the shortcomings of the listening skills content of the secondary school English lesson listening curriculum of the secondary school 7th grade English teachers of the three countries. Portuguese English teacher T1 stated that there was no deficiency in the content of the listening texts because they determined what they would do and how they would do to improve their listening skills. She also stated that they used different ways such as exercises, filling in the blanks, determining the subject, characters, and vocabulary of the content to improve their listening skills. In fact, Portuguese English Teacher T2 said that there was nothing to say about the subject. However, while T2, one of the Turkish English teachers, said that daily speech texts and songs should be used as listening content, T1 also said that songs and video topics should be chosen that could attract the attention of students. Again, while the Turkish English teacher T5 said that there should be more songs, T6 stated that they did not want to listen because the content topics did not attract the attention of the students. Similar to the views of Turkish teachers, T2 from the Polish English teachers added that daily patterns used in the real-life language they use among adolescents should be used in their listening content, while T3 added that it would be better if there were more daily idioms, phrases and sentence complements in the listening content. In fact, T3 said that she used the books published by Cambridge in her private lessons and they were much better. On the other hand, Polish English Teacher T1 said that he observed that there were many problems in the listening exercises and that since the speaking speed of native English speakers in the listening content was very fast, the students could not understand the words and they could not catch the pronunciation and intonation used by the native speakers in the words. She added that in this case, it caused misconceptions and confusion in the questions in the speech texts. Similar to the opinion of the Polish English teacher, the Turkish English teacher T3 said that the listening contents were performed above the students' understanding level. Again, Turkish English teacher T4 wanted visuals to be added to listening content, while Polish English teacher T2 said that there should be more visual materials in listening content.

Table 14. According to the opinions of secondary school 7th grade English Teachers in Türkiye, Portugal, and Poland, ''What are the Positive Aspects of the Listening Skills Content of the Secondary School English Curriculum?'' interview question findings

Türkiye	Portugal	Poland
T.1. "There is a listening activity in each unit." T.2. "It strengthens the students' perception of pronunciation and enables them to distinguish sounds." T.3. "Students gain practice in the sections where native speakers speak" T.4. "The positive aspects are the acquisition of correct pronunciation, the ability to understand the dialogues by listening and the desire to speak" T.5. "When a native speaker speaks, students gain practice" T.6. "It is understood easily by good students"	T.1. "The possitive aspects is the freedom to choose the different ways of practising this skills.'' T.2. "Students improve their comprehension and speaking!''	T.1. "We do a lot of the final exams listening exercisers. That allows students to get used to the types of these exercisers and they gain not only knowledge but also practical skills – "know-how" of doing these types of tasks.'' T.2. "They learn different kind of accents, get some knowledge, they learn cultural aspects,'' T.3. "There is a wide variety of recordings covering different everyday situations.''

In Table 14, although the English teachers of the three countries made similar comments on the positive aspects of the listening skills content of the secondary school English curriculum of the 7th grade English teachers, the English teachers of the three countries mentioned different positive aspects both among themselves and from the teachers of other countries. Portuguese English teacher T1 stated that the positive aspects of the studies on listening skills would change depending on the type, while T2 said that the students improved their comprehension and speaking skills. On the other hand, Polish English teacher T1 stated that they did many listening exercises in the final exam and that

this allowed the students to practice different types of exercises, and that the students not only gained knowledge but also gained skills in how to do what is going on while they are working on listening content. The Polish teacher T2 said that the students also learned different accents, some information and cultural aspects. On the other hand, the Polish teacher T3 said that the audio recordings in the listening contents cover many daily situations. When we look at the opinions of the 7th grade English teachers from Türkiye, T1 said that listening activity should be included in each unit, while T2 said that, like the Polish English teacher T2, it strengthens the students' perception of pronunciation and helps them distinguish sounds. Turkish English teachers T3 and T5, on the other hand, stated that students gained practice in parts where native speakers speak, like Polish English teachers T1. The Turkish English teacher T4 expressed a similar view to the Portuguese English teacher T2, saying that students can understand the dialogues by listening and create a desire to speak in the students. Lastly, Turkish English teacher T6 expressed her opinion about listening content, saying that they should be easily understood by good students.

Table 15. According to the Opinions of Secondary School 7th Grade English Teachers in Türkiye, Portugal, and Poland, ''What Additional Qualifications can be Added to the English Curriculum for More Effective Acquisition of Listening Skills?'' Interview Question Findings

Türkiye	Portugal	Poland
T.1. "There can be songs'', nursery rhymes and videos'' T.2. "There should be a separate listening class hour, as students can speak more easily when they are able to understand what they hear." T.3. "Songs that can attract students' attention can be added to each unit" T.4. "A listening text that can give feedback to children would not be bad" T.5. The participant did not answer this question. T.6. "It should be interesting by the students and some activities should be much easier considering the intermediate-low levels"	T.1. "As it was written'' before the teacher can choose what to do. In our shool the teachers work together choosing the correct assessement tools to practice this skills.'' T.2. "Nothing to mention!''	T.1. "Personaly, from my 20 years of teaching English experience, i believe that to learn foreign language we need to be exposed to the language every day. In typical Polish school we have 3h of English per week in curriculum, what is not sufficient on my opinion. Concerning that, listening should also be included in every lesson.'' T.2. "I don't like songs in English books. In my opinion they are complete crap. Boring, it's probably the problem with artisic rights but learning real hits the most popular songs would be more effective. Listening might also have some funny aspects. Students could listen jokes for eg. It could be more tongue twisters. Listening short stories. But interesting stories. Mixing activities for eg. listening and drawing. Of course, we can prepare lessons like these ourselves, but these kinds of activities could be also included in the regular books.'' T.3. "I would love to have a wider variety of accents, regional differences in pronunciation or vocab.''

In Table 15, regarding the qualifications that can be added to the curriculum in order to gain more effective listening skills of secondary school 7th grade English teachers in Türkiye, Portugal and Poland; Portuguese English teacher T1 said that as she stated in the previous articles, since the teachers have already decided what will be done in the listening exercises, the English teachers in the schools decide on the content of the listening exercises that will be used together. T2 has already stated that there is nothing to say about the subject. That is, Portuguese English teachers think that there is nothing that can be added to the curriculum for the acquisition of listening skills more

effectively, while the Polish English teacher T1 based on his 20 years of professional experience that students need to be exposed to that language every day in order to learn a foreign language, but in typical Polish schools there are only three hours of English lessons per week and this stated that it was not enough. Regarding this, she added that listening exercises should be in every lesson. On the other hand, Polish English teacher T2 thinks that she does not like the songs in the English books and that the songs are boring and complete garbage. T2 said that the most popular songs could be more effective and that listening activities should have a fun aspect. And she said that students can listen to jokes, nursery rhymes, and short stories. She also stated that teachers can prepare mixed activities as well as listening and drawing activities together, but such activities are included in quality books. The Polish English Teacher T3 added that she wanted a wider variety of accents and the use of dialects and words from different regions. While the Turkish English teacher T1 said that there could be songs, nursery rhymes, and videos in listening content, like the Polish English teacher T2, T3 stated that songs that could attract the attention of the students could be added in each unit. While the Polish English teacher T2 thought that there should be a listening practice in every lesson, the Turkish English teacher T2 said that there should be a separate listening lesson because students can speak more easily when they are able to understand what they hear. While T4, an English teacher from Türkiye, said that it would not be bad to have a listening text that could give feedback to children, T5 did not answer this question. Finally, Turkish English teacher T6 stated that listening content should attract students' attention and that some activities should be much easier considering medium-low levels.

Discussion, Conclusion and Suggestions

Examining the listening content of the English curriculum adopted and put into practice in our country in 2018 and the listening content of the English curriculum of other countries, comparison of the English curriculum in our country with the curriculums of countries with different levels of practice, educational status, teaching methods and techniques, content, and achievements in different countries, It is of great importance for us to make various adjustments and improvements in our curriculum and to see what our shortcomings are. In this respect, the English teaching curriculums of European countries that have achieved success in English language acquisition are more important. In this context, for the purposes of the research, it is seen that listening content, which is similarly included in the English curriculum of the three countries and aims to activate the students in educational situations, is included. The opinion of English teachers in Türkiye that language content in the curriculum should include more content covering daily life skills, both in the questionnaire and in the interviews, is a shortcoming expressed by the English teachers of Poland. It is possible to come across studies that are in line with the research and emphasize that the inclusion of daily life skills in the language learning environment will contribute to rapid speaking, comprehension competence and spontaneous natural language learning during language use in outdoor environments (Aktaş, 2015; Illes & Akcan, 2017; Bavlı, 2017). It is seen that English teachers have reached the finding that the current content is insufficient even in the content of the curriculum used in undergraduate education. Another important common point expressed by the teachers interviewed from Poland and Türkiye is the need to increase the English listening content and make it more attractive. In the study of Yörü (2018), in which the opinions of English teachers were sought, the teachers' listening content did not attract the attention of the students, and the lack of class hours in the teaching of four language skills were the common problems expressed by the teachers who participated in our study. The emphasis in the interview that the English listening content stated by the Polish and Turkish English teachers is more preferable to native speakers (Lindeman, 2002) is that the listeners expressed a more negative opinion towards native speakers of Korean and native speakers of English in their voice-overs. It is emphasized that the reason for this situation may be that the attitudes of the listeners and the vocalization with a different accent may be effective even though the Korean voice actors perform the correct vocalization. Major, Fitzmaurice, Bunta and Balasubramanian's (2002) native speakers of English, Korean, Chinese, Japanese, and Spanish were given English listening content spoken by non-native speakers, and it was observed that all the participants scored low in the listening content test, which was also emphasized by our study participants. demonstrates the importance of implementation. In fact, in some studies, when listening to the voices of non-native speakers, people focus less on the mistakes of the voice actors, and this negatively affects their capacity to learn words (Lev-Ari, 2015).

Portuguese and Polish English teachers stated that they could be more flexible about the listening content of the English curriculum, they could include different content and books from the English books that the Ministry of National Education recommended to be used in the education process, and they could be flexible about the listening content. However, there is not the same level of flexibility for Turkish English teachers. In addition to being flexible with the initiative of the teacher in the English curriculum, it is stated in various studies that learning with students can be carried out in a better way and that it has a very important role in realizing the education process oriented to the interests and needs of the students (Bao, 2018). The finding expressed by Ercan (2019) in his study that English teachers should not be oppressive towards teachers during the implementation of the curriculum and that teachers should be able to act more flexible coincides with the findings of our study. It can be seen that Turkish and Polish English teachers talk more about the shortcomings of English curricula, while Portuguese English teachers speak more positively about English curricula. It is stated that the listening content with which Turkish and Polish English teachers agree is very fast, therefore the students have a hard time understanding what is being said, and therefore the listening content may be slower. In line with the study, it is stated that English listening content is very fast for new learners of the English language, which puts students in stress and anxiety (Maresta, Hayati and Inderawati, 2018). Portuguese English teacher 2 states that the English curriculum was last updated in 2018, but the teachers' opinions were not taken during the updating of the curriculum, and the teachers' knowledge of the content of the curriculum was insufficient. In Türkiye, the participation of English teachers at the updating stage of the English curriculum is very limited (Uztozun & Troudi, 2015), and when the curriculum is put into practice, they have insufficient knowledge about the curriculum like Portuguese English teachers. In Demirbulak's (2016) research in which he consulted with English teachers for their opinions about the English curriculum, it was stated by the teachers that their participation or contribution was not included in the design of the curriculum, such as renewing or updating the English curriculum, adding new content or changing the existing ones. The knowledge of English teachers about the newly implemented curriculum is limited. It can be thought that the fact that the teachers who are personally involved in the education and training process do not take part in the curriculum update process may also have negative effects on the implementation phase. In a similar study, it was found that English teachers do not have knowledge of the curriculum outcome and act only content-oriented, which causes difficulties in reaching the goals (An, 2020). According to Bowers (1991), he emphasizes the importance of teachers' involvement in curriculum change studies by including the finding that the more they contribute to the improvement, renewal and development of the curriculum, the more they tend to implement the curriculum. According to the survey and interview findings of the English teachers participating in the research, it is seen that the teachers stated that the English teaching curriculums should be updated frequently. Although listening content is intended to be taught by connecting it to reading, writing, and speaking abilities, it is stated that the content is insufficient to hold young people's attention because daily life elements are lacking in curriculum, this is one of the positive aspects of the Turkish and Polish English lesson curricula, as stated by English language teachers. There are many studies that emphasize the importance of including cultural elements, metaphors, poems, texts, images, and situations from daily life in the teaching of the English language, and that reach findings in line with our study (Soter, 2014).

In the findings obtained as a result of the document analysis, the English listening contents are included as a chapter in each unit in the Polish and Türkiye English books, while the Portuguese listening contents are included as a separate title apart from 8 main units. While it is stated that assessment and evaluation is given importance but not sufficient in terms of whether English listening skills are acquired in Poland, assessment, and evaluation in English language in Türkiye is carried out only in the field of grammar. It is stated by Portuguese English teachers that the listening content in Portugal is sufficient due to the flexible behavior of the teacher and that the assessment and evaluation processes are carried out at the required level. The content that allows the testing of listening content in the English books of the three countries is mostly found in the Portuguese English book. While it is stated that students often experience anxiety and stress in testing listening proficiency in English, the importance of testing this skill is revealed by various research findings (In'nami, 2006). During testing of listening skills, it was determined that students with low levels of anxiety used more metacognitive thinking skills in listening tests (Chang and Read 2008; Golchi 2012). One of the points emphasized

by the Polish and Turkish English teachers is that visual material should be included while performing the English listening activity. Şahin et al. (2018) focused on the problems and deficiencies in English teaching at secondary school level in their study, and the findings were that the lack of visual elements in English textbooks affects the acquisition of English language negatively, and there are also many resembling studies in the field which mention the importance of increasing the visual content (Akyıldız, 2019; Yafes & Dursun, 2019). In the open-ended questionnaire questions, some teachers stated that pre-listening activities made it easier for the student to acquire this skill, which is difficult to acquire. González Cifuentes (2018) found that pre-listening activities had an important place in the post-listening activities as well as the necessity of pre-listening activities before starting the listening activity.

Although it has been determined that Portugal has a high level of language proficiency in international language proficiency tests, despite the positive data in many areas such as providing flexibility in terms of listening content, fullness of the content, functionality, and up-to-datedness in the findings of the study, Tonoian (2014)'s research shows that Portuguese citizens have daily proficiency. The rate of using the English language in their lives is 7%, the rate of using English in a foreign country is 20%, and the rate of seeing themselves as sufficient in terms of listening to English newspapers, news or understanding a foreigner is 20%. According to the research of Eurobarometer (2009), the rate of those who say they can speak a foreign language in Europe was found to be 50%, this is a high rate in the whole of Europe. It should not be forgotten that the way to change this situation will be with the education and training process and all its components acting as a common whole.

In terms of learning age and grade level, private schools in our country try to teach English language at the kindergarten level, while in public schools it starts from the 2nd grade. It is clearly seen that the 7th grade English book is heavily grammar-based and there are units that do not comply with the interdisciplinary approach, the spiral approach, the principle from simple to difficult. By making improvements in the English curriculum, a curriculum in which the weights of four language skills are equally distributed can be put into practice. It is possible to contribute to the development of this competence by eliminating the deficiencies of technological materials in schools and even by creating listening classes. Examinations involving four language skills, such as exams held abroad, can be put into practice in LGS, YDS, LYS exams held at the country level. Returning to the practice of using the target language books, which was in practice in the past, in order to be exposed to the original English language accent or incorporating these books into the education process in addition to the English books sent by the Ministry of National Education to schools and prepared in our country may have positive outcomes. Efficiency can be increased by ensuring that a different English teacher is involved in the teaching process for each lesson for the four language skills in the planning of English lessons held in our country. In addition, after graduating from the university, English teachers may lose their skills in listening and speaking over time or may experience difficulties in these areas due to the conditions they live in, the weight of the grammar-based exams in the country, the conditions in the schools they work at. To eliminate such situations, English teachers can receive in-service training at certain intervals and be subjected to examinations. In projects such as e-Twinning and Erasmus, which have become more and more popular in recent years, equal opportunities can be created for English teachers and their students so that they are more exposed to the English language. Web2 tools, which are making their impact more and more felt in the field of education, provide promising opportunities to trainers, applications such as PowToon, blender (3D), OpenToonz (2D), Render Forest allow both visual and auditory design to be realized, both in listening and speaking in English can lead to improvements in the field.

References

Abdi, S. & Makiabadi, H. (2019). Learning English listening and speaking through BBC VOA Podcasts: An App Review. *Teaching English with Technology, 19*(2), 101-108.

Akbaş, E. (2020). Yabancı dil eğitiminde yazma eğitimi yaklaşımlarının gözden geçirilmesi ve yazma becerisinin diğer becerilerle ilişkilendirilmesi. *OPUS Uluslararası Toplum Araştırmaları Dergisi*, *16*(30), 3038-3082.

Aktaş, T. (2005). Yabancı dil öğretiminde iletişimsel yeti. *Journal of Language and Linguistic Studies*, *1*(1), 89-100.

Akyıldız, S. T. (2019). İngilizce öğretiminde görsel materyal kullanımına ilişkin öğretmen görüşleri. *Eğitim Bilimleri Araştırmaları II*, 301-316.

Aldım, Ü. F. & Arıbaş, S. (2021). The contribution of CLIL approach to teaching English as a foreign language; example of Finland, Poland and Turkey1. *Journal of History School*, *50*, 438-464.

Alkan, M. F. & Kartal, Ş. (2018). Comparison of teaching English as a foreign language in Turkey with Denmark, Hungary, and Portugal. *Turkish Online Journal of English Language Teaching*, *3*(1), 10-23.

Altunya, N. (2006). *Gazi Eğitim Enstitüsü: Gazi Orta Öğretmen Okulu ve Egitim Enstitüsü, 1926-1980*. Ankara: Gazi Universitesi Yayını.

An, F. (2020). *İngilizce öğretmenlerinin program uyumluluğunu sağlama durumlarının incelenmesi. Yayımlanmamış yüksek lisans tezi*. Gaziantep Üniversitesi, Gaziantep.

Arono, A. (2014). Improving students listening skill through interactive multimedia in Indonesia. *Journal of Language teaching and research*, *5*(1), 63-69.

Balaban, S. (2016). The effect of summarization as a pre-listening technique at university preparatory classes. *American Journal of Educational Research*, *1*(2016), 126-133.

Balcı, S. (2008). Osmanlı Devleti'nde modernleşme girişimlerine bir örnek: Lisan Mektebi. *Tarih Araştırmaları Dergisi*, *27*(44), 77-98.

Bao, D. (2018). Flexibility in second language materials. *The European Journal of Applied Linguistics and TEFL*, *4*(2), 37-52.

Bavlı, B. (2017). *A case study of Turkish and Polish English teachers' effectiveness. Unpublished doctoral thesis*. Yıldız Technical Üniversitesi, İstanbul.

Bowers, B. (1991). Teacher involvement in curriculum development. *Research Roundup*, *7*(3), 3.

Breen, M. P. & Candlin, C. N. (1980). The essentials of a communicative curriculum in language teaching. *Applied Linguistics, 1*(2), 89-112.

Cabral, M. L. & Nobre, A. M. (2015). ELF teaching in Portuguese schools: The not-so-good old days are back. *Theory and Practice in Language Studies*, *5*(11), 2194.

Chang, A. & Read, J. (2008). Reducing listening test anxiety through various forms of listening support. *TESL-EJ 12*(1).

Castro, Sl. & L. Cary. (2003). Speaking and Listening: Their Role in Learning How to Read and Spell. Introduction. *An Interdisciplinary Journal, 16*, 1–3.

Creswell, J. W. (2013). *Nitel araştırma yöntemleri*. Ankara: Siyasal Kitabevi.

Creswell, J. W. & Sözbilir, M. (2017). *Karma yöntem araştırmalarına giriş* (3.Edition). Ankara: Pegem Academy.

Çelebi, M. & Narinalp, N. Y. (2020). Ortaokullarda İngilizce öğretiminde karşılaşılan sorunlar. *OPUS Uluslararası Toplum Araştırmaları Dergisi*, *15*(1), 4975-5005.

Çomoğlu, İ. & Kic-Drgas, J. (2017). A comparison of English language teacher education programs in Poland and Turkey. *Batı Anadolu Eğitim Bilimleri Dergisi*, *8*(2), 112-121.

Demirbulak, D. (2016). Anadolu öğretmen lisesi öğrencilerinin İngilizce dersindeki uygulamalara ve öğretmenliğine ilişkin düşünceleri, İngilizce öğretmenlerinin konuya ilişkin yorumları ve program geliştirmede uzlaşmacı yaklaşım. *Kastamonu Eğitim Dergisi*, *21*(4), 1641-1660.

Demircan, Ö. (1988). *Dünden bugüne Türkiye'de yabancı dil: Arapça, Farsça, Fransızca, İngilizce, Almanca, Latince, İtalyanca—dillerinin öğretimi ve Türkçenin bu diller karşısındaki durumu*. İstanbul: Remzi kitabevi.

Dilekli, Y. (2018). Ortaokul İngilizce hazırlık sınıfı programı pilot uygulamasının öğretmen görüşlerine göre değerlendirilmesi. *OPUS International Journal of Society Researches*, *8*(15), 1399-1425.

EF English Proficiency Index. (2021). https://www.ef.com/wwen/epi/.

Ercan, G. Ç. (2019). *Ortaokul İngilizce öğretmenlerinin program uygulama yaklaşımlarının öğrencilerin motivasyonlarına ve akademik başarılarına etkisi*. Yayımlanmamış doktora tezi. Osman Gazi Üniversitesi, Eskişehir.

Erdem, S. (2016). *Ortaokul-lise öğrencilerine ve İngilizce öğretmenlerine göre İngilizce öğretiminde karşılaşılan sorunlar*. Yayımlanmamış yüksek lisans tezi. Sakarya Üniversitesi, Sakarya.

Eurobarometer survey on languages in Europe (2009). CEDEFOP. https://www.cedefop.europa.eu/en/news/eurobarometer-survey-languages-europe.

Eurostat. (2021). What languages are studied the most in the EU? https://ec.europa.eu/eurostat/web/products-eurostat-news/-/edn-20210924-2.

Felek Başaran, H. (2011). The effects of captioning on EFL learners' listening comprehension: An investigative study with intermediate level university prep-school students, *Procedia - Social and Behavioral Sciences, 70,* 702-708.

Filiz, S. B. & Yıldırım, N. (2019). Ortaokul Türkçe dersi öğretim programı kazanımlarının revize edilmiş Bloom taksonomisine göre analizi. *İlköğretim Online*, *18*(4), 1550-1573.

Galbrun, L. & Kitapci, K. (2016). Speech Intelligibility of English, Polish, Arabic and Mandarin under Different Room Acoustic Conditions. *Applied Acoustics,* 114, 79-91.

Golchi, M. M. (2012). Listening anxiety and its relationship with listening strategy use and listening comprehension among Iranian IELTS learners. *International Journal of English Linguistics 2*(4), 115.

González Cifuentes, R. (2018). *Visual literacy as a way to promote EFL listening skill in a ninth grade. Unpublished master's thesis*. Universidad Libre, Spain.

Göktürk, N. & Altay, A. (2015). The relationship between EFL learners' learning styles and their scores in audio and video-mediated L2 listening tests. *Journal of Theory and Practice in Education, 11*(3), 971-988.

Gubrium, J. & Holstein, J. A. (1997). *Active interviewing. Qualitative research: theory, method and practice* (2. Edition). London: Sage publications.

Güçlü, M. & Uçar, S. (2019). Türkiye'de İngilizce Öğrenimi ve Öğretimi Yaşanan Sorunlar Üzerine Genel Bir Değerlendirme. In ERPA International Language Education Congress Proceedings Book (Vol. 1, pp. 18-23). Sakarya, Türkiye.

Illés, É. & Akcan, S. (2017). Bringing real-life language use into EFL classrooms. *ELT Journal*, *71*(1), 3-12. Oxford University Press.

In'nami, Y. (2006). The effects of test anxiety on listening test performance. *System, 34*(3), 317-340.

Kasztalska, A. (2014). English in contemporary Poland, *33*(2), 242-262.

Kaynar, N. & Sadık, O. (2020). *İngilizce dinleme becerisi geliştirmede etkileşimli ve özgün videolar*. Ankara: Pegem Yayınevi.

Kim, H. S. (2013). Emerging mobile apps to improve English listening skills. *Multimedia-Assisted Language Learning, 16*(2), 11-30.

Kirkgoz, Y. (2007). English language teaching in Turkey: Policy changes and their implementations. *RELC Journal*, *38*(2), 216-228.

Kuloğlu, M. & Esad, E. (2019). İngilizce öğretmenlerinin eğitim bilişim ağı (Eba) kullanım durumlarının incelenmesi. *Milli Eğitim Dergisi 48*(224), 327-51.

Lee, S. P., Lee, S. D., Liao, Y. L. & Wang, A. C. (2015). Effects of audio-visual aids on foreign language test anxiety, reading and listening comprehension, and retention in EFL learners. *Perceptual and motor skills, 120*(2), 576-590.

LeLoup, J. & Ponterio, R. (2007). Listening: You've got to be carefully taught. *Language, learning and technology*, 11, 4-15.

Lenneberg, E. H. (1967). *Biological foundations of language*. Newyork: Wiley.

Lev-Ari, S. (2015). Comprehending non-native speakers: Theory and evidence for adjustment in manner of processing. *Frontiers in Psychology*, 5, 1546.

Lindemann, S. (2002). Listening with an attitude: A model of native-speaker comprehension of non-native speakers in the United States. *Language in Society - LANG SOC*, *31*(3), 419-441.

Magalhães, J. B. P. (2021). *Efeito da memória, compreensão oral, vocabulário, nomeação rápida automática (RAN) na fluência de leitura*. Unpublished Doctoral dissertation. Universidade do Minho, Portugal.

Major, R. C., Fitzmaurice, S. F., Bunta, F. & Balasubramanian, C. (2002). The Effects of Nonnative Accents on Listening Comprehension: Implications for ESL Assessment. *TESOL Quarterly*, *36*(2), 173-190.

Malarski, K. & Jekiel, M. (2016). The acquisition of nonrhoticity in musical and nonmusical advanced Polish students of English. Paper presented at the 10th International Conference on Native and Nonnative Accents of English Accents 2016 Conference, Poland.

Maresta, M., Hayati, R. & Inderawati, R. (2018). *An Investigation of listening comprehension problems encountered by the 4th semester of English students at Sriwijaya University*. Unpublished master's thesis. Sriwijaya University, Palembang.

Maxwell, J. A. (2016). Expanding the history and range of mixed methods research. *Journal of mixed methods research*, *10*(1), 12-27.

Mendes, M. R. (2021). *Vocabulário e compreensão oral: efeitos num programa de intervenção na compreensão leitora.* Unpublished doctoral dissertation. Universidade do Minho, Portugal.

Ministerstwo Edukacji i Nauki (2005). Language education policy profile Poland. https://Coehttps://rm.coe.

Naeem, M. A. (2022). Using google podcasts to develop prospective efl teachers' listening comprehension skills. *Journal of Research in Education and Psychology*, *37*(1), 841-868.

Nartgün, Ş. S. & Yüksel, E. (2009). Ahi Evran Üniversitesi Kaman meslek yüksekokulu öğrencilerinin sosyo-ekonomik düzeylerinin belirlenmesi. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi*, *10*(2), 1-18.

Oliveira, A. M., Castro, S. L. & de Sousa, L. (1997). Verbal information processing in bilinguals (Portuguese/French) in a dichotic listening task (bilingualism): *In 5th international congress of the International Society of Applied Psycholinguistics: abstracts*.

Oral, Y. (2011). Türkiye'de yabancı dil eğitimi politikaları bağlamında İngilizce: Eleştirel bir çalışma. *Alternatif Eğitim e-Dergisi, 1,* 59-68.

Özdemir, V. (2018). Türkiye`de İngilizce öğretiminin ve İngilizce öğretmeni yetiştirmenin tarihi. Yayımlanmamış doktora tezi. Mersin Üniversitesi, Mersin.

Özkan, U. (2019). *Eğitim bilimleri araştırmaları için doküman inceleme yöntemi*. Ankara: Pegem Akademi.

Özüdoğru, F. (2017). *İlkokul 2. sınıf ingilizce öğretim programının diller için avrupa ortak başvuru metni doğrultusunda aydınlatıcı değerlendirme modeli ile değerlendirilmesi*. Yayımlanmamış yüksek lisans tezi. Anadolu Üniversitesi, Eskişehir.

Putri, C. M., Bunau, E. & Rezeki, Y. S. (2018). Using English songs in improving listening skill. *Jurnal Pendidikan Dan Pembelajaran Khatulistiwa (JPPK), 7*(5), Article 5.

Rahmaningtyas, H. & Al Mardhiyyah, S. (2020). Integrating VOA learning English into an English listening classroom. *Bahasa Dan Seni: Jurnal Bahasa, Sastra, Seni, Dan Pengajarannya*, *48*(2), 91-102.

Ribeiro, I., Rodrigues, B., Santos, S., Cadime, I. M. D. & Viana, F. L. (2016). Effects of listening comprehension, word recognition, and oral reading fluency on reading comprehension in second-grade students: *Proceedings of the 17th European Conference on Developmental Psychology* (pp. 201-208). Bologna (Italy): Medimond.

Rost, M. (2002). *Teaching and research listening*. Edinburg: Pearson.

Santos, R. S. (2018). *Improving young learners listening skills through storytelling*. Unpublished doctoral dissertation. Universidade Nova De Lisboa, Portugal.

Sari, H. P. & Sintia, A. D. (2021). Developing audio media for teaching listening. Konstruktivisme. *Jurnal Pendidikan dan Pembelajaran*, *13*(1), 37-51.

Seçkin, H. (2011). İlköğretim 4. Sınıf İngilizce dersi öğretim programına ilişkin öğretmen görüşleri. *Uluslararası İnsan Bilimleri Dergisi, 8*(2), 550-577.

Soares, A. P., Gutiérrez-Domínguez, F. J., Lages, A., Oliveira, H. M., Vasconcelos, M. & Jiménez, L. (2022). Learning Words While Listening to Syllables: Electrophysiological Correlates of Statistical Learning in Children and Adults. *Frontiers in human neuroscience*, 16, 805723.

Soter, A. (2014). Incorporating the metaphors of daily life into the English/language arts curriculum. *Literacy Learning: the Middle Years, 22*(1), 31-40.

Şad, S. & Karaova, M. (2015). İlkokul ikinci sınıf İngilizce dersi bağlamında dinleme becerisi öğretimi: Bir durum çalışması. *Eğitimde Nitel Araştırmalar Dergisi*, 3 (2), 66-95.

Şahin, H., Çelik, F. & Çatal, Ö. G. (2018). 6, 7 ve 8. Sınıflar da İngilizce öğrenme sürecinde karşılaşılan sorunların incelenmesi. *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi*, 47, 123-136.

Şahin, K. (2018). *Türkiye'de Yabancı dil öğretimi, sorunlar ve çözüm yolları*. In Conference: X. National Teacher Symposium, Istanbul, Turkey.

Şendağ, S., Gedik, N., Caner, M. & Toker, S. (2017). Mobil-yoğun-podcast dinlemenin ingilizce öğretmen adaylarının dinleme, konuşma ve eleştirel düşünme becerilerine etkisi. *Eğitim Teknolojisi Kuram ve Uygulama, 7*(2), 94-122.

Şimşek, A. (1999). Türkiye'de mesleki ve teknik eğitimin yeniden yapılandırılması. TÜSİAD. https://tusiad.org/tr/yayinlar/raporlar/item/1852-turkiyede-mesleki-ve-teknik-egitimin-yeniden-yapilandirilmasi.

Taşci, F. (2018). Anadolu liseleri İngilizce derslerinde konuşma ve dinleme becerilerinin kazandırılmasına yönelik etkinliklerde karşılaşılan istenmeyen öğrenci davranışlarının incelenmesi: Öğretmen ve öğrenci algıları (Kayseri ili örneği). Yayımlanmamış yüksek lisans tezi. Erciyes Üniversitesi, Kayseri.

Tonoian, L. (2014). *English language learning inside and outside the classroom in Portugal*. Unpublished master's thesis. Universidade Nova De Lisboa, Portugal.

Uztozun, M. S. & Troudi, S. (2015). Lecturers' views of curriculum change at English Language Teaching departments in Turkey. *Novitas-Royal (Research on Youth and Language), 9*(1), 15-29.

Vandergrift, L. (2006). Second language listening: Listening ability or language proficiency? *The Modern Language Journal 90*(1), 6-18.

Velez, A. L. P., Osorio, A. M. S. & De La Lengua, L. E. E. (2011). *The Implementation of audiobooks for listening comprehension in fifth grade students*. Unpublished doctoral dissertation. Universidad Tecnológica de Pereira, Colombia.

Wagner, M. & Shafer, V. L. (2009). The phonotactic influence on the perception of a consonant cluster/pt/by native- English and native- Polish listeners: A behavioral and ERP study. *The Journal of the Acoustical Society of America, 125*(4), 2762-2762.

Yafes, C. & Dursun, F. (2019). Lise dil bölümünde okuyan 11. ve 12. sınıf öğrencilerine göre İngilizce Dil öğretmeni yeterlilikleri. *The Journal of International Lingual Social and Educational Sciences*, *5*(1), 75-91.

Yağar, F. & Dökme, S. (2018). Niteliksel araştırmaların planlanması: araştırma soruları, örneklem seçimi, geçerlik ve güvenirlik. *Gazi Sağlık Bilimleri Dergisi, 3*(3), 1-9.

Yeldham, M. (2016). Examining the usefulness to learners of processes taught in L2 English listening courses. *International Review of Applied Linguistics in Language Teaching, 54*(1), 43-72.

Yıldırım, A. & Simsek, H. (1999). *Sosyal bilimlerde nitel araştırma yöntemleri (11 baskı).* Ankara: Seçkin Yayıncılık.

Yörü, B. (2018). İlköğretim sekizinci sınıf ingilizce öğretim programına ilişkin öğretmen görüşleri: Eskişehir örneği. Yayımlanmamış yüksek lisans tezi. Osmangazi Üniversitesi, Eskişehir.

Reasons for Teachers' Alienation

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Abstract

The aim of this study is to investigate the causes of alienation according to the opinions of teachers working at different school types and levels. Phenomenology, one of the qualitative research designs, was used in the study. The study group, on the other hand, consists of 7 teachers selected from different school types and grades in Aydın with the snowball sampling method, which is one of the purposeful sampling methods. A semi-structured "Reasons for teachers' alienation interview form" developed by the researchers was used to obtain the data. The analysis of the data was carried out using content analysis. As a result of the research, the reasons for teachers' alienation were gathered in three categories: factors related to work, institution and communication. According to the findings of the study, teachers; (i) reasons for alienation from work, administrative problem, loss of prestige of the profession, financial problems, program and equipment-material, working conditions, parental indifference and environmental pressures; (ii) the reasons for alienation from the institution, not being able to participate in the decision, negative attitude of the management, terms of appointment of administrators, physical conditions of the school; (iii) sees the reasons for alienation from communication as political and ideological thoughts, personal attitudes and behaviors, not sharing information and grouping. According to the findings, it can be said that in order to minimize alienation in teachers, school administrators should perform their administrative actions more carefully and diligently, be solution-oriented, act impartially, and provide support.

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Introduction

While alienation is generally defined as the alienation of individuals from each other, from a certain environment or situation, Marx defined alienation as the alienation of the individual from work and withdrawing himself (Saygın, 2019). According to Püsküllüoğlu (2000), alienation is when an individual becomes alienated from the environment, society, himself and others by being dominated by the products he produces (as cited in Fettahlıoğlu, 2006). Alienation can be caused by different factors such as the environment in which one lives, personality traits, and friends with whom a relationship is established (Yücel, 2006). Alienation causes the employee not to take responsibility or avoid taking responsibility in the organization, job dissatisfaction and constant complaints, not wanting to communicate with other employees, fear of innovation, and resistance to change (Bayındır, 2002). This situation prevents them from reaching the goals set by their structures and the happiness of the individuals in the organization.

The most important component of an organization are its members, individuals. Collaboration of these individuals with each other in the realization of the goals and their integration with the organization is one of the most important requirements in ensuring organizational effectiveness (Lepak and Snell, 1998). It is necessary to increase the interest and commitment to organizational goals, to harmonize individual goals with organizational goals, to express opinions and thoughts, and to develop the creativity of members (Altınkurt, 2014). Individuals who make up the organization have different individual characteristics, desires, needs, expectations and goals, which can lead to their indifference to organizational goals and their alienation from the organization (Adrien et al. 2002).

The management structure of the organization created to achieve the determined objectives, physical inadequacies, the relations of the employees with the managers and other employees, the problems they experience, the conflict of their wishes and expectations, the non-inclusion of the employees in the decision by the management, etc. individual and organizational reasons are among the factors that cause alienation (Eryılmaz, 2010). The decrease in job satisfaction and organizational commitment of the employees, the unwillingness to go to work, the desire to leave the job and the feeling of burnout, communication problems lead to the alienation of the individual to his job, the institution he works for, and this situation negatively affects the performance and productivity of the employee. Organizational alienation (Agarwal, 1993), which is the employee's not giving enough importance to his job, the minimum energy expenditure for the realization of the job, and the greater importance of external rewards for the employee (Agarwal, 1993), can occur in the form of alienation of the employees to the organization they work, to each other or to themselves (Darıyemez, 1993).

Alienation also affects educational institutions in different ways. In particular, the qualifications of the school where the teacher, who is an education employee, works, the opportunities provided to the teacher by the management, the value that the teacher attaches to his profession affect the formation of alienation. The bureaucratic and hierarchical structure of the education system prevents or limits the collective decision making and the participation of the teacher in the decision. Restriction of the teacher in educational processes such as lecturing and planning activities causes a feeling of powerlessness in the teacher and can lead to alienation (Yılmaz and Sarpkaya, 2009). Teachers find educational activities meaningless, change their thoughts towards education negatively, feel inadequate, isolate themselves from their environment and friends (Kılıç, 2009), administrative decisions are taken by the central government in order to maintain the current status quo, and teachers are not allowed to step out of their designated roles. Failure to do so brings alienation and organizational alienation (Yapıcı, 2004). In addition, the excessive course load, the intensity of the curriculum, the lack of a positive climate in the school, the crowded classes and the low achievement of the students, the lack of a participatory understanding of the administrative structure, the physical inadequacies of the school, the lack of healthy communication with other teachers can be counted among the other causes of organizational alienation (Kılçık, 2011). The alienation of teachers from the organization may cause them not to value their professional development and to have creative thinking (Yılmaz and Sarpkaya, 2009).

The alienation of the teacher from work negatively affects the organization and work life (Elma, 2003). The alienation of the teacher from work occurs in the form of finding his work boring and meaningless, not taking pleasure, not being interested anymore, alienating from the education-teaching

process and not adding anything from himself (Eryılmaz and Burgaz, 2011). In addition, inadequate teachers' salaries, meeting the needs only at a minimum level, the decrease in the importance given to the teacher by the society and the loss of reputation are among the factors that affect the alienation of the teacher from work (Kılıç, 2009). On the other hand, the lack of a fair division of labor among teachers, disagreements and conflicts with the administrator or other teachers due to reasons such as the nature of the work, working time, excessive workload, whether the work is done with love, the attitude of the management, and the inability to interfere with the audit results (Kösterelioğlu, 2011). Among the other reasons for alienation from work are the inability to establish healthy communication, monotony (Şimşek et al., 2006). Not being able to identify successful and unsuccessful teachers effectively, not providing sufficient material support and not being appreciated by the school administration can also be counted among the reasons for alienation from work (Şirin, 2009).

The teacher spends most of his day at school. It is possible to come across different groups and formations among teachers at school. The quality of the group members at the school shapes the personal characteristics of the teacher in the group and has a decisive effect on their economic and social satisfaction (Ertürk, 2013). The teacher is the most important factor for the school to reach the determined goals and be successful (Eryılmaz, 2010). School administrators' adopting a strict and resistant to change management style, not giving importance to the views and thoughts of the teacher individually or as a group, not taking into account the personality traits and not establishing healthy communication, highlighting the individual or group differences among teachers cause alienation in communication.

There are various studies on teacher alienation. The teacher experiences alienation in different ways, changes from situation to situation and develops in the process (Brooks, Hughes and Brooks, 2008), the teacher demands more autonomy and participation in decisions from the management in order to prevent alienation (Cox and Wood, 2009), emphasizes the environment in which the teacher works (Brooks, Hughes and Brooks, 2008; Vavrus, 1987), there are studies suggesting that job satisfaction and work environment are effective on alienation (Thompson and Wendt, 2010).

Schools have an important place in the context of developing society and individuals and shaping the future (Taymaz, 2011). Any negative organizational behavior in schools does not only reveal a negative outcome for itself, but may affect the society from different aspects in the long run (Bursalıoğlu, 2010). In this context, a participatory, fair and egalitarian management approach should be established in order to minimize alienation, which has negative consequences both individually and organizationally in schools. In this study, the views of teachers working at different school types and levels on the causes of alienation were investigated.

Method

The teacher experiencing alienation has negative feelings towards his profession, the institution he works for, his environment, himself, and the world, and causes him to feel inadequate. It is important that this feeling is understandable in order to take the necessary measures to prevent this (Şimşek et al., 2012). In this study, the views of teachers working at different school types and levels on the causes of alienation were investigated. Phenomenology, one of the qualitative research designs, was used in the study. The phenomenological approach, which focuses on the phenomena that we are aware of but do not have a deep and detailed understanding of, and which means making sense of the lived experience, is preferred in order to provide a conceptual basis against methodology deficiencies and application problems, and to present general and practical information on the subject (Yıldırım and Şimşek, 2016).

Scientific studies aiming to reveal the event and perceptions in their natural environment with a holistic and realistic perspective by using different data collection techniques such as observation, interview and document analysis constitute qualitative research (Yıldırım and Şimşek, 2016). A semi-structured "Reasons for teachers' alienation interview form" developed by the researchers was used to collect the data. Semi-structured interview, as it contains a certain level of flexibility and standardization, eliminates the limitations of the questionnaires and provides comprehensive information on a specific subject (Yıldırım and Şimşek, 2016). In this study, teachers who experienced alienation were interviewed using a semi-structured interview form developed by the researchers.

Study Group

The study group of the research consists of 7 participants selected from teachers working in different school types and levels in Aydın. Snowball or chain sampling method, one of the purposeful sampling methods, was used to determine the study group. According to Patton (1987), snowball sampling is a method that provides new information to be obtained by asking who else to interview and who has the most knowledge on this subject (Yılmaz and Şimşek, 2016). In this method, as the process progresses, the names obtained continue to grow like a snowball, and after a certain period of time, certain names always come to the fore, and the number of individuals to be interviewed and the number of situations to be dealt with begins to decrease (Yıldırım and Şimşek, 2016). Demographic information about the study group is given in Table 1.

Table 1. Demographic information of the participants

		f	%
Gender	Female	4	57
	Male	3	43
Total		7	100
Type of School Worked	Kindergarten	1	14
	Primary school	2	29
	Secondary school	3	43
	High school	1	14
Total		7	100
Working Time in the Same School	2-5 years	1	14
	6-10 years	3	43
	11-15 years	2	29
	16 years and above	1	14
Total		7	100
Professional seniority	5-10 years	1	14
	11-20 years	2	29
	21-30 years	3	43
	31 years and over	1	14
Total		7	100
Age	25-35 years	1	14
	36-45 years	3	29
	46-55 years	2	43
	56 years and older	1	14
Total		7	100

When Table 1 is examined, it is seen that the study group consists of 7 participant teachers, 4 of whom are female and 3 are male. Among the participants, there is 1 person with 2-5 years working time, 3 people with 6-10 years, 2 people with 11-15 years and 1 person with 16 years and above, and 1 person with 5-10 years in terms of professional seniority, 2 people 11-20 years old, 3 people 21-30 years old and 1 person who is 31 years and above, when evaluated in terms of age, 1 person in the 25-35 age range, 3 people in the 36-45 age range, 46-55 age range There is 1 person aged 2 and 56 years and older.

Data Collection Tool

It is important to examine the data to be obtained in depth and to deliver the necessary details to the reader in an accurate, realistic and reliable manner (Yıldırım and Şimşek, 2016). In this context, data collection was carried out with a semi-structured "*The reasons for teachers' alienation interview form*" developed by the researchers. The reason for choosing a semi-structured interview form is that it is aimed to obtain the same type of information from different people, provided that they focus on similar topics (Patton, 1987). In semi-structured interviews, the researchers ask questions about the pre-decided topic and these issues, and additional questions are asked when adequate answers are not received. As

the questions are obligatory to serve the purpose of the problem, the place of the questions can be changed, omitted or their details can be entered when necessary (Yıldırım and Şimşek, 2016).

8 questions were included in the "*reasons of alienation of teachers interview form"* developed by the researchers. The questions in the semi-structured "*reasons of teachers' alienation interview form*" were created in the light of the data obtained from the literature review. The semi-structured interview form created was presented to the opinion of four field experts and was arranged according to their feedback. The pilot application of the semi-structured interview form was carried out with three teachers and its final form was given. Then the interviews were held. The data were obtained from the volunteer teachers working in different types and levels in Aydın province in the 2022-2023 academic year through interviews held at the time and place they are available. During the interviews, which lasted for an average of 40 minutes, recordings were taken, and the answers of two people who did not accept the recording were taken as notes. The obtained data were analyzed by transferring them to the text.

Data Analysis

The obtained data were analyzed by "*content analysis*". Content analysis is a method based on the analysis of quantitative and recorded data and drawing conclusions from it, with coding created by considering certain rules (Yıldırım and Şimşek, 2016). With the use of content analysis, the researcher presents the data more scientifically by making a systematic and objective interpretation (Koçak and Arun, 2006). Codes were extracted from the data obtained by examining the literature, similar expressions were determined and categorized. In addition, direct quotations are included in order to reflect the participant's views in the most accurate way.

While the use of data diversity is accepted as an important element for validity, the objective observation of the researched phenomenon as it is by the researcher also creates validity in qualitative research. Reliability, on the other hand, includes being clear and understandable in qualitative research (Yıldırım and Şimşek, 2016). According to Silverman (2006), reliability can be increased by pre-testing the interview questions, informing the interviewer, and coding the answers given to the questions (as cited in Uğurlu et al., 2012). The answers given to the questions in the semi-structured interview form were analyzed by content analysis, categories and codes were created, and the codes and categories that emerged as a result of the analysis of the data were consulted by two experts on qualitative research. The obtained data were analyzed and coded, and the consistency between the coders was calculated using the formula of Miles and Huberman (1994). As a result of this calculation, it was determined that the consistency between the encoders was 86%. The fact that the result obtained was over 80% showed that the analysis was consistent. In addition to the interview, observation and document analysis were made to eliminate the weaknesses caused by a single data collection tool and to increase its internal validity, and it was supported by the answers of the participants. The teachers in the study group were named as P1, P2, P3…P7.

Findings

The reasons for the alienation of the gathering were investigated through interviews with teachers working in different school types and levels, using the semi-interview formula obtained by the researchers, and they were analyzed and categorized with the content analysis obtained. The business obtained regarding the reasons for the alienation of the teachers took place in 3 main categories as the reasons related to the institution and communication.

Reasons for teachers' alienation from work

Teachers in the study group stated the reasons for alienation from work as administrative problems, loss of prestige of the profession, financial problems, program and equipment-material, working conditions, parental indifference and environmental pressures. The reasons for teachers' alienation from work are given in Table 2.

Table 2. Reasons for teachers' alienation from work

Category	Code	f	%	Sample Expressions
Work environment	Administrative problem	5	18	P2 *'It is very easy to pass the class.'*
	Losing the prestige of the profession	6	21	P5 *'I don't think my job has any social or status gains, it has no prestige in society, you have no value in the eyes of students and parents'.*
	Financial problems	5	18	P5 *"Not satisfying economically."* P2 *"Salary is insufficient, we have a hard time living."*
	Program and tools-equipment-material	4	14	P3 *'I have difficulties in accessing educational materials, they want the teacher to provide a good education, but they do not provide enough resources.'* P2 *"The material is insufficient; the administration is not interested."*
	Work conditions	3	11	P2 *"The entrance hours are very early; we enter classes in the dark."*
	Parent indifference and environmental pressures	5	18	P6 *'The undisciplined behavior of the students, the carelessness of the administrators, the indifference and ignorance of the parents, and the environmental pressure, alienate everything and everyone'.*
Total		28	100	

One of the participating teachers expressed his views on the reasons for alienation from work as follows: *"Work is becoming ordinary now, it is only done for money, it is necessary to do the lesson routinely, not to interfere with the rest, I think the important thing is to fill the time, (P1)"*. The other participant teacher stated as follows: "*The undisciplined behavior of the students, the indifference and ignorance of the parents and their involvement in everything alienate me from everything, especially my profession. When the procrastination of the administration, the callousness of the administrators, the inability to solve anything, the constant postponement, the failure to meet the needs and the necessary course materials, there is no love for the profession (P5)"*. Another participant teacher stated the reasons for alienation from work as follows: "*The society's view of education is negative, we are left alone by the administration, the work we do is not seen, it is belittled, everything we do is considered obligatory by the environment and no support is given (P4)"*.

Reasons for teachers' alienation from the institution

The teachers in the study group stated the reasons for alienation from the institution as not being able to participate in the decision, negative attitude of the management, the conditions of appointment of the administrator, and the physical conditions of the school. The reasons for teachers' alienation from work are given in Table 3.

Table 3. Reasons for teachers' alienation from the institution

Category	Code	f	%	Sample Expressions
Institutional factors	Inability to agree with the decision	6	33	P2 *'The administration takes most of the decisions on its own, we know about it later, sometimes the administration sometimes consults the group that is close to it while making the decisions, so I don't think I agree with the decisions'.* P6 *'I think that some decisions are left to the initiative of certain groups*
	Negative attitude of management	5	28	P6 *"The rules are not applied the same for everyone, the administrators have no experience, they come with union guidance, the administrator displays an attitude towards the teachers according to his own political opinion and provides convenience".* P3 *'I cannot express my thoughts freely in the teachers' room, I feel pressure'.*
	Terms of appointment of manager	4	22	P1 *'The appointment of the managers without an exam and their lack of merit personally affect me negatively, they have no extra training or any difference from us'.*
	Physical conditions of the school	3	17	P3 *'It is disturbing that the school is neglected, unhealthy, physically inadequate, it is difficult to go to school'.*
Total		18	100	

One of the participant teachers stated the reasons for his alienation from the institution as follows: "*The administrators exhibit arbitrary attitudes, they make things easier for people who have their own opinions, but they treat others negatively, so I want to stay away from school (P1)*". The other participant teacher stated as follows: *"Some decisions are left to the initiative of certain groups, the rules are not applied when there is no one, the administrators are not experienced, they come with the direction of the union, the administrators behave towards the teachers according to their own political views, they make a distinction, they make it easy for them in shifts, programs and other jobs. This situation also causes different kinds of grouping (P4)"*. Another participant teacher stated the reasons for alienation from the institution as follows: "*The school is neglected, unsuitable for health, physically inadequate, students have serious behavioral problems, they behave very lowly, some of the families are very low, quarrelsome, and problematic, the canteen is inadequate, there is a serious problem in the management. there is slack (P7)."*

Reasons for teachers' alienation from communication

The teachers in the study group expressed the reasons for alienation from communication as political and ideological thoughts, personal attitudes and behaviors, not sharing information and grouping. The reasons for teachers' alienation from communication are given in Table 4.

Table 4. Reasons for teachers' alienation from communication

Category	Code	f	%	Sample Expressions
Communication factors	Political and ideological considerations	8	40	P1 'Teachers do not share information with each other, keep distance from each other due to union or political views, and are constantly on the phone to avoid talking'.
	Personal attitudes and behaviors	5	30	P5 'There are groups in the teachers' room, sometimes on the basis of branches and sometimes in different ways, they talk among themselves, they ignore your presence or they show verbal allusions and sarcastic behaviors'.
	Not sharing information	5	30	P2 'There are differences of opinion between teachers, sometimes political and sometimes ideological, this can cause grouping, and then everyone is strangers to each other'.
Total		20	100	

One of the participating teachers stated the reasons for his alienation from communication as follows: *"The differences in thought and union among the teachers cause such groupings that they do not even go to common activities with them, so they do not have anything in common to share (P3)"*. The other participant teacher stated the reasons for alienation from communication as follows: *"Groups become so evident that information is not shared, you cannot even get an answer to your question, they are constantly on the phone, they ignore your presence or there are sarcastic attitudes (P4)"*. Another participant teacher stated that "*The coldness is felt as soon as you enter the teachers' room, you understand that you do not belong there, they are telling (P6)"*.

Discussion, Conclusion and Suggestions

Considering and preventing the phenomenon of alienation in teachers is extremely important in terms of the effectiveness of education-teaching processes and the efficiency of educational organizations. The teacher who experiences alienation cannot act effectively in understanding students and their individual needs better, interpreting their behaviors more accurately, guiding them, setting goals and motivating them to success, and is reluctant and insufficient to create a classroom environment suitable for their emotional and cognitive needs. The failure of the teacher to establish positive relationships with colleagues and school management reduces institutional commitment, prevents the formation of a positive school climate, and decreases communication, cooperation and trust. Teachers have a great role in the realization of the determined goals of educational institutions. Achieving the

goals of the school is possible through teachers who are self-confident, participate in decisions, own their institutions, and are willing to train and develop themselves.

The professional development of the teacher is closely related to the development of a positive attitude towards the teaching profession and the adoption of the profession. Teachers are affected by many factors such as social, psychological, institutional and environmental in their professional life (Mercan, 2006). Many factors such as the qualifications of the institution where the teacher works, the management style adopted by the administrator, job satisfaction, the number of students, and the opportunities provided by the institution affect the alienation of the teacher. While the effectiveness and efficiency of a teacher who is alienated from the profession and the institution decreases in the education-teaching processes, negative behaviors towards the students also emerge (Soysal, 1997). At the same time, it prevents the teacher from being a role model by causing negative attitudes towards the society and the external environment and not being able to establish healthy communication (Kasapoğlu, 2015).

According to the findings of the study, teachers; (i) reasons for alienation from work, administrative problem, loss of prestige of the profession, financial problems, program and equipment-material, working conditions, parental indifference and environmental pressures; (ii) the reasons for alienation from the institution, not being able to participate in the decision, negative attitude of the management, terms of appointment of administrators, physical conditions of the school; (iii) sees the reasons for alienation from communication as political and ideological thoughts, personal attitudes and behaviors, not sharing information and grouping. The findings obtained in the literature and the findings of the study show similarities. A teacher's low wages, not having a positive opinion about his job, not being able to connect with his job or not reflecting himself well cause alienation (Kaya and Serçeoğlu, 2013; Şimşek et al., 2012). Likewise, research has found that there is a negative and significant relationship between the exclusion felt by the teacher at work and psychological well-being (Beydoğan et al., 2016; Yakut, 2016). In addition, it has been found in domestic and international research that there is more alienation in schools where participation in the decision is not ensured, social characteristics are weak and bureaucratic management is dominant (Gündüz, 2011; Tutar, 2010; Yeniceri, 2009; Schlichte et al., 2005; Zielinski and Hoy, 1983).

In order to minimize the alienation of the teacher, it is necessary to increase job satisfaction, ensure their participation in decisions regarding education and training processes, support performance development, reorganize the working environment and implement improvement practices (Elmas-Atay and Gerçek, 2017; Kaya and Serçeoğlu, 2013; Şimşek et al. ., 2012). To this end; (i) cooperation between teachers should be developed, (ii) different activities such as regular meetings, meals, excursions and picnics should be organized to ensure cohesion and harmony, (iii) teamwork and cooperation between teachers should be encouraged, (iv) teacher success should be positively reinforced, (v) teachers should be encouraged to participate in decisions and their opinions should be given importance by exchanging ideas, (vi) school management should implement mentoring programs especially for new teachers, organize various seminar programs by determining the missing areas of teachers, (vii) different motivations to increase job satisfaction and institutional commitment. tools and reward system should be used effectively and the business environment should be reorganized. It is of great importance for school administrators to act with the concept of justice and equality, to motivate teachers by taking into account their personal characteristics, to communicate effectively and to present a collaborative approach by including the teacher in decision processes.

References

Agarwal, S. (1993). Influence of formalization on role stress, organizational commitment, and work alienation of salespersons: A cross-national comparative study. *Journal of International Business Studies*, *24*(4), 715-739. https://doi.org/10.1057/palgrave.jibs.8490252.

Altınkurt, Y. (2014). The relationship between school climate and teachers'organizational silence behaviors. *Anthropologist*, *18*(2), 289-297. https://doi.org/10.1080/09720073.2014.11891546.

Bayındır, B. (2002). *Ortaöğretim dal öğretmenlerinin mesleğe yabancılaşmaları ile öğretme-öğrenme sürecindeki davranışları arasındaki ilişki* (Yayımlanmamış yüksek lisans tezi). Anadolu Üniversitesi.

Beydoğan Tangör, B. & Curun, F. (2016). Psikolojik iyi oluşun yordayıcıları olarak bireysel farklılıklar: Özgünlük, benlik saygısı ve sürekli kaygı. *Eğitim ve Öğretim Araştırmaları Dergisi, 5*(4), 1-13.

Brooks, J. S., Hughes, R. M. & Brooks, M. C. (2008). Fear and trembling in the American high school: Educational reform and teacher alienation. *Educational Policy*, *22*(1),45–62. https://doi.org/10.1177/0895904807311296.

Cox, H. & Wood, J.R. (2009) Organizational structure and professional alienation: The case of public school teachers. *Peabody Journal of Education*, *58*(1), 1-6. https://doi.org/10.1080/01619568009538304.

Bursalıoğlu, Z. (2010). *Okul yönetiminde yeni yapı ve davranış.* (15. Basım). Ankara: Pegem Yayınları.

Darıyemez, K. (2010). *Örgütlerde ortaya çıkan yabancılaşma sorunu ve bu sorunun çözümü açısından halkla ilişkiler çalışmalarının önemi (Başkent Üniversitesi Ankara Hastanesi örneği)* (Yayımlanmamış Yüksek Lisans Tezi). Başkent Üniversitesi.

Elma, C. (2003). *İlköğretim okulu öğretmenlerinin işe yabancılaşması* (Yayınlanmamış doktora tezi). Ankara Üniversitesi.

Elmas-Atay, S. & Gerçek, M. (2017). Algılanan rol belirsizliğinin işe yabancılaşma üzerindeki etkisinin ve demografik değişkenlere göre farklılıklarının incelenmesi. *Ordu Üniversitesi Sosyal Bilimler Araştırmaları Dergisi, 7*(2), 321-332.

Eryılmaz, A. (2010). *Lise öğretmenlerinin örgütsel yabancılaşma düzeyi* (Yayımlanmamış yüksek lisans tezi). Hacettepe Üniversitesi.

Eryılmaz, A. & Burgaz, B. (2011). Özel ve resmi lise öğretmenlerinin örgütsel yabancılaşma düzeyleri. *Eğitim ve Bilim*, *36*(161), 271-286.

Fettahlıoğlu, T. (2006). *Örgütlerde yabancılaşmanın yönetimi: Kahramanmaraş özel işletme ve kamu kuruluşlarında karşılaştırmalı bir araştırma* (Yayımlanmamış Yüksek Lisans Tezi), Kahramanmaraş Sütçü İmam Üniversitesi.

Gündüz, U. (2011). Kafka metinlerinde iletişim, iletişimsizlik ve yabancılaşma olgusu üzerine. *Selçuk Üniversitesi İletişim Fakültesi Akademik Dergisi*, *7*(1), 83-95.

Kasapoğlu, S. (2015). *İlköğretim okulu öğretmenlerinin işe yabancılaşma düzeyleri ile örgütsel adalet algıları arasındaki ilişki* (Yayımlanmamış yüksek lisans tezi). Yıldız Teknik Üniversitesi.

Kaya, U. ve Serçeoğlu, N. (2013). Duygu işçilerinde işe yabancılaşma: Hizmet sektöründe bir araştırma. *Çalışma ve Toplum Dergisi, 36*(1), 311-346.

Kılçık, F. (2011). *İlköğretim okullarında görev yapan öğretmenlerin işe yabancılaşma düzeylerine ilişkin algıları (Malatya örneği)* (Yayımlanmamış yüksek lisans tezi). İnönü Üniversitesi.

Kılıç, H. (2009). *Sosyo-ekonomik değişkenler açısından eğitimde yabancılaşma olgusu ve öğretmen* (Yayımlanmamış yüksek lisans tezi). Mersin Üniversitesi.

Koçak, A. & Arun, Ö. (2006). İçerik analizi çalışmalarında örneklem sorunu. *Selçuk İletişim Dergisi*, *4*(3), 21-28.

Kösterelioğlu, M.A. (2011). *İlköğretim okulu öğretmenlerinin iş yaşam kalitesi ile işe yabancılaşması arasındaki ilişk*i (Yayımlanmamış doktora tezi). Abant İzzet Baysal Üniversitesi.

Lepak, D. P. & Snell, S. A. (1998). Virtual HR: Strategic human resource managementin the 21st century. *Human Resource Management review*, *8*(3), 215-234. https://doi.org/10.1016/S1053-4822(98)90003-1.

Lusthaus, C., Adrien, M., Anderson, G., Carden, C. & Montalvan, G. P. (2002). *Organizational assessment: A framewoek for improving performance.* Canada: İnternational development Research Center and USA: Inter-American Development Bank.

Mercan, M. (2006). *Öğretmenlerde örgütsel bağlılık, örgütsel yabancılaşma ve örgütsel vatandaşlık* (Yayımlanmamış Yüksek Lisans Tezi). Afyon Kocatepe Üniversitesi.

Patton, M. Q. (1987). *How to use qualitative methods in evaluation?* Newbury Park, CA: Sage.

Schlichte, J. Yssel, N. & Merbler, J. (2005) Pathways to burnout: Case studies in teacheısolation and alienation. *Preventing School Failure: Alternative Education for Children and Youth*, *50* (1), 35-40. https://doi.org/10.3200/PSFL.50.1.35-40.

Soysal, A. (1997). *Örgütlerde yabancılaşmaya ilişkin teorik ve uygulamalı bir çalışma* (Yayımlanmamış yüksek lisans tezi). Selçuk Üniversitesi.

Saygın, M. (2019). *İşletmelere ve girişimciliğe güncel bakış*. Konya: Eğitim Yayınevi.

Şimşek, H., Balay, R. & Şimşek, A. S. (2012). İlköğretim sınıf öğretmenlerinde mesleki yabancılaşma. *Eğitim Bilimleri Araştırmaları Dergisi*, *2*(1), 53-72.

Şimşek, M. Ş., Çelik, A., Akgemci, T. & Fettahoğlu, T. (2006). Örgütlerde yabancılaşmanın yönetimi araştırması. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 15(1), 569-587.

Şirin, E. F. (2009). Beden eğitimi öğretmenlerinin işe yabancılaşma düzeylerinin bazı değişkenler açısından incelenmesi. *CBÜ Beden Eğitimi ve Spor Bilimleri Dergisi*, *4*(4). 164-177.

Taymaz, H. (2011). *Okul yönetimi* (10. Baskı). Ankara: Pegem Akademi.

Thomson, W.C. & Wendt, C.J. (2010) Contribution of hardiness and school climate to alienation experienced by student Teachers. *The Journal of Educational Research*, *88*(5), 269-274. https://doi.org/10.1080/00220671.1995.9941310.

Tutar, H. (2010). İşgören yabancılaşması ve örgütsel sağlık ilişkisi: Bankacılık sektöründe bir uygulama. *Ankara Üniversitesi SBF Dergisi, 65*(1), 175-204.

Uğurlu, C.T., Çağlar, Ç. & Güneş, H. (2012). Ortaöğretim okullarında yıldırma (mobbing) davranışlarına ilişkin öğretmen görüşleri, *Türk Eğitim Bilimleri Dergisi, 10*(4), 718-749.

Yakut, S. (2016). *Öğretmenlerde yabancılaşma, yalnızlık ve dindarlık ilişkisi (Polatlı örneği)* (Yayımlanmamış doktora tezi). Süleyman Demirel Üniversitesi.

Yapıcı, M. (2004). Eğitim ve yabancılaşma. *Uluslararası İnsan Bilimleri Dergisi. 1*(1).1-9.

Yeniçeri, Ö. (2009). *Örgütlerde çatışma ve yabancılaşma yönetimi*, (1.Baskı), İstanbul: IQ Kültür Sanat Yayıncılık.

Yıldırım A. & Şimşek H. (2016). *Sosyal bilimlerde nitel araştırma yöntemleri* (10. Baskı). Ankara: Seçkin Yayıncılık.

Yılmaz, S. & Sarpkaya, P. (2009). Eğitim örgütlerinde yabancılaşma ve yönetimi. *Uluslararası İnsan Bilimleri Dergisi*, *6*(2), 314-333.

Yücel, G. F. (2006). *Öğretmenlerde mesleki tükenmişlik ve örgütsel vatandaşlık davranışı* (Yayınlanmamış yüksek lisans Tezi). Afyon Kocatepe Üniversitesi.

Zielinski, A. E. & Hoy, W. K. (1983). Isolation and alienation in elementary schools. *Educational Administration Quarterly*, *19*(2), 27-45. https://doi.org/10.1177/0013161X83019002003

Öğretmenlerin Yabancılaşmasının Nedenleri

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Öz

Bu çalışmanın amacı farklı okul türü ve kademelerde görev yapmakta olan öğretmenlerin görüşlerine göre yabancılaşmanın nedenlerini araştırmaktır. Çalışmada nitel araştırma desenlerinden biri olan fenomenoloji (olgubilim) kullanılmıştır. Çalışma grubunu ise amaçlı örneklem yöntemlerinden kartopu örneklem yöntemiyle Aydın ilinde farklı okul türleri ve kademelerinden seçilen 7 öğretmen oluşturmaktadır. Verilerin elde edilmesinde araştırmacılar tarafından geliştirilen yarı yapılandırılmış "Öğretmenlerin yabancılaşmasının nedenleri görüşme formu" kullanılmıştır. Verilerin çözümlemesi içerik analiziyle yapılmıştır. Araştırma sonucunda, öğretmenlerin yabancılaşmanın nedenleri işle, kurumla ve iletişimle ilgili faktörler olmak üzere üç kategoride toplanmıştır. Çalışmanın bulgularına göre öğretmenler; (i) işe yabancılaşmanın nedenlerini yönetimsel sorun, mesleğin saygınlığını kaybetmesi, maddi problemler, program ve araç-gereç-materyal, çalışma şartları, veli ilgisizliği ve çevresel baskılar; (ii) kuruma yabancılaşmanın nedenlerini karara katılamama, yönetimin olumsuz tutumu, yönetici atama şartları, okulun fiziki şartları; (iii) iletişime yabancılaşmanın nedenlerini ise siyasi ve ideolojik düşünceler, kişisel tutum ve davranışlar, bilgi paylaşmama ve gruplaşma olarak görmektedir. Elde edilen bulgulara göre öğretmenlerde yabancılaşmanın en aza indirgenmesi için okul yöneticilerinin yönetsel eylemlerini daha dikkatli ve özenli gerçekleştirmesi, çözüm odaklı olması ve tarafsız davranması, destek sağlaması gerektiği söylenebilir.

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Giriş

Yabancılaşma genel olarak bireylerin birbirinden, belirli bir çevre ya da durumdan uzaklaşması olarak tanımlanırken, Marx yabancılaşmayı bireyin çalışmalardan uzaklaşması, kendini geri çekmesi olarak tanımlamıştır (Saygın, 2019). Püsküllüoğlu'na (2000) göre yabancılaşma, bireyin ürettiği ürünlerin egemenliği altında kalarak yaşadığı çevreye, topluma, kendine ve diğerlerine yabancı hale gelmesidir (akt. Fettahlıoğlu, 2006). Yabancılaşma yaşanılan çevre, kişilik özellikleri, ilişki kurulan arkadaşlara kadar farklı unsurlardan kaynaklanabilmektedir (Yücel, 2006). Yabancılaşma, işgörenin çalıştığı örgütte sorumluluk almama ya da almaktan kaçınma, iş memnuniyetsizliği ve sürekli yakınma, diğer işgörenlerle iletişim kurmama ya da kurmak istememe, yenilikten korkma, değişime direnme gibi sorunlara neden olmaktadır (Bayındır, 2002). Bu durum örgütlerin belirlenen hedefler ulaşmasını ve örgüt içerisinde yer alan bireylerin mutlu olmasını engellemektedir.

Bir örgütün en önemli bileşeni, o örgütü oluşturan üyelerdir, bireylerdir. Bu bireylerin birbirleriyle hedeflerin gerçekleştirilmesi konusunda iş birliği yapması ve örgütle bütünleşmesi, örgütsel etkililiğin sağlanmasında en önemli gerekliliklerden biri olmaktadır (Lepak ve Snell, 1998). Örgütsel amaçlara ilişkin ilgi ve bağlılığın artırılması, örgütsel amaçlarla birlikte bireysel amaçların uyumlaştırılması, görüş ve düşüncelerin dile getirilmesi ve üyelerin yaratıcılıklarının geliştirilmesi gerekmektedir (Altınkurt, 2014). Örgütü oluşturan bireylerin birbirinden farklı bireysel özellikler, istek, ihtiyaç, beklenti ve amaçlara sahip olması, örgütsel hedeflere ilişkin ilgisiz kalmalarına ve örgüte yabancılaşmalarına yol açabilmektedir (Adrien vd. 2002).

Belirlenen amaçları gerçekleştirmek amacıyla oluşturulmuş örgütün yönetim yapısı, fiziksel yetersizlikler, işgörenlerin yönetici ve diğer çalışanlarla ilişkileri, yaşadıkları problemler, istek ve beklentilerinin birbiriyle çelişmesi, çalışanların yönetim tarafından karara dahil edilmemesi vb. bireysel ve örgütsel sebepler yabancılaşmaya neden olan öğeler arasında yer almaktadır (Eryılmaz, 2010). İşgörenlerin iş tatmini ile kurumsal bağlılıklarının azalması, buna bağlı olarak işe gitmek istememesi, işten ayrılma isteği ve tükenmişlik hissi, iletişim problemleri bireyin işine, çalıştığı kuruma, kendine yabancılaşmasına yol açmakta ve bu durum işgörenin performans ve verimliliğini olumsuz yönde etkilemektedir. İşgörenin işine yeteri kadar önem vermemesi, işin gerçekleşmesine yönelik minimum enerji harcaması, dışsal ödüllerin işgören için daha büyük önem arz etmesi olan örgütsel yabancılaşma (Agarwal, 1993), işgörenlerin çalıştığı örgüte, yaptığı işe, birbirine ya da kendisine yabancılaşma şeklinde ortaya çıkabilmektedir (Darıyemez, 2010).

Yabancılaşma, eğitim kurumlarını da farklı yönlerden etkilemektedir. Özellikle eğitim işgöreni olan öğretmenin çalıştığı okulun nitelikleri, öğretmene yönetim tarafından sağlanan olanaklar, öğretmenin mesleğine verdiği değer yabancılaşmanın oluşumuna etki etmektedir. Eğitim sisteminin bürokratik ve hiyerarşik yapısı, kararların ortaklaşa alınmasını ve öğretmenin karara katılımını engellemekte veya sınırlandırmaktadır. Ders anlatımı ve etkinliklerin planlanması gibi eğitim öğretim süreçlerinde öğretmenin kısıtlanması, öğretmende güçsüzlük duygusuna neden olmakta ve yabancılaşmaya yol açabilmektedir (Yılmaz ve Sarpkaya, 2009). Öğretmenin eğitimsel faaliyetleri anlamsız bulması, eğitime karşı düşüncelerinin olumsuz yönde değişmesi, kendisini yetersiz hissetmesi, çevresinden ve arkadaşlarından kendisini soyutlaması, (Kılıç, 2009) yönetsel kararların mevcut statükoyu devam ettirmek amacıyla, merkezi yönetim tarafından alınarak öğretmene söz hakkı tanınmaması ve belirlenmiş rollerinin dışına çıkmasına izin verilmemesi yabancılaşmayı ve örgütsel yabancılaşmayı beraberinde getirmektedir (Yapıcı, 2004). Bunun yanı sıra ders yükünün fazlalığı, müfredatın yoğunluğu, okulda olumlu bir iklimin olmayışı, sınıfların kalabalık olması ve öğrencilerin düşük başarıya sahip olması, yönetim yapısının katılımcı bir anlayışa yer vermemesi, okulun fiziksel yetersizlikleri, diğer öğretmenlerle sağlıklı iletişimin kurulamayışı örgütsel yabancılaşmanın diğer nedenleri arasında sayılabilir (Kılçık, 2011). Öğretmenlerin örgüte yabancılaşması, mesleki gelişimlerine değer vermemesine ve yaratıcı düşünceye sahip olamamasına neden olabilmektedir (Yılmaz ve Sarpkaya, 2009).

Öğretmenin işe yabancılaşması örgüt ve iş yaşamını olumsuz etkilemektedir (Elma, 2003). Öğretmenin işe yabancılaşması yaptığı işi sıkıcı ve anlamsız bulması, haz almaması, artık ilgi duymaması ve eğitim- öğretim sürecinden soğuması, kendinden bir şey katmaması şeklinde ortaya çıkmaktadır (Eryılmaz ve Burgaz, 2011). Ayrıca öğretmen maaşlarının yetersiz olması, ihtiyaçların

ancak asgari düzeyde karşılanması, toplumun öğretmene verdiği önemin azalması ve itibar kaybı öğretmenin işe yabancılaşmasında etkili olan unsurlar arasındadır (Kılıç, 2009). Öte yandan yapılan işin niteliği, çalışma süresi, aşırı iş yükü, işin sevilerek yapılıp yapılmaması, yönetimin tutumu, denetim sonuçlarına müdahale edememe gibi sebepler ile (Kösterelioğlu, 2011) öğretmenler arasında adaletli bir iş bölümü yapılmaması, yönetici ya da diğer öğretmenlerle yaşanan anlaşmazlıklar ve çatışmalar, sağlıklı iletişimin kurulamayışı, monotonluk işe yabancılaşmanın diğer nedenleri arasında yer almaktadır (Şimşek vd., 2006).) Okul yönetimi tarafından başarılı olan ve olmayan öğretmenin belirlenmesinin etkin olarak yapılmaması, yeterli materyal desteği sağlanmaması, takdir edilmemesi de işe yabancılaşma nedenleri arasında sayılabilmektedir (Şirin, 2009).

Öğretmen, gününün büyük çoğunluğunu okulda geçirmektedir. Okulda öğretmenler arasında farklı grup ve oluşumlara rastlamak mümkündür. Okuldaki grup üyelerinin niteliği, grupta yer alan öğretmenin kişisel özelliklerini şekillendirmekte, ekonomik ve sosyal açıdan doyumu üzerinde belirleyici etkiye sahip olmaktadır (Ertürk, 2013, s. 190). Okulun belirlenen hedeflere ulaşması ve başarılı olmasında öğretmen en önemli faktördür (Eryılmaz, 2010). Okul yöneticilerinin katı ve değişime direnen bir yönetim tarzını benimsemesi, öğretmenin bireysel ya da grup olarak görüş ve düşüncelerine önem vermemesi, kişilik özelliklerini dikkate almaması ve sağlıklı iletişim kurmaması, öğretmenler arasındaki bireysel ya da grupsal farklılıkların ön plana çıkarılması iletişimde yabancılaşmayı meydana getirmektedir.

Öğretmenin yabancılaşmasıyla ilgili çeşitli araştırmalar bulunmaktadır. Öğretmenin farklı şekillerde yabancılaşmayı deneyimlediği, durumdan duruma değiştiği ve süreç içinde geliştiği (Brooks, Hughes ve Brooks, 2008), öğretmenin yabancılaşmayı önlemek adına yönetimden daha fazla özerklik ve karara katılım talep ettiği (Cox ve Wood, 2009), öğretmenin çalıştığı ortama vurgu yapan (Vavrus, 1987), iş doyumu ve çalışma ortamının yabancılaşma üzerinde etkili olduğunun öne süren (Thompson ve Wendt, 2010) araştırmalar bulunmaktadır.

Toplumun ve bireylerin geliştirilmesi, geleceğin şekillendirilmesi bağlamında okullar önemli bir yere sahiptir (Taymaz, 2011). Okullarda görülecek herhangi bir olumsuz örgütsel davranış, sadece kendi için olumsuz bir çıktı ortaya koymamakta, uzun vadede toplumu farklı yönlerden etkileyebilmektedir (Bursalıoğlu, 2010). Bu çerçevede okullarda hem bireysel hem de örgütsel açıdan olumsuz sonuçları olan yabancılaşmanın en aza indirgenmesine yönelik katılımcı, adil ve eşitlikçi bir yönetim anlayışının oluşturulması gerekmektedir. Bu çalışmada farklı okul türü ve kademelerinde görev yapan öğretmenlerin yabancılaşmanın nedenlerine yönelik görüşleri araştırılmıştır.

Yöntem

Yabancılaşma yaşayan öğretmen mesleğine, çalıştığı kuruma, çevresine, kendisine, dünyaya yönelik olumsuz duygular beslemekte ve kendisinde yetersizlik hissetmesine neden olmaktadır. Bunun önlenmesine yönelik gerekli önlemlerin alınması için bu duygunun anlaşılabilir olması önemlidir (Şimşek vd., 2012). Bu çalışmada, farklı okul türü ve kademelerde görev yapan öğretmenlerin yabancılaşmanın nedenlerine ilişkin görüşleri araştırılmıştır. Çalışmada nitel araştırma desenlerinden biri olan fenomenoloji (olgubilim) kullanılmıştır. Farkında olduğumuz ancak derinlemesine ve ayrıntılı bir anlayışa sahip olmadığımız olgulara odaklanan, yaşanılan deneyimin anlamlandırılması anlamına gelen fenomenolojik yaklaşım, yöntembilim eksikleri ve uygulama sorunlarına karşı kavramsal bir zemin oluşturulması, konuya ilişkin genel ve pratik bilgiler sunulması amacıyla tercih edilmektedir (Yıldırım ve Şimşek, 2016).

Gözlem, görüşme ve belge çözümlemesi gibi farklı veri toplama tekniklerinin kullanılarak, olayın ve algıların bütüncül ve gerçekçi bir bakış açısıyla doğal ortamı içerisinde ortaya çıkarılmasını hedefleyen bilimsel çalışmalar nitel araştırmayı oluşturur (Yıldırım ve Şimşek, 2016). Verileri toplamak için araştırmacılar tarafından geliştirilen yarı yapılandırılmış *Öğretmenlerin yabancılaşmasının nedenleri görüşme formu"* kullanılmıştır. Yarı yapılandırılmış görüşme, belirli düzeyde esneklik ve standartlık içerdiği için anketlerdeki sınırlılıkları ortadan kaldırır ve belirli bir konuya dair kapsamlı bilgi elde edilmesini sağlamaktadır (Yıldırım ve Şimşek, 2016). Bu çalışmada, yabancılaşmayı deneyimlemiş öğretmenlerle araştırmacılar tarafından geliştirilen yarı yapılandırılmış görüşme formu kullanılarak görüşme yapılmıştır.

Çalışma Grubu

Yapılan araştırmanın çalışma grubunu Aydın ilinde farklı okul türü ve kademelerinde görev yapmakta olan öğretmenlerden seçilen 7 katılımcı oluşturmaktadır. Çalışma grubunun belirlenmesinde amaçlı örneklem yöntemlerinden kartopu veya zincir örnekleme yöntemi kullanılmıştır. Patton'a (1987) göre kartopu örneklem, başka kimlerle görüşülebileceği, bu konuda en çok bilgi sahibi kimlerin olduğu sorularak yeni bilgilerin elde edilmesini sağlayan bir yöntemdir. Bu yöntemde süreç ilerledikçe elde edilen isimler tıpkı bir kartopu gibi büyüyerek devam etmekte ve belli bir süre sonra belirli isimler hep öne çıkmaya başlamakta ve görüşülmesi gereken birey sayısı ve ilgilenilmesi gereken durum sayısı azalmaya başlamaktadır (Yıldırım ve Şimşek, 2016). Çalışma grubuna ilişkin demografik bilgiler Tablo 1'de verilmiştir.

Tablo 1. Katılımcılara ait demografik bilgiler

		f	%
Cinsiyet	Kadın	4	57
	Erkek	3	43
Toplam		7	100
Çalışılan Okul Türü	Anaokulu	1	14
	İlkokul	2	29
	Ortaokul	3	43
	Lise	1	14
Toplam		7	100
Aynı Okulda Çalışma Süresi	2-5 yıl	1	14
	6-10 yıl	3	43
	11-15 yıl	2	29
	16 ve üzeri	1	14
Toplam		7	100
Mesleki Kıdem	5-10 yıl	1	14
	11-20 yıl	2	29
	21-30 yıl	3	43
	31 ve üzeri	1	14
Toplam		7	100
Yaş	25-35 yaş	1	14
	36-45 yaş	3	29
	46-55 yaş	2	43
	56 ve üzeri	1	14
Toplam		7	100

Tablo 1 incelendiğinde, çalışma grubunun 4'ü kadın, 3' ü erkek olmak üzere 7 katılımcı öğretmenden oluştuğu görülmektedir. Katılımcılardan aynı okulda çalışma süresi 2-5 yıl olan 1 kişi, 6-10 yıl olan 3 kişi, 11-15 yıl olan 2 kişi ve 16 yıl ve üzeri olan 1 kişi olduğu, mesleki kıdeme bakıldığında, 5-10 yıl olan 1 kişi, 11-20 yıl olan 2 kişi, 21-30 yıl olan 3 kişi ve 31 yıl ve üzeri olan 1 kişi, yaş açısından değerlendirildiğinde ise, 25-35 yaş aralığında 1 kişi, 36-45 yaş aralığında 3 kişi, 46-55 yaş aralığında 2 ve 56 yaş ve üzeri olan 1 kişi görülmektedir.

Veri Toplama Aracı

Elde edilecek verilerin derinlemesine incelenmesi ve gerekli detayların doğru, gerçekçi ve güvenilir şekilde okuyucuya ulaştırılması önemlidir (Yıldırım ve Şimşek, 2016). Bu çerçevede verilerin toplanması, araştırmacılar tarafından geliştirilen yarı yapılandırılmış "*Öğretmenlerin yabancılaşmasının nedenleri görüşme formu*" ile gerçekleştirilmiştir. Yarı yapılandırılmış görüşme formu tercih edilmesinin nedeni, birbirine benzeyen konular üzerinde durmak koşuluyla, farklı kişilerden aynı tür bilgilerin elde edilmesi amaçlanmaktadır (Patton, 1987). Yarı yapılandırılmış görüşmelerde,

araştırmacılar tarafından, önceden kararlaştırılmış konu ve bu konulara ilişkin sorular sorulur ve yeterli cevap alınamadığı zamanlarda ek sorular sorulmaktadır. Soruların problemin amacına hizmet etme zorunluluğu olmasıyla birlikte, gerektiğinde soruların yeri değiştirilebilir, atlanabilir ya da detaylarına girilebilir (Yıldırım ve Şimşek, 2016).

Araştırmacılar tarafından geliştirilen "*Öğretmenlerin yabancılaşmasının nedenleri görüşme formu*"nda 8 soruya yer verilmiştir. Yarı yapılandırılmış "*Öğretmenlerin yabancılaşmasının nedenleri görüşme formu*"ndaki sorular alanyazın taramasından elde edilen veriler ışığında oluşturulmuştur. Oluşturulan yarı yapılandırılmış görüşme formu dört alan uzmanın görüşüne sunulmuş, geri bildirimlere göre düzenlenmiştir. Düzenlenen yarı yapılandırılmış görüşme formunun pilot uygulaması üç öğretmenle gerçekleştirilmiş ve son şekli verilmiştir. Daha sonra asıl görüşmeler yapılmıştır. Veriler, 2022-2023 eğitim-öğretim yılında, Aydın ilinde farklı tür ve kademelerde görev yapan, gönüllü öğretmenlerden, onların uygun gördüğü zaman ve mekânda gerçekleştirilen görüşmelerle elde edilmiştir. Ortalama 40 dakika süren görüşmelerde ses kaydı alınmış, ses kaydını kabul etmeyen iki kişinin ise yanıtları ise not olarak alınmıştır. Elde edilen veriler metne aktarılarak analiz edilmiştir.

Verilerin Analizi

Elde edilen veriler "*içerik analizi*"yle çözümlenmiştir. İçerik analizi, belirli kurallara göz önüne alınarak oluşturulan kodlamalarla, niceliksel ve kayıtlı verilerin çözümlenmesine ve bundan sonuçlar çıkarılmasına dayanan bir yöntemdir (Yıldırım ve Şimşek, 2016). İçerik analizinin kullanımıyla araştırmacı, sistematik ve objektif yorum yaparak verileri daha bilimsel olarak ortaya koymaktadır (Koçak ve Arun, 2006). Elde edilen verilerden, alanyazın taramasıyla kodlar çıkarılmış, benzer ifadeler saptanarak kategorize edilmiştir. Ayrıca katılımcı görüşlerini en doğru şekilde yansıtmak için doğrudan alıntılara yer verilmiştir.

Veri çeşitlemesinin kullanılmasının geçerlilik için önemli bir unsur kabul edilmesiyle birlikte, araştırılan olgunun araştırmacı tarafından olduğu şekliyle tarafsız bir şekilde gözlenmesi de, nitel araştırmada geçerliliği oluşturmaktadır. Güvenirlik ise, nitel bir araştırma da konunun açık ve anlaşılabilir olmasını içermektedir (Yıldırım ve Şimşek, 2016). Silverman'a (2006) göre görüşme sorularının önceden test edilmesi, görüşme yapanın bilgisi, sorulara ilişkin olarak verilen cevapların kodlanması ile güvenirlik artırılabilir (akt. Uğurlu vd., 2012). Yarı yapılandırılmış görüşme formundaki sorulara verilen yanıtlar içerik analiziyle çözümlenmiş, kategori ve kodlar oluşturulmuş ve verilerin analizi sonucunda ortaya çıkan kodlar ve kategoriler nitel araştırma konusunda iki uzmanın görüşüne başvurulmuştur. Elde edilen veriler incelenerek kodlanmış Miles ve Huberman'ın (1994)] formülü aracılığıyla kodlayıcılar arasındaki tutarlılık hesaplanmıştır. Bu hesaplama sonucunda, kodlayıcılar arasındaki tutarlılığın %86 olduğu belirlenmiştir. Elde edilen sonucun %80'in üzerinde olması, yapılan analizin tutarlı olduğunu göstermiştir ayrıca görüşmenin yanı sıra gözlem ve doküman analizi yapılarak tek veri toplama aracından kaynaklanan zayıflıkların giderilmesi ve iç geçerliliğinin artırılması amaçlanmıştır ve katılımcıların yanıtlarıyla da desteklenmiştir. Çalışma grubundaki öğretmenler K1, K2, K3…K7 şeklinde isimlendirilmiştir.

Bulgular

Farklı okul türlerinde ve kademelerde görev yapan öğretmenlerle araştırmacılar tarafından geliştirilen yarı yapılandırılmış görüşme formuyla yapılan görüşmelerle öğretmenlerin yabancılaşmasının nedenleri araştırılmış, elde edilen veriler içerik analiziyle çözümlenmiş ve kategorize edilmiştir. Öğretmenlerin yabancılaşmasının nedenleriyle ilgili elde edilen bulgular işle, kurumla ve iletişimle ilgili nedenler olarak 3 ana kategoride sınıflandırılmıştır.

Öğretmenlerin işe yabancılaşmasının nedenleri

Çalışma grubundaki öğretmenler işe yabancılaşmanın nedenlerini yönetimsel sorun, mesleğin saygınlığını kaybetmesi, maddi problemler, program ve araç-gereç-materyal, çalışma şartları, veli ilgisizliği ve çevresel baskılar olarak ifade etmiştir. Öğretmenlerin işe yabancılaşmasının nedenleri tablo 2 de yer almaktadır.

Tablo 2. Öğretmenlerin işe yabancılaşmasının nedenleri

Kategori	Kod	f	%	Örnek ifadeler
	Yönetimsel sorun	5	18	K2 *'Sınıf geçmek çok kolay''*
	Mesleğin saygınlığını kaybetmesi	6	21	K5 *'İşimin ne sosyal ne de statü açısından herhangi bir kazanımı olduğunu düşünmüyorum, toplumda bir saygınlığı yok, öğrenci ve velinin gözünde değeriniz yok'.*
İş Ortamı	Maddi problemler	5	18	K5 *"Ekonomik yönden doyum sağlamıyor"* K2 *"Maaş yetersiz, zor geçiniyoruz"*
	Program ve araç-gereç-materyal	4	14	K3 *'Eğitim materyallerine erişmede sıkıntı yaşıyorum, öğretmenin iyi bir eğitim vermesini istiyorlar ancak yeterli kaynak sağlamıyorlar'* K2 *"Materyal yetersiz, idare ilgilenmiyor".*
	Çalışma şartları	3	11	K2 *"Giriş saatleri çok erken, karanlıkta giriyoruz derslere"*
	Veli ilgisizliği ve çevresel baskılar	5	18	K6 *'Öğrencilerin disiplinsiz davranışları, idarecilerin vurdumduymazlığı, velilerin hem ilgisizliği hem bilgisizliği hem de çevresel baskı, soğutuyor her şeyden ve herkesten'.*
Toplam		28	100	

Katılımcı öğretmenlerden biri işe yabancılaşmanın nedenlerine yönelik görüşlerini şu şekilde belirtmiştir: *"İş artık sıradan hale geliyor artık, sadece para için yapılıyor, rutin olarak dersini yapmak, gerisine karışmamak gerekiyor, önemli olan saatin doldurulması diye düşünüyorum*, *(K1)''.* Diğer katılımcı öğretmen ise şu şekilde belirtmiştir: "*Öğrencilerin disiplinsiz davranışları, velilerin hem ilgisizliği hem bilgisizliği hem de her şeye karışmaları beni başta mesleğim olmak üzere her şeyden soğutuyor. Üzerine de idarenin erteleyici tavrı, idarecilerin vurdumduymazlığı, hiçbir şeyin çözüme kavuşturulmaması, sürekli ertelenmesi, ihtiyaçların ve gerekli ders araç gereçlerin karşılanmaması da eklenince meslek sevgisi falan kalmıyor (K5)''.* Bir diğer katılımcı öğretmen ise işe yabancılaşmanın nedenlerini şu şekilde belirtmiştir: *"Toplumun eğitime bakışının olumsuz, yönetim tarafından da yalnız bırakılıyoruz, yaptığımız iş görülmüyor, küçümseniyor, çevre tarafından da yaptığımız her şey zorunlu olarak değerlendiriliyor ve destek verilmiyor (K4)''.*

Öğretmenlerin kuruma yabancılaşmasının nedenleri

Çalışma grubundaki öğretmenler kuruma yabancılaşmanın nedenlerini karara katılamama, yönetimin olumsuz tutumu, yönetici atama şartları, okulun fiziki şartları olarak ifade etmiştir. Öğretmenlerin işe yabancılaşmasının nedenleri Tablo 3 de yer almaktadır.

Tablo 3. Öğretmenlerin kuruma yabancılaşmasının nedenleri

Kategori	Kod	f	%	Örnek ifadeler
	Karara katılamama	6	33	K2 *'İdare çoğu kararı kendi başına alıyor bizim bundan sonradan haberimiz oluyor, idare bazen de kararları alırken kendine yakın olan gruba danışıyor, dolayısıyla kararlara katıldığımı düşünmüyorum'.* K6 *'Bazı kararların belirli grupların inisiyatifine bırakıldığını düşünüyorum"*
Kurumsal Faktörler	Yönetimin olumsuz tutumu	5	28	K6 *"Kurallar herkes için aynı uygulanmıyor, yöneticinin deneyimi yok ki, sendika yönlendirmeleriyle geliyorlar, idareci kendi siyasi düşüncesine göre öğretmenlere tavır sergiliyor, kolaylık sağlıyor'.* K3 *'Öğretmenler odasında düşüncelerimi özgürce ifade edemiyorum, baskı hissediyorum'.*
	Yönetici atama şartları	4	22	K1 *'Yöneticilerin sınavsız atanması, liyakatten yoksun olması şahsen beni olumsuz etkiliyor, ekstra bir eğitimleri de, bizden bir farkları da yok'.*
	Okulun fiziki şartları	3	17	K3 *'Okulun bakımsız, sağlığa elverişsiz, fiziki açıdan yetersiz olması rahatsız edici, okula gitmek zor geliyor'.*
Toplam		18	100	

Katılımcı öğretmenlerden biri kuruma yabancılaşmasının nedenlerini şu şekilde belirtmiştir: "*Yöneticiler keyfi tavırlar sergiliyor, kendi düşüncelerine sahip kişilerin işlerine kolaylık sağlarken, diğerlerine olumsuz davranıyorlar, bu nedenle okuldan uzaklaşmak istiyorum (K1)*''. Diğer katılımcı öğretmen ise şu şekilde belirtmiştir: "*Bazı kararlar belirli grupların inisiyatifine bırakılıyor, kurallar yok olanda uygulanmıyor, yöneticiler deneyimli değiller, sendika yönlendirmesiyle geliyorlar, idareciler kendi siyasi düşüncesine göre öğretmenlere tavır sergiliyorlar, ayrım yapıyorlar, onlara nöbetlerde, programlarda ve diğer işlerde kolaylık sağlıyorlar, bu durum farklı türden gruplaşmaya da neden oluyor (K4)*''. Bir diğer katılımcı öğretmen ise kuruma yabancılaşmanın nedenlerini şu şekilde belirtmiştir: "*Okul bakımsız, sağlık için elverişsiz, fiziki açıdan da yetersiz, öğrencilerde ciddi davranış problemleri var, çok düzeysiz davranıyorlar, ailelerin bazıları çok seviyesiz, kavgacı ve problemli, kantin yetersiz, yönetimde ciddi bir gevşeklik var (K7).*''

Öğretmenlerin iletişime yabancılaşmasının nedenleri

Çalışma grubundaki öğretmenler iletişime yabancılaşmanın nedenlerini siyasi ve ideolojik düşünceler, kişisel tutum ve davranışlar, bilgi paylaşmama ve gruplaşma olarak ifade etmektedir. Öğretmenlerin iletişime yabancılaşmasının nedenleri Tablo 4 de yer almaktadır.

Tablo 4. Öğretmenlerin iletişime yabancılaşmasının nedenleri

Kategori	Kod	f	%	Örnek ifadeler
İletişimle ilgili faktörler	Siyasi ve ideolojik düşünceler	8	40	*K1 'Öğretmenler birbirleriyle bilgi paylaşmıyor, sendika ya da siyasi görüş nedeniyle birbirlerine mesafe koyuyor ve konuşmamak için sürekli telefonla ilgileniyorlar'.*
	Kişisel tutum ve davranışlar	5	30	*K5 'Öğretmenler odasında gruplaşmalar oluyor, bazen branş bazında bazen de farklı şekillerde oluyor, kendi aralarında konuşuyorlar, senin varlığını görmezden geliyorlar yada sözlü imalar, iğneleyici davranışlar gösteriyorlar'.*
	Bilgi paylaşmama ve gruplaşma	5	30	*K2 'Öğretmenler arasında fikir farklılıkları oluyor bazen siyasi bazen ideolojik, bu durum gruplaşmaya neden olabiliyor, sonra da herkes birbirine yabancı'.*
Toplam		20	100	

Katılımcı öğretmenlerden biri iletişime yabancılaşmasının nedenlerini şu şekilde belirtmiştir: *"Öğretmenler arasındaki düşünce ve sendika farklılıkları, öyle gruplaşmalara neden oluyor ki, onlarla ortak etkinliklere bile gidilmiyor, haliyle paylaşılacak ortak bir şeyde kalmıyor (K3)''*. Diğer katılımcı öğretmen ise iletişime yabancılaşmanın nedenlerini şu şekilde belirtmiştir: *"Gruplaşmalar öyle belirgin hale geliyor ki, bilgi paylaşımı yapılmıyor, sorduğuna yanıt bile alamıyorsun, sürekli telefonla ilgileniyorlar, senin varlığını görmezden geliyorlar ya da iğneleyici tavırlar oluyor (K4)''*. Bir diğer katılımcı öğretmen ise, '*Soğukluk öğretmenler odasına girer girmez hissediliyor, oraya ait olmadığını anlıyorsun zaten, anlatıyorlar (K6)*' şeklinde görüş belirtmiştir.

Tartışma, Sonuç ve Öneriler

Öğretmende yabancılaşma olgusunun dikkate alınması ve önlenmesi, eğitim- öğretim süreçlerinin etkililiği ve eğitim örgütlerinin verimliliği açısından son derece önemlidir. Yabancılaşma yaşayan öğretmen, öğrencileri ve bireysel ihtiyaçlarını daha iyi anlama, davranışlarını daha doğru yorumlama, onlara rehberlik yapma, hedef oluşturmada ve başarıya motive etmede etkin davranamamakta, onların duygusal ve bilişsel ihtiyaçlarına uygun sınıf ortamı oluşturmakta isteksiz ve yetersiz kalmaktadır. Öğretmenin meslektaşlarıyla ve okul yönetimiyle olumlu ilişkiler kuramaması kurumsal bağlılığı azaltmakta, olumlu bir okul ikliminin oluşmasını önlemekte ve iletişim, iş birliği ve güveni azaltmaktadır. Eğitim kurumlarının belirlenen hedefleri gerçekleştirmesinde öğretmenlerin rolü büyüktür. Okulun amaçlarına ulaşma kendine güvenen, kararlara katılan, kurumunu sahiplenen, kendini yetiştirme ve geliştirme konusunda istekli öğretmenler aracılığıyla olmaktadır.

Öğretmenin mesleki yönden kendisini geliştirmesi, öğretmenlik mesleğine yönelik olumlu tutum geliştirmesi ve mesleği benimsemesiyle yakından ilişkilidir. Öğretmen meslek hayatında toplumsal, psikolojik, kurumsal, çevresel olmak üzere birçok unsurdan etkilenmektedirler (Mercan, 2006). Öğretmenin görev yaptığı kurumun nitelikleri, yöneticinin benimsediği yönetim tarzı, iş tatmini, öğrenci sayısı, kurumun sağladığı olanaklar gibi birçok unsur öğretmenin yabancılaşması üzerinde etkili olmaktadır. Mesleğe ve kuruma yabancılaşan bir öğretmenin eğitim-öğretim süreçlerinde etkililiği ve verimliliği düşerken, öğrenciye yönelik olumsuz davranışlar da ortaya çıkmaktadır (Soysal, 1997). Aynı zamanda öğretmenin topluma ve dış çevreye karşı olumsuz tutum göstermesine ve sağlıklı iletişim kuramamasına neden olarak rol model olmasının önüne geçmektedir (Kasapoğlu, 2015).

Çalışmanın bulgularına göre öğretmenler; (i) işe yabancılaşmanın nedenlerini yönetimsel sorun, mesleğin saygınlığını kaybetmesi, maddi problemler, program ve araç-gereç-materyal, çalışma şartları, veli ilgisizliği ve çevresel baskılar; (ii) kuruma yabancılaşmanın nedenlerini karara katılamama, yönetimin olumsuz tutumu, yönetici atama şartları, okulun fiziki şartları; (iii) iletişime yabancılaşmanın nedenlerini ise siyasi ve ideolojik düşünceler, kişisel tutum ve davranışlar, bilgi paylaşmama ve gruplaşma olarak görmektedir. Alanyazında elde edilen bulgular ile çalışma bulguları benzerlik göstermektedir. Öğretmenin ücretinin düşük olması, işine yönelik olumlu düşünceye sahip olmaması, işiyle bağ kuramaması ya da kendini iyi yansıtamaması yabancılaşmaya neden olmaktadır (Kaya ve Serçeoğlu, 2013; Şimşek vd., 2012). Aynı şekilde öğretmenin iş yerinde hissettiği dışlanma ile psikolojik iyi oluş arasında negatif yönlü, anlamlı bir ilişkinin olduğu araştırmalarla bulgulanmıştır (Beydoğan vd., 2016; Yakut, 2016). Ayrıca karara katılımın sağlanmadığı, sosyal özelliklerin zayıf olduğu ve bürokratik yönetimin baskın olduğu okullarda yabancılaşmanın daha fazla olduğu yurt içi ve yurt dışı araştırmalarla bulgulanmıştır (Gündüz, 2011; Tutar, 2010; Yeniçeri, 2009; Schlichte vd., 2005; Zielinski ve Hoy, 1983).

Öğretmenin yabancılaşmasının en aza indirgenebilmesi için iş doyumunun artırılması, eğitim öğretim süreçlerine ilişkin kararlara katılımlarının sağlanması, performans geliştirme yönünde destek verilmesi, çalışma ortamlarının yeniden düzenlenmesi ve iyileştirme uygulamalarının yapılması gerekmektedir (Elmas-Atay ve Gerçek, 2017; Kaya ve Serçeoğlu, 2013; Şimşek vd., 2012). Bu amaçla; (i) öğretmenler arasında iş birliğinin geliştirilmeli, (ii) kaynaşmayı ve uyumu sağlayacak düzenli toplantı, yemek, gezi, piknik gibi farklı etkinlikler düzenlenmeli, (iii) ekip çalışması ve öğretmenler arası işbirliği teşvik edilmeli, (iv) öğretmen başarısı olumlu yönde pekiştirilmeli, (v) öğretmenlerin kararlara katılımı teşvik edilerek ve fikir alışverişi yapılarak düşüncelerine önem verildiği gösterilmeli, (vi) okul yönetimi özellikle yeni öğretmenlere mentorluk programları uygulamalı, öğretmenlerin eksik alanlarını belirleyerek çeşitli seminer programları düzenlemeli, (vii) iş doyumunun ve kurumsal bağlılığın artırılmasına yönelik farklı güdüleme araçları ve ödüllendirme sistemi etkin olarak kullanılmalı ve iş ortamı yeniden düzenlenmelidir. Okul yöneticilerinin adalet ve eşitlik olgusuyla hareket etmesi, öğretmenin kişisel özelliklerini göz önünde bulundurarak motive etmesi, etkili iletişim kurması ve öğretmeni karar süreçlerine dahil ederek işbirlikçi bir yaklaşım ortaya koyması öğretmende yabancılaşmanın en aza indirgenmesinde büyük önem taşımaktadır.

Kaynakça

Agarwal, S. (1993). Influence of formalization on role stress, organizational commitment, and work alienation of salespersons: A cross-national comparative study. *Journal of International Business Studies*, *24*(4), 715-739. https://doi.org/10.1057/palgrave.jibs.8490252.

Altınkurt, Y. (2014). The relationship between school climate and teachers'organizational silence behaviors. *Anthropologist*, *18*(2), 289-297. https://doi.org/10.1080/09720073.2014.11891546.

Bayındır, B. (2002). *Ortaöğretim dal öğretmenlerinin mesleğe yabancılaşmaları ile öğretme-öğrenme sürecindeki davranışları arasındaki ilişki* (Yayımlanmamış yüksek lisans tezi). Anadolu Üniversitesi.

Beydoğan Tangör, B. ve Curun, F. (2016). Psikolojik iyi oluşun yordayıcıları olarak bireysel farklılıklar: Özgünlük, benlik saygısı ve sürekli kaygı. *Eğitim ve Öğretim Araştırmaları Dergisi, 5*(4), 1-13.

Brooks, J. S., Hughes, R. M. & Brooks, M. C. (2008). Fear and trembling in the American high school: Educational reform and teacher alienation. *Educational Policy*, *22*(1),45–62. https://doi.org/10.1177/0895904807311296.

Cox, H. & Wood, J.R. (2009) Organizational structure and professional alienation: The case of public school teachers. *Peabody Journal of Education*, *58*(1), 1-6. https://doi.org/10.1080/01619568009538304.

Bursalıoğlu, Z. (2010). *Okul yönetiminde yeni yapı ve davranış.* (15. Basım). Ankara: Pegem Yayınları.

Darıyemez, K. (2010). *Örgütlerde ortaya çıkan yabancılaşma sorunu ve bu sorunun çözümü açısından halkla ilişkiler çalışmalarının önemi (Başkent Üniversitesi Ankara Hastanesi örneği)* (Yayımlanmamış Yüksek Lisans Tezi). Başkent Üniversitesi.

Elma, C. (2003). *İlköğretim okulu öğretmenlerinin işe yabancılaşması* (Yayınlanmamış doktora tezi). Ankara Üniversitesi.

Elmas-Atay, S. ve Gerçek, M. (2017). Algılanan rol belirsizliğinin işe yabancılaşma üzerindeki etkisinin ve demografik değişkenlere göre farklılıklarının incelenmesi. *Ordu Üniversitesi Sosyal Bilimler Araştırmaları Dergisi, 7*(2), 321-332.

Eryılmaz, A. (2010). *Lise öğretmenlerinin örgütsel yabancılaşma düzeyi* (Yayımlanmamış yüksek lisans tezi). Hacettepe Üniversitesi.

Eryılmaz, A., ve Burgaz, B. (2011). Özel ve resmi lise öğretmenlerinin örgütsel yabancılaşma düzeyleri. *Eğitim ve Bilim*, *36*(161), 271-286.

Fettahlıoğlu, T. (2006). *Örgütlerde yabancılaşmanın yönetimi: Kahramanmaraş özel işletme ve kamu kuruluşlarında karşılaştırmalı bir araştırma* (Yayımlanmamış Yüksek Lisans Tezi), Kahramanmaraş Sütçü İmam Üniversitesi.

Gündüz, U. (2011). Kafka metinlerinde iletişim, iletişimsizlik ve yabancılaşma olgusu üzerine. *Selçuk Üniversitesi İletişim Fakültesi Akademik Dergisi*, *7*(1), 83-95.

Kasapoğlu, S. (2015). *İlköğretim okulu öğretmenlerinin işe yabancılaşma düzeyleri ile örgütsel adalet algıları arasındaki ilişki* (Yayımlanmamış yüksek lisans tezi). Yıldız Teknik Üniversitesi.

Kaya, U. ve Serçeoğlu, N. (2013). Duygu işçilerinde işe yabancılaşma: Hizmet sektöründe bir araştırma. *Çalışma ve Toplum Dergisi, 36*(1), 311-346.

Kılçık, F. (2011). *İlköğretim okullarında görev yapan öğretmenlerin işe yabancılaşma düzeylerine ilişkin algıları (Malatya örneği)* (Yayımlanmamış yüksek lisans tezi). İnönü Üniversitesi.

Kılıç, H. (2009). *Sosyo-ekonomik değişkenler açısından eğitimde yabancılaşma olgusu ve öğretmen* (Yayımlanmamış yüksek lisans tezi). Mersin Üniversitesi.

Koçak, A. ve Arun, Ö. (2006). İçerik analizi çalışmalarında örneklem sorunu. *Selçuk İletişim Dergisi*, *4*(3), 21-28.

Kösterelioğlu, M.A. (2011). *İlköğretim okulu öğretmenlerinin iş yaşam kalitesi ile işe yabancılaşması arasındaki ilişk*i (Yayımlanmamış doktora tezi). Abant İzzet Baysal Üniversitesi.

Lepak, D. P. & Snell, S. A. (1998). Virtual HR: Strategic human resource managementin the 21st century. *Human Resource Management review*, *8*(3), 215-234. https://doi.org/10.1016/S1053-4822(98)90003-1.

Lusthaus, C., Adrien, M., Anderson, G., Carden, C. & Montalvan, G. P. (2002). *Organizational assessment: A framewoek for improving performance.* Canada: İnternational development Research Center and USA: Inter-American Development Bank.

Mercan, M. (2006). *Öğretmenlerde örgütsel bağlılık, örgütsel yabancılaşma ve örgütsel vatandaşlık* (Yayımlanmamış Yüksek Lisans Tezi). Afyon Kocatepe Üniversitesi.

Patton, M. Q. (1987). *How to use qualitative methods in evaluation?* Newbury Park, CA: Sage.

Schlichte, J. Yssel, N. & Merbler, J. (2005) Pathways to burnout: Case studies in teacheısolation and alienation. *Preventing School Failure: Alternative Education for Children and Youth*, *50* (1), 35-40. https://doi.org/10.3200/PSFL.50.1.35-40.

Soysal, A. (1997). *Örgütlerde yabancılaşmaya ilişkin teorik ve uygulamalı bir çalışma* (Yayımlanmamış yüksek lisans tezi). Selçuk Üniversitesi.

Saygın, M. (2019). *İşletmelere ve girişimciliğe güncel bakış*. Konya: Eğitim Yayınevi.

Şimşek, H., Balay, R. ve Şimşek, A. S. (2012). İlköğretim sınıf öğretmenlerinde mesleki yabancılaşma. *Eğitim Bilimleri Araştırmaları Dergisi*, *2*(1), 53-72.

Şimşek, M. Ş., Çelik, A., Akgemci, T. ve Fettahoğlu, T. (2006). Örgütlerde yabancılaşmanın yönetimi araştırması. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 15(1), 569-587.

Şirin, E. F. (2009). Beden eğitimi öğretmenlerinin işe yabancılaşma düzeylerinin bazı değişkenler açısından incelenmesi. *CBÜ Beden Eğitimi ve Spor Bilimleri Dergisi*, *4*(4). 164-177.

Taymaz, H. (2011). *Okul yönetimi* (10. Baskı). Ankara: Pegem Akademi.

Thomson, W.C. & Wendt, C.J. (2010) Contribution of hardiness and school climate to alienation experienced by student Teachers. *The Journal of Educational Research*, 88(5), 269-274. https://doi.org/10.1080/00220671.1995.9941310.

Tutar, H. (2010). İşgören yabancılaşması ve örgütsel sağlık ilişkisi: Bankacılık sektöründe bir uygulama. *Ankara Üniversitesi SBF Dergisi, 65*(1), 175-204.

Uğurlu, C.T., Çağlar, Ç. ve Güneş, H. (2012). Ortaöğretim okullarında yıldırma (mobbing) davranışlarına ilişkin öğretmen görüşleri, *Türk Eğitim Bilimleri Dergisi*, *10*(4), 718-749.

Yakut, S. (2016). *Öğretmenlerde yabancılaşma, yalnızlık ve dindarlık ilişkisi (Polatlı örneği)* (Yayımlanmamış doktora tezi). Süleyman Demirel Üniversitesi.

Yapıcı, M. (2004). Eğitim ve yabancılaşma. *Uluslararası İnsan Bilimleri Dergisi. 1*(1).1-9.

Yeniçeri, Ö. (2009). *Örgütlerde çatışma ve yabancılaşma yönetimi*, (1.Baskı), İstanbul: IQ Kültür Sanat Yayıncılık.

Yıldırım A. ve Şimşek H. (2016). *Sosyal bilimlerde nitel araştırma yöntemleri* (10. Baskı). Ankara: Seçkin Yayıncılık.

Yılmaz, S. ve Sarpkaya, P. (2009). Eğitim örgütlerinde yabancılaşma ve yönetimi. *Uluslararası İnsan Bilimleri Dergisi*, *6*(2), 314-333.

Yücel, G. F. (2006). *Öğretmenlerde mesleki tükenmişlik ve örgütsel vatandaşlık davranışı* (Yayınlanmamış yüksek lisans Tezi). Afyon Kocatepe Üniversitesi.

Zielinski, A. E. & Hoy, W. K. (1983). Isolation and alienation in elementary schools. *Educational Administration Quarterly*, *19*(2), 27-45. https://doi.org/10.1177/0013161X83019002003

Dinosaur Syndrome: A Scale Development Study

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Abstract

The aim of this study was to design a valid and reliable measurement tool to describe teachers' and school administrators' perceptions of dinosaur syndrome. The research was designed according to the survey model in the quantitative method. For the item pool of the scale, articles were analyzed, and five themes were formed from the data. Based on the themes, an item pool was created, and the draft form was applied to teachers and school administrators working in public schools in Aydın province. For Exploratory Factor Analysis, 125 teachers and school administrators participated voluntarily; for Confirmatory Factor Analysis, 172 teachers and school administrators participated voluntarily. Exploratory and confirmatory factor analyses were conducted to ensure validity and Cronbach's Alpha internal consistency coefficients were analyzed for reliability. As a result of the Exploratory Factor Analysis, the 18-item 2-dimensional scale is explained with a variance of 76.28%. The internal consistency coefficient of the scale was calculated as ".95" and Confirmatory Factor Analysis confirmed the model, and a 16-item 2-dimensional scale was formed. It was determined that the developed model could be used to measure the perception of the dinosaur syndrome of teachers and school administrators.

Key Words

About Article

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Introduction

The rapid change in our age and especially developments in the field of informatics affect organizations. Innovation and revisions required by the age are very important for organizations to survive, achieve their goals more effectively, and increase organizational efficiency. For this reason, organizations must go through some change processes. Otherwise, it is seen that they cannot adapt and survive (Ertürk Kayman, 2008; Neyişçi, 2008). Organizations are by nature resistant to change and conservative in adapting to changes. State institutions or private companies tend to continue doing what they have been doing for years. While the average lifespan of an organization was seventy years in the 1920s, it is fifteen years in today's societies. The natural tendency of individuals and organizations to maintain the status quo presents several challenges that management must overcome to bring about desired change (Jain, Asrani, & Jain, 2018). Today's organizations operate in a very different world than they did five or ten years ago. In the information age, the speed at which data is transmitted, consumed, and made available to users is becoming increasingly important. Organizations structured around the philosophy of managing data effectively must be better able to interact and respond to provide a positive experience that benefits their environment and their employees. The ability to evolve and remain flexible in an era of technological change and innovation is seen as key to this (Bringselius, 2014; Gökbunar & Ünal, 1999; Yeşil, 2013).

The efforts of individuals and organizations to prevent change are called dinosaur syndrome (Çınar, 2021). According to Naktiyok (2007), dinosaur syndrome is defined as the inability to keep up with environmental changes and the negative consequences that occur as a result. Peterson (2016) defines dinosaur syndrome as a static structure that does not want to keep up with the pace of innovation, is stuck between the new and the old, and never wants to change. The dinosaur metaphor, which symbolizes individuals and organizations that cannot renew themselves, also represents an extinct entity. Dinosaur also symbolizes size, clumsiness, and extinction. This syndrome essentially refers to a fatal disease caught in the individual and organizational context (Çınar, 2021; Yeşilyurt, 2021). Several identifiable characteristics point to the development of the dinosaur syndrome. While organizations with all of these characteristics are rare, having even a few of them can be enough to identify organizations as at risk (Lawler & Galbraith, 1994).

According to Lawler and Galbraith (1994), dinosaur syndrome, which threatens the vital activities of the organization, has eight main characteristics. The first characteristic of dinosaur syndrome is dependence on the past success of the organization or the manager. Success is seen as a powerful reinforcer of the status quo, leading to conservative action against change and often even arrogance and a sense of invincibility in the individual. The second characteristic of dinosaur syndrome is growth. Success indirectly leads to organizational growth, and if growth is not managed well, coordination and communication problems arise, causing the organization to become more bureaucratic and control oriented. The third characteristic of dinosaur syndrome is that it affects the locus of control and decision-making. The fourth characteristic of dinosaur syndrome is that it causes slower decision-making and poor coordination in organizations and leads to the inability to act quickly (Yeşilyurt, 2021). The fifth characteristic of dinosaur syndrome is that instead of focusing on the environment, the organization, or the individual, it directs its attention to internal relations, and internal decision processes and loses ties with the environment. The sixth characteristic of dinosaur syndrome is its stable structure (Lawler & Galbraith, 1994). These organizations have a rigidity that supports the status quo. In dinosaurized organizations with a fixed functional organizational structure, the large number of departments and employees makes it difficult to ensure coordination within them (Gökbunar & Ünal, 1999). The seventh characteristic of dinosaur syndrome is its hierarchical structure. This structure causes problems in decision-making processes. The eighth characteristic of dinosaur syndrome is its cultural structure. The dinosaur system focuses on the non-negotiable values that are kept within the philosophy. 'As long as there is no problem, do not bother, and maintain what has been achieved so far.' The more non-negotiable values there are in an organization, the higher the risk of that organization becoming a dinosaur (Lawler & Galbraith, 1994).

In organizations caught in dinosaur syndrome; the process proceeds in three phases. The first phase is the phase of encounter, confrontation, and dissonance. The second phase is the phase of resistance to change or rejection of change. The third phase is the phase of unwieldiness, extinction, or

transformation (Çınar, 2021; Yeşilyurt, 2021). Peterson (2016) describes the signs of individuals and organizations caught in dinosaur syndrome as dinosaurs are stuck, cold-blooded and unchanging. From this perspective, resistance to change and insistence on maintaining the status quo are characteristic features.

The changes experienced by organizations affect human resources. Today, the most important resource that organizations have is human resources. The main reason for this is that the effective use of other resources of the organization directly depends on human resources (Özdemir, 2020). Just like other organizations, schools are dynamic, developing, and non-stationary institutions. The school organization also enters a process of change by being intensely affected by social developments, economic situations, and scientific developments (Schlechty, 2020).

The word dinosaur is a very frequently used analogy in educational organizations (Çınar, 2021). In this context, if administrators and teachers resist change, remain stuck in past achievements, have limited communication with the environment, give importance to hierarchy instead of a participatory management approach, and become introverted, the school will also become a dinosaur. For this reason, it is important to create a scale of dinosaur syndrome specific to schools, which are the locomotive of the education system, and to determine the perceptions of dinosaur syndrome exhibited by school administrators and teachers. As a matter of fact, there is no measurement tool for teachers and school administrators' perceptions of dinosaur syndrome in the literature review. The purpose of this study is to develop a measurement tool to reveal the levels of dinosaur syndrome according to the perceptions of teachers and school administrators.

Method

This study was designed as a quantitative method to develop a dinosaur syndrome scale for school administrators and teachers (Karasar, 2020). In the research, the survey model was used to reveal the existing situation (Can, 2021; Tekindal, 2021). The survey model is a research model that reveals and describes the past or current situation as it is (Sönmez & Alacapınar, 2019).

Study Group

In the research, a literature review was conducted with the document analysis method and the item pool created based on the themes was sent to ten experts and their opinions were consulted. The sample of the study was determined using simple random sampling (Karasar, 2020). Simple random sampling is sampling based on the principle that all units in the universe are equal and independent (Çokluk, Şekercioğlu, & Büyüköztürk, 2012). The study was conducted with teachers working in public schools in Aydın province during the 2022-2023 academic year. A total of 125 teachers and school administrators voluntarily participated in the Exploratory Factor Analysis (EFA) phase and 172 teachers and school administrators voluntarily participated in the Confirmatory Factor Analysis (CFA) phase of the study.

Data Collection Tool

"Dinosaur Scale" was used as a data collection tool in the study. Within the scope of the research, an item pool of 55 items was created for the dinosaur scale based on the relevant literature review, and the opinions of ten experts with a doctorate in educational administration were consulted. The final draft was presented to two teachers to be evaluated in terms of meaning and clarity, and after the corrections, a draft form with a total of 37 items (36 items +1 control item) was created. The face validity of the scale was ensured with the "Dinosaurization Scale Draft Form" (Kaptan, 1998), and the scale was graded on a 5-point Likert scale as (1) strongly disagree, (2) disagree, (3) somewhat agree, (4) agree, (5) strongly agree.

Data Analysis

First, item-total correlations were examined, and then exploratory factor analysis was conducted for construct validity. Confirmatory factor analysis was conducted to validate the model. SPSS 21 package program was used for exploratory factor analysis. AMOS 21 package program was used for confirmatory factor analysis. The reliability of the scale was calculated using Cronbach's Alpha internal consistency coefficients (Can, 2021).

Findings

At the stage of creating the item pool of the research, the data were analyzed based on the documents, and the five themes created are shown in Figure 1.
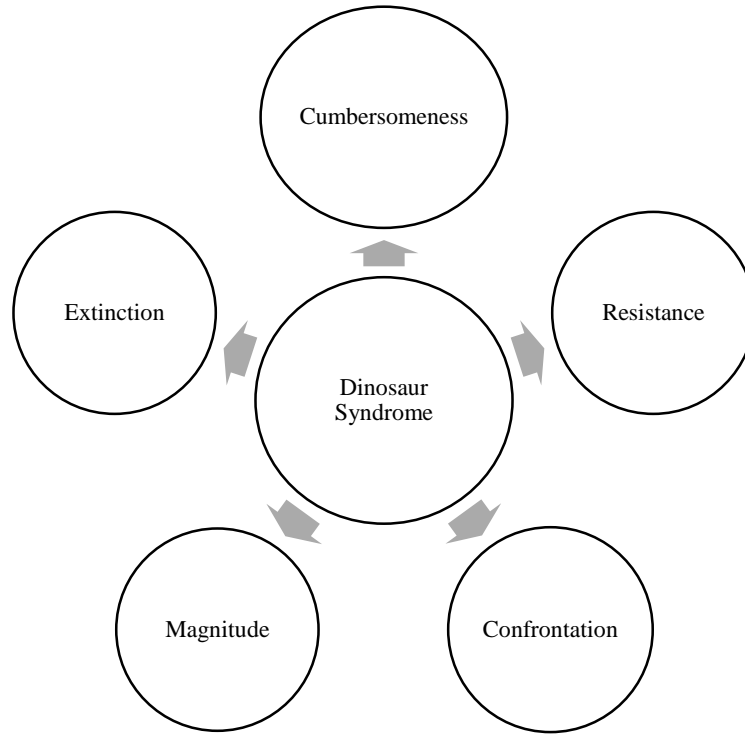
Figure 1. Dinosaur syndrome themes

The studies of Lawler & Galbraith (1994), Dent & Goldberg (1999), Gökbunar & Ünal (1999), Kebapçı & Erkal (2009), Karaxha (2019), Bringselius (2014), Radzi & Othman (2014), Esposito and Marques (2014), Çınar (2021) and Yeşilyurt (2021) were examined in the literature and an item pool was created based on the themes of confrontation, resistance, magnitude, cumbersomeness and extinction as shown in Figure 1. Eleven items were written under each theme and expert opinion was obtained for the draft form consisting of 55 items. After the expert opinions, the number of items was eliminated and the draft form with 37 items was applied to 125 participants for EFA.

The draft form was applied to 125 teachers for Exploratory Factor Analysis, and it was checked whether it met the univariate normality assumption. In the study, the univariate normality assumption was met since the skewness and kurtosis values were between -2 +2 (George & Mallery, 2010). In order to examine the factor structure of the Dinosaur Scale, the item-total correlations of the scale items were examined, and it was seen that the item-total correlations were positive and between .30 and .80. This finding shows that the items are suitable for exploratory factor analysis (Büyüköztürk, 2010). In the exploratory factor analysis that started with 37 items, Kaiser-Meyer Olkin (KMO) Coefficient (.87), Bartlett Test of Sphericity= 5995.39, p=.00 values were reached. The significant results indicate that the assumption of multivariate normality is met, and the data are suitable for factor analysis (Çokluk, Şekercioğlu & Büyüköztürk, 2012; Tavşancıl, 2005). The data were analyzed with a direct oblimin rotation factor analysis since there was a relationship between the factors (Büyüköztürk, 2002; Yurdakul & Çelik, 2022). After the factor analysis, a total of 19 items with low loadings and overlapping values were removed from the scale and it was seen that 18 items were collected in two factors. The findings of the EFA are presented in Figure 2 and Table 1.
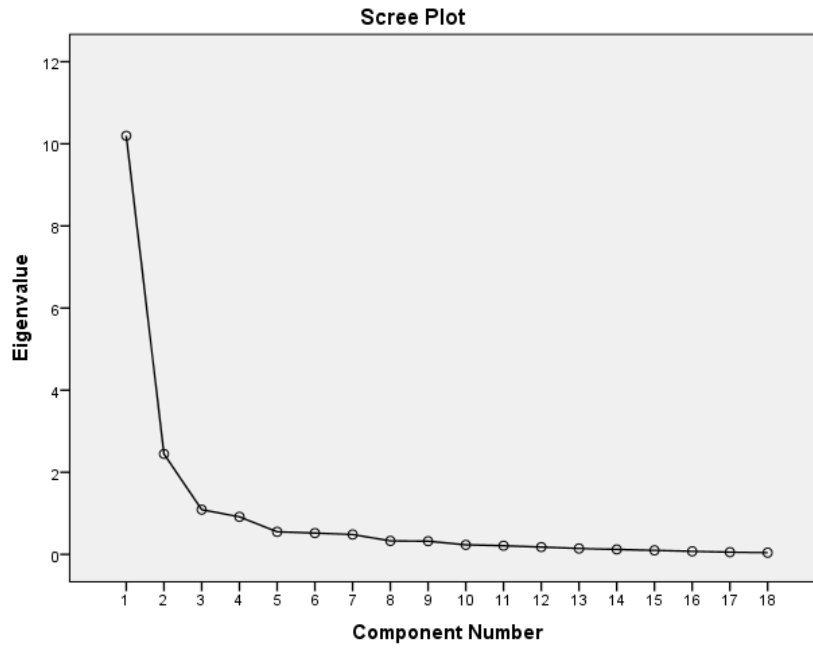
Figure 2. Line graph for the dinosaur syndrome scale

According to Figure 2, the difference between the eigenvalues decreases after two factors and since the contribution of the factors after the second factor to the variance is close to each other, it was decided to make the scale two-factor (Tabachnick & Fidell, 2013).

Table 1. Skew rotated component matrix of the dinosaur syndrome scale

Items	Factors	
	1	2
s4	.61	
s8	.60	
s12	.72	
s16	.67	
s18	.72	
s19	.61	
s20	.68	
s28	.70	
s37	.68	
s1		.82
s2		.81
s3		.87
s14		.52
s10		.66
s26		.83
s27		.71
s35		.79
s36		.57
%variance	19.5	56.64
Total variance	76.28	
Reliability	.94	.93
Total reliability	.95	
KMO	.88	
Barlett	2028.94 (p=0.00)	

As seen in Table 1, the two factors were named confrontation-incompatibility with change and resistance to change based on the literature review. It was determined that the item-total correlations of the confrontation and dissonance with change sub-dimension items (4-8-12-16-18-19-20-28-37) were between .38 and .72, the item loadings were between .60 and .72, and the variance explanation ratio was 19.5. It was determined that the item total correlations of the items of the resistance to change sub-dimension (1-2-3-14-10-26-27-35-36) were between .46 and .90, the item loading values were between .52 and .83, and the variance explanation ratio was 56.64. The overall variance explanation ratio of the two factors of the scale was found to be 76.28. The overall reliability was determined to be .95.

To ensure the validity of the Dinosaur System Scale, another stage, confirmatory factor analysis, was carried out. CFA was conducted on AMOS to test the fit of the two-factor and 18-item structure obtained with EFA. The scale was applied to 172 participants. Two items in the confrontation and dissonance dimensions of the scale were removed from the scale due to low factor loadings. The scale consists of 16 items and 2 dimensions. The fit values of the scale because of CFA are presented in Table 2 and Table 3. Table 2 shows the goodness-of-fit values accepted in the literature.

Table 2. The Goodness-of-Fit Values

| Index	Perfect Fit Values	Acceptable Fit Values
x^2/sd	$0 \leq x^2/sd \leq 2$	$2 \leq x^2/sd \leq 3$
RMSEA	$0 \leq RMSEA \leq .5$	$.5 \leq RMSEA \leq .8$
NFI	$.95 \leq NFI \leq 1$	$.90 \leq NFI \leq .95$
CFI	$.97 \leq CFI \leq 1$	$.95 \leq CFI \leq .97$
GFI	$.95 \leq GFI \leq 1$	$.90 \leq GFI \leq .95$
AGFI	$.90 \leq AGFI \leq 1$	$.80 \leq AGFI \leq .90$

Source: Ulutaş, 2015; Ulutaş & Arslan, 2018; Karsantık & Çetin, 2021; Konan & Mermer, 2021.

As seen in Table 2; $2 \leq x^2/sd \leq 3$, $.05 \leq RMSEA \leq .08$, $.95 \leq CFI \leq .97$, $.80 \leq AGFI \leq .90$, $.90 \leq NFI \leq .95$, $.90 \leq GFI \leq .95$ are shown as acceptable fit values in the literature. Based on this information, the goodness of fit values of the model were examined and the results are shown in Table 3.

Table 3. Goodness-of-fit values of the model

x^2/sd	RMSEA	NFI	CFI	GFI	AGFI
1,60	0,58	.92	.97	.90	.86

When Tables 2 and 3 are examined; $0 \leq x^2/sd \leq 2$ is an excellent fit, $RMSEA \leq .08$ is acceptable, $CFI \geq .95$ is excellent, $.80 \leq AGFI \leq .90$ is acceptable, $.90 \leq NFI \leq .95$ is acceptable, $.90 \leq GFI \leq .95$ is acceptable, so it can be said that the scale was confirmed by CFA (Meydan & Şeşen 2011; Çokluk, Şekercioğlu, & Büyüköztürk, 2012; Tabachnick & Fidell, 2013). The measurement model of the Dinosaur Syndrome Scale because of CFA is given in Figure 3.
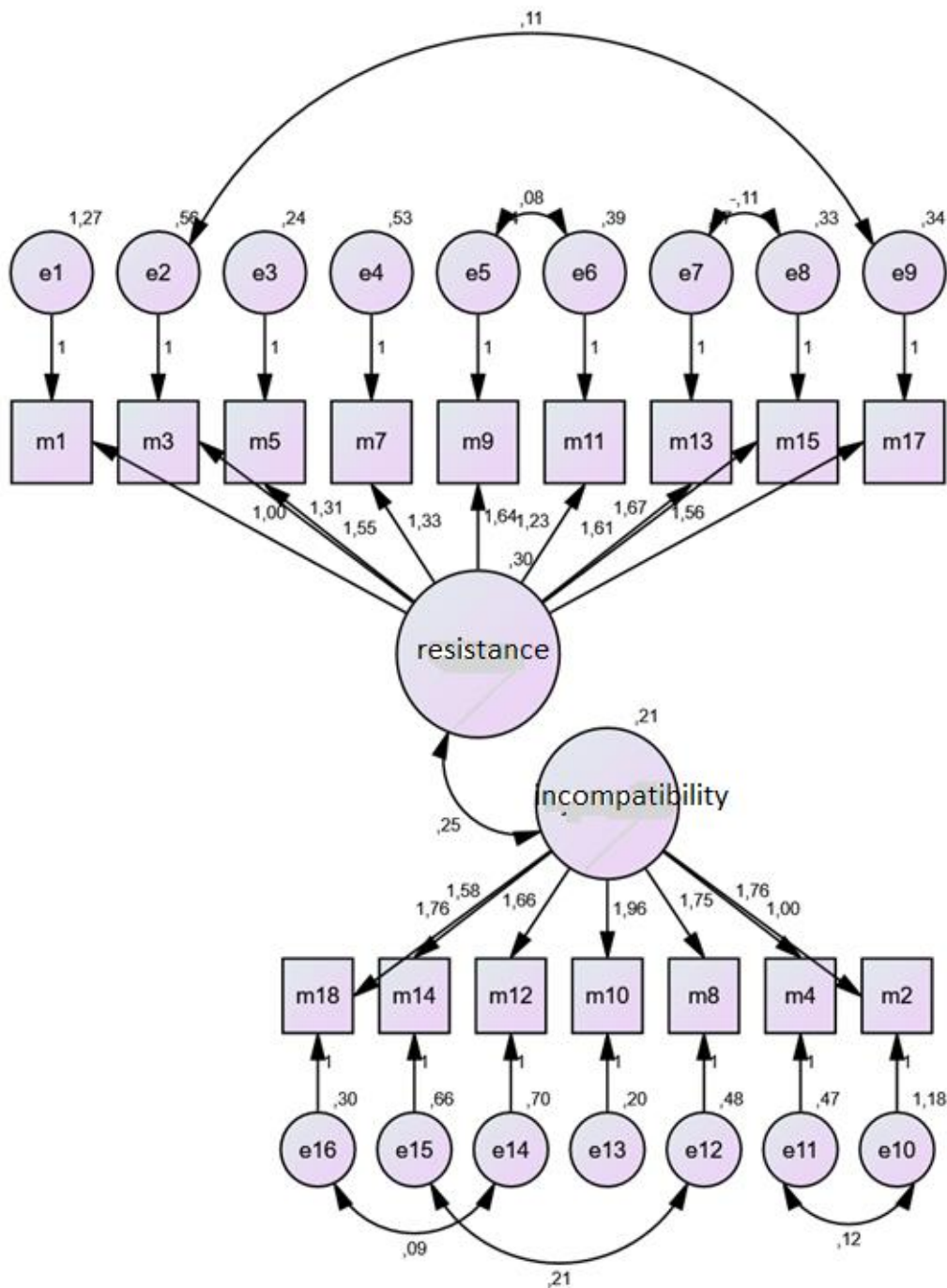
Figure 3. Dinosaur syndrome scale confirmatory factor analysis measurement model

Discussion, Conclusion and Suggestions

In the study, "Dinosaur Syndrome Scale" was developed to describe the dinosaur perception of school administrators and teachers, and it was aimed to conduct validity and reliability analyses. The findings of the analyses show that the scale is valid and reliable in measuring the dinosaur characteristics of school administrators and teachers. Exploratory Factor Analysis (EFA) was applied to 125 teachers and school administrators and as a result, items with low factor loadings among 37 items were removed and a two-dimensional scale with 18 items was obtained and there were no inverse items.

Confirmatory Factor Analysis (CFA) was applied in the AMOS program to confirm the scale created with EFA in SPSS 21 package program and it was confirmed. As a result of the analysis, two items with low factor loadings were removed and a two-dimensional scale with 16 items was obtained. The fit indices of the scale are x2/sd=1,602; RMSEA= 0.58; NFI= .926; CFI=.970; GFI=0.90;

AGFI=.860 (Meydan & Şeşen 2011; Çokluk, Şekercioğlu, & Büyüköztürk, 2012; Tabachnick & Fidell, 2013). The items in the scale consist of 5-point Likert type options "1=Strongly disagree", "2=Disagree", "3=Partially agree", "4=Agree", and "5=Strongly agree". A minimum score of 16 and a maximum score of 80 can be obtained from the scale. It can be stated that a participant with a high score on the scale has a high perception of dinosaur syndrome, while a participant with a low score has a low perception of dinosaur.

When the literature was examined, although there was no scale to measure the perception of dinosaur, adaptation studies on resistance to change were found (Balaman & Baş, 2021; Çalışkan, 2019). The resistance to change scale developed by Oreg (2006) was adapted into Turkish by Çalışkan (2019) and was found to consist of behavioral, cognitive, and emotional dimensions; and the organizational resistance to change scale of Neiva, Ros & da Paz (2005) was found to consist of skepticism, anxiety, and acceptance dimensions by Balaman & Baş (2021). Resistance to change expresses only one dimension of the dinosaur syndrome. Dinosaur, together with resistance to change, refers to confrontation, size, incompatibility, lumbering, and eventually to extinction or entropy. Dinosaur syndrome is the resistance to change with the onset of a sense of incompatibility, being stuck between the old and the new, and never wanting to innovate (Peterson, 2016). At the same time, it was observed that these adapted scales were not oriented toward the school organization and the human resources of the school. For this reason, it is thought that the development of a scale to determine the perception of the dinosaur syndrome of teachers and school administrators will contribute to the literature. It is thought that the Dinosaur Syndrome Scale will contribute to the development of school administrators' and teachers' behaviors of being change leaders, adapting to change, and transforming crisis situations into opportunities; the scale can be used to describe the perception of the dinosaur syndrome of teachers and school administrators.

References

Balaman, F. & Baş, M. (2021). Adaptation of resistance to organizational change scale to Turkish: Validity-reliability study. *Cumhuriyet International Journal of Education, 10* (2), 676-697. DOI: 10.30703/cije.751810.

Bringselius, L. (2014) Employee objections to organizational change: A framework for addressing management responses. *Organization Development Journal, 32*(1), 41- 54.

Büyüköztürk, Ş. (2002). Factor analysis: Basic concepts and its use in scale development. Retrieved on 07.12.2022 from https://dergipark.org.tr/tr/download/article-file/108451#:~:text=sener%20b%C3%BCy%C3%BCk%C3%B6zt%C3%BCrk&text=Daniel%20(1988)%20g%C3%C3%B6re,cited by Stapleton%2C%201997).

Büyüköztürk, Ş. (2010). *Data analysis handbook for social sciences*. Ankara: Pegem Akademi.

Can, A. (2021). *Quantitative data analysis in the scientific research process with SPSS*. Ankara: Pegem Akademi.

Çalışkan, A. (2019). Resistance to change: A scale adaptation study. *Journal of Süleyman Demirel University Faculty of Economics and Administrative Sciences, 24* (2), 237-252.

Çınar, H. (2021). Dinosaur syndrome. In N. Cemaloğlu (Ed.), *Reflections of syndromes on education and management*. (159-173) in Ankara: Pegem Akademi.

Çokluk, Ö., Şekercioğlu, G. & Büyüköztürk, Ş. (2012). *Multivariate statistics for social sciences SPSS and LISREL Applications.* Ankara: Pegem Akademi.

Dent, E. B. & Goldberg, S. G. (1999). Challenging resistance to change. *The Journal of Applied Behavioral Science, 35*(1), 25-41. https://doi.org/10.1177/0021886399351003

Ertürk Kayman, E. A. (2008). *The level of realization of quantum leadership behaviors by the school administrators of the disseminator schools in the vocational education and training empowerment project (MEGEP) in Turkey.* (Unpublished master's thesis). Hacettepe University, Institute of Educational Sciences, Ankara.

George, D. & Mallery, M. (2010). *SPSS for Windows step by step: A simple guide and reference*. Boston, MA: Pearson Education, Inc.

Gökbunar, R. & Ünal, A. G. (1999). Dinosaur syndrome in management and change in public administration. *Atatürk University Journal of Economics and Administrative Sciences, 13*(1), 45-58.

Jain, P., Asrani, C. & Jain, T. (2018). Resistance to change in an organization. Retrieved from https://www.iosrjournals.org/iosr-jbm/papers/Vol20-issue5/Version-7/E2005073743.pdf on 07.12.2022.

Kaptan, S. (1998). *Scientific research and statistical techniques*. Ankara: Tekışık Publications.

Karasar, N. (2020). *Scientific research method. Concepts principles techniques*. Ankara: Nobel Academic Publishing.

Karaxha, H. (2019). Methods for dealing with resistance to change. *Baltic Journal of Real Estate Economics and Construction Management*, 7, 290-299.

Karsantık, İ. & Çetin, M. (2021). Development of the academic leadership scale: Validity and reliability study. *Journal of Higher Education,11*(3),671-681. DOI: 10.2399/yod.20.578370

Kebabçı, S. & Erkal, H. (2009). Resistance to change- a constructive approach for managing resistant behaviors. Retrieved from http://www.diva-portal.se/smash/get/diva2:222586/FULLTEXT01.pdf on 07.12.2022.

Konan, N. & Mermer, S. (2021). Quantum leadership scale: Validity and reliability study. *E-International Journal of Pedagogy, 1*(1), 74-86. Retrieved from https://www.e-ijpa.com/index.php/pedandragoji/article/view/13.

Lawler, E. E. & Galbraith, J. R. (1994). Avoiding the Comorate I Dinosaur Syndrome. Retrieved from https://ceo.usc.edu/1994/05/21/avoiding-the-corporate-dinosaur-syndrome/ on 07.12.2022.

Marques, M. P. & Esposito, S.M. (2014). Improving change management: how communication nature influences resistance to change. *Journal of Management Development, 33*(4), 324 - 341.

Meydan, C. H. & Şeşen, H. (2011). *Structural equation modeling AMOS applications*. Ankara: Detay.

Naktiyok, A. (2007). Innovation orientation and organizational factors. *Atatürk University Journal of Economics and Administrative Sciences, 21*(2), 211-230.

Neyişçi, N. B. (2008). *The level of realization of uncertainty avoidance behaviors of school administrators in the vocational education and training empowerment project (EGEP) in Turkey*. Unpublished master's Thesis, Institute of Social Sciences, Ankara.

Özdemir, M. (2020). *Human resources management.* Ankara: Anı Publishing.

Peterson, B. (2016). Signs that your company's a dinosaur and how to evolve. Accessed from https://www.inc.com/ben-peterson/3-signs-that-your-companys-a-dinosaur--andhow-to-evolve.html on 07.12.2022.

Radzi, N.S. & Othman, R. (2016). Resistance to change: The moderating effects of leader-member exchange and role breadth self-efficacy. *Journal of Advanced Management Science, 4*(1).

Schlechty, C. P. (2020). *Rebuilding the school.* Ankara: Remzi Kitabevi.

Sönmez, V. & Alacapınar, G.F. (2019). *Exemplified scientific research methods*. Ankara: Anı Publishing.

Tabachnick, B. G. & Fidell, L. S. (2013). *Using multivariate statistics*. Boston: Pearson.

Tavşancıl, E. (2005). *Measurement of attitudes and data analysis with SPSS*. Ankara: Nobel Publishing.

Tekindal, S. (2021). *Quantitative qualitative mixed methods research designs and statistics.* Ankara: Nobel Academic Publishing.

Ulutaş, M. & Arslan, H. (2018). Informatics Leadership Scale: A Scale Development Study. *Marmara University Atatürk Faculty of Education Journal of Educational Sciences, 47* (47), 105-124.DOI: 10.15285/maruaebd.2739

Ulutaş, M. (2015). *The relationship between informatics leadership, learning organization and university culture in higher education.* Unpublished Doctoral Dissertation, Çanakkale Onsekiz Mart University.

Yeşil, S. (2013). *Selected topics from new management approach considering globalization and changing environmental dynamics*. Ankara: Seçkin Publishing.

Yurdakul, A. & Çelik, K. (2022). In-group commitment in educational organizations: A scale development study. *Mersin University Journal of Faculty of Education, 18*(2), 116-131.

DINOSAUR SYNDROME SCALE

Items	Completely Agree	I agree.	Partially Agree	Disagree	Strongly Disagree
1. I try not to pay attention to changes in my environment.	⑤	④	③	②	①
2. Constant changes in the school administration and teachers disturb me.	⑤	④	③	②	①
3. I think that change will not have positive consequences for me.	⑤	④	③	②	①
4. I get stressed due to changes in the school's management processes (decision-making, planning, organizing, communication, influencing, coordination/coordination, and evaluation).	⑤	④	③	②	①
5. I do not deal with unexpected situations that happen at school.	⑤	④	③	②	①
6. I oppose anything that disrupts the order at school.	⑤	④	③	②	①
7. I worry about how things will evolve because of changes in the school.	⑤	④	③	②	①
8. When the school management or senior management pressures me for change, I resist even if the change would benefit me.	⑤	④	③	②	①
9. I have difficulty adapting to changes in the school climate.	⑤	④	③	②	①
10. I do not change my plans regarding the work and operations at school.	⑤	④	③	②	①
11 I prefer my routine to a day with unexpected events.	⑤	④	③	②	①
12. I have difficulty keeping up with the changes in legislation.	⑤	④	③	②	①
13. I get stressed if my plans for my profession do not go well.	⑤	④	③	②	①
14.. I resist even if the source of change is the internal structure of the school (teachers, administrators, students).	⑤	④	③	②	①
15. I resist changes in duties and responsibilities at school.	⑤	④	③	②	①
16. I remain unresponsive to pressure groups' (non-governmental organizations, trade unions) demanding changes in my profession or the education system.	⑤	④	③	②	①

Dinozorlaşma Sendromu: Bir Ölçek Geliştirme Çalışması

Mehmet ULUTAŞ[1], Neşem ERKOÇ[2]

Öz

Bu çalışmada öğretmenlerin ve okul yöneticilerinin dinozorlaşma algısını betimleyecek geçerli ve güvenilir ölçme aracı tasarlamak amaçlanmıştır. Araştırma nicel yöntemde tarama modeline göre tasarlanmıştır. Ölçeğin madde havuzu için makaleler incelenmiş ve verilerden beş tema oluşturulmuştur. Temalardan hareketle madde havuzu oluşturulmuş olup taslak form, Aydın ilindeki devlet okullarında görev yapan öğretmen ve okul yöneticilerine uygulanmıştır. Açımlayıcı Faktör Analizi için 125; Doğrulayıcı Faktör Analizi için 172 öğretmen ve okul yöneticisi gönüllü olarak katılım sağlamıştır. Araştırmada öncelikle geçerliliği sağlamak için açımlayıcı ve doğrulayıcı faktör analizi yapılmış; güvenirlik için ise Cronbach's Alpha iç tutarlık katsayıları incelenmiştir. Açımlayıcı Faktör Analizi sonucunda 18 maddelik 2 boyutlu çıkan ölçek % 76.28 oranında bir varyansla açıklanmaktadır. Ölçeğin iç tutarlılık katsayısı ".95" olarak hesaplanmış olup; model Doğrulayıcı Faktör Analizi ile doğrulanmıştır ve 16 maddelik 2 boyutlu bir ölçek oluşturulmuştur. Geliştirilen modelin öğretmenlerin ve okul yöneticilerinin dinozorlaşma algısını ölçmede kullanılabileceği belirlenmiştir.

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Giriş

Çağımızdaki hızlı değişim ve özellikle bilişim alanındaki gelişmeler örgütleri etkilemektedir. Yenilik ve çağın gerektirdiği revizyonlar örgütlerin hayatta kalması, amaçlarını daha etkili şekilde gerçekleştirmesi ve örgütsel verimliliğin artması için oldukça önemlidir. Bu nedenle örgütler bir takım değişim süreçlerinden geçmek zorundadır. Aksi durumda uyum sağlayamadığı ve hayatta kalamadığı görülmektedir (Ertürk Kayman, 2008; Neyişçi, 2008). Örgütler doğası gereği değişime dirençli ve değişimlere uyum sağlama konusunda tutucudur. Devlet kurumları ya da özel şirketler yıllardır yaptıklarını yapmaya devam etme eğilimindedir. 1920'lerde bir örgütün ortalama ömrü yetmiş yıl iken günümüz toplumlarında on beş yıldır. Bireylerin ve örgütlerin statükoyu koruma konusundaki doğal eğilimi, istenen değişikliği gerçekleştirmek için yönetimin üstesinden gelmesi gereken bir dizi zorluk sunmaktadır (Jain, Asrani ve Jain, 2018). Günümüz örgütleri beş veya on yıl öncesine göre çok farklı bir dünyada faaliyet göstermektedir. Bilgi çağında, verinin iletilme, tüketilme ve kullanıcılara sunulma hızı giderek daha önemli hale gelmektedir. Verileri etkin bir şekilde yönetme felsefesi etrafında yapılandırılmış örgütler, çevresine ve işgörenlerine avantaj sağlayan olumlu bir deneyim sunmak için daha iyi etkileşim kurabilen ve yanıt verebilen örgüt olmalıdır. Teknolojik değişim ve yenilik çağında gelişme ve esnek kalma yeteneği bunun anahtarı olarak görülmektedir (Bringselius, 2014; Gökbunar ve Ünal, 1999; Yeşil, 2013).

Kişilerin ve örgütlerin değişimi engellemeye çalışmaları dinozor sendromu olarak adlandırılmaktadır (Çınar, 2021). Naktiyok'a (2007) göre dinozorlaşma sendromu çevresel değişimlere ayak uyduramayan ve bunun sonucunda meydana gelen olumsuz sonuçlar olarak tanımlanmıştır. Peterson (2016) dinozorlaşma sendromunu yeniliğin hızına ayak uydurma isteğinde bulunmayan, yeni ve eski arasında sıkışıp kalan ve asla değişmek istemeyen statik yapı olarak tanımlamaktadır. Kendini yenileyemeyen birey ve örgütleri simgeleyen dinozor metaforu aynı zamanda soyu tükenmiş bir varlığı temsil etmektedir. Dinozorlaşma; büyüklüğü, sakarlığı ve yok oluşu da simgelemektedir. Bu sendrom esas olarak bireysel ve örgütsel bağlamda yakalanan ölümcül bir hastalığı ifade etmektedir (Çınar, 2021; Yeşilyurt, 2021). Bir dizi tanımlanabilir özellik, dinozor sendromunun gelişimine işaret etmektedir. Bu özelliklerin tümüne sahip örgütlere nadiren rastlanmakla birlikte birkaçına sahip olmak bile örgütleri risk altında olarak tanımlanmaya yetebilir (Lawler ve Galbraith, 1994).

Örgütün yaşamsal faaliyetlerini tehdit eden dinozorlaşma sendromu dinozorlaşma sendromunun Lawler ve Galbraith'e (1994) göre sekiz ana özelliği bulunmaktadır. Dinozorlaşmanın ilk özelliği örgütün ya da yöneticinin geçmişteki başarısına bağımlı olmasıdır. Başarı, statükonun güçlü bir pekiştiricisi olarak görülmekte olup değişime karşı muhafazakâr eyleme hatta bireyde genellikle kibir ve yenilmezlik duygusuna yol açmaktadır. Dinozorlaşmanın ikinci özelliği büyümedir. Başarı dolaylı olarak örgütün büyümesine yol açmakta ve büyüme iyi yönetilmezse koordinasyon ve iletişim sorunları ortaya çıkmakta bu da örgütün daha bürokratik ve kontrol odaklı hale gelmesine neden olmaktadır. Dinozorlaşmanın üçüncü özelliği kontrol odağını ve karar vermeyi etkilemesidir. Dinozorlaşmanın dördüncü özelliği örgütlerde daha yavaş karar verme ve zayıf koordinasyona neden olması ve hızlı hareket edememeye yol açmasıdır (Yeşilyurt, 2021). Dinozorlaşmanın beşinci özelliği örgüt ya da bireyin çevreye odaklanmak yerine dikkatlerini iç ilişkilere, iç karar süreçlerini yöneltmekte ve çevre ile bağlarını kaybetmesidir. Dinozorlaşmanın altıncı özelliği ise kararlı yapılarıdır (Lawler ve Galbraith, 1994). Bu örgütlerde statükoyu destekleyen bir katılık bulunmaktadır. Sabit fonksiyonel bir organizasyon yapısına sahip olan dinozorlaşmış örgütlerde çok sayıda bölüm ve işgören olması, içerisinde koordinasyonun sağlanmasını zorlaştırmaktadır (Gökbunar ve Ünal, 1999). Dinozorlaşmanın yedinci özelliği ise hiyerarşik yapısıdır. Bu yapı karar süreçlerinde sıkıntılara neden olmaktadır. Dinozorlaşmanın sekizinci özelliği ise kültürel yapısıdır. Dinozorlaşma; sorun yoksa ilgilenme ve şu ana kadar başarılı olanı sürdür değerlerini odağına almakta olup bu değerler tartışılamaz kategorisindedir. Bir örgütte ne kadar tartışılamaz değer varsa, o örgütün dinozor olma riski de o kadar yüksektir (Lawler ve Galbraith, 1994).

Dinozor sendromuna yakalanan örgütlerde; süreç üç evrede ilerlemektedir. İlk evre karşılaşma, yüzleşme ve uyumsuzluk evresidir. İkinci evre değişime direnme veya değişimi reddetme evresidir. Üçüncü evre ise hantallaşma, yok olma ya da dönüşme evresidir (Çınar, 2021; Yeşilyurt, 2021). Peterson (2016) dinozorlaşma sendromuna yakalanan birey ve örgütlerin işaretlerini; dinozorlar

saplanıp kalırlar, soğukkanlıdır ve değişmezlerdir şeklinde ifade etmektedir. Bu çerçeveden bakıldığında değişime direnç gösterme ve mevcut durumu korumada ısrarcı olma karakteristik özelliğidir.

Örgütlerin yaşadığı değişimler insan kaynağını etkilemektedir. Günümüzde örgütlerin sahip olduğu en önemli kaynak, insan kaynağı olarak kabul edilmektedir. Bunun temel nedeni, örgütün sahip olduğu diğer kaynakların etkili kullanımının doğrudan insan gücüne bağlı olmasıdır (Özdemir, 2020). Tıpkı diğer örgütler gibi okullar da dinamik, gelişen ve durağan olmayan kurumlardır. Okul örgütü de toplumsal gelişmelerden, ekonomik durumlardan, bilimsel gelişmelerden yoğun bir şekilde etkilenerek bir değişim sürecine girmektedir (Schlechty, 2020).

Eğitim örgütlerinde dinozor kelimesi çok sık kullanılan bir benzetmedir (Çınar, 2021). Bu bağlamda yönetici ve öğretmenin değişime direnç göstermesi, geçmiş başarılara takılı kalması, çevreyle iletişiminin sınırlı olması, katılımcı yönetim anlayışı yerine hiyerarşiye önem vermesi ve içine kapanık olması okulun da dinozorlaşmasına neden olacaktır. Bu nedenle eğitim sisteminin lokomotifi okullara özgü bir dinozorlaşma ölçeğinin oluşturulması ve buna bağlı olarak okul yöneticilerinin ve öğretmenlerin sergiledikleri dinozorlaşma algılarının tespit edilmesi önemli bir konudur. Nitekim alanyazında öğretmenlerin ve okul yöneticilerinin dinozorlaşma algısına yönelik bir ölçme aracına rastlanılmamıştır. Bu araştırmanın amacı öğretmen ve okul yöneticilerinin algılarına göre dinozorlaşma düzeylerini ortaya çıkarabilmek için bir ölçme aracı geliştirmektir.

Yöntem

Bu çalışma; okul yöneticileri ve öğretmenlere yönelik dinozorlaşma ölçeği geliştirmek için, nicel yöntem olarak tasarlanmıştır (Karasar, 2020). Araştırmada var olan durumu ortaya koymak amacıyla tarama modeli kullanılmıştır (Can, 2021; Tekindal, 2021). Tarama modeli, geçmişteki ya da şu andaki mevcut durumu olduğu şekliyle ortaya koyan ve betimleyen bir araştırma modelidir (Sönmez ve Alacapınar, 2019).

Araştırma Grubu

Araştırmada doküman analizi yöntemi ile alanyazın taraması gerçekleştirilmiş olup temalardan hareketle oluşturulan madde havuzu on uzmana gönderilmiş ve görüşlerine başvurulmuştur. Araştırmanın örneklemi ise basit seçkisiz örnekleme kullanılarak belirlenmiştir (Karasar, 2020). Basit seçkisiz örnekleme evrendeki tüm birimlerin eşit ve bağımsız olması ilkesine dayanan örneklemdir (Çokluk, Şekercioğlu ve Büyüköztürk, 2012). 2022-2023 eğitim öğretim döneminde Aydın ilindeki devlet okullarında görev yapan öğretmenlerle uygulama yapılmıştır. Araştırmanın Açımlayıcı Faktör Analizi (AFA) aşamasına 125; Doğrulayıcı Faktör Analizi (DFA) aşamasına 172 öğretmen ve okul yöneticisi gönüllü olarak katılmıştır.

Veri Toplama Aracı

Araştırmada veri toplama aracı olarak "Dinozorlaşma Ölçeği" yer almaktadır. Araştırma kapsamında ilgili alanyazın taramasına dayanarak dinozorlaşma ölçeği için 55 maddelik madde havuzu oluşturulmuş ve eğitim yönetimi alanında doktora yapmış on uzmanın görüşüne başvurulmuştur. Anlam ve açıklık açısından değerlendirilmek üzere son olarak oluşturulan taslak iki öğretmene de sunulmuş olup düzeltmelerden sonra toplam 37 maddelik (36 madde +1 kontrol maddesi) taslak form oluşturulmuştur. "Dinozorlaşma Ölçeği Taslak Formu" ile ölçeğin görünüş geçerliliği sağlanmış olup (Kaptan, 1998) ölçek (1) kesinlikle katılmıyorum, (2) katılmıyorum, (3) kısmen katılıyorum, (4) katılıyorum, (5) tamamen katılıyorum şeklinde 5'li Likert tipinde derecelendirilmiştir.

Verilerin Analizi

Araştırmada ilk olarak madde toplam korelasyonları incelenmiş ardından yapı geçerliği için açımlayıcı faktör analizi yapılmıştır. Oluşturulan modelin doğrulanması için doğrulayıcı faktör analizi yapılmıştır. Açımlayıcı faktör analizi için SPSS 21 paket programı kullanılmıştır. Doğrulayıcı faktör analizi için AMOS 21 paket programından yararlanılmıştır. Cronbach's Alpha iç tutarlık katsayılarından yararlanılarak ölçeğin güvenirliği hesaplanmıştır (Can, 2021).

Bulgular

Araştırmanın madde havuzu oluşturulma aşamasında dokümanlardan hareketle veriler incelenmiştir ve oluşturulan beş tema, Şekil 1'de gösterilmektedir.
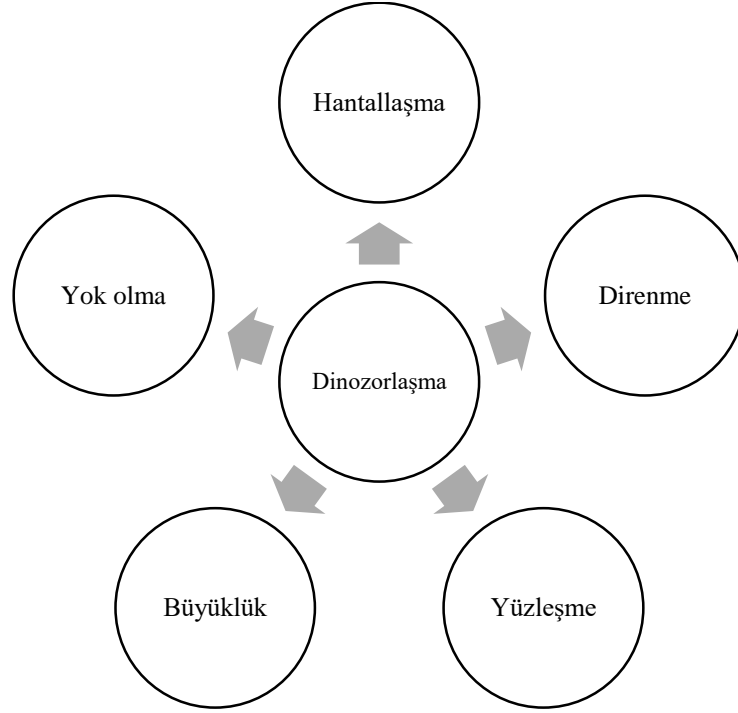
Şekil 1. Dinozorlaşma sendromu temalar

Alanyazında Lawler ve Galbraith (1994), Dent ve Goldberg (1999), Gökbunar ve Ünal (1999), Kebapçı ve Erkal (2009), Karaxha (2019), Bringselius (2014), Radzi ve Othman (2014), Esposito ve Marques (2014), Çınar (2021) ve Yeşilyurt'un (2021) çalışmaları incelenmiş ve Şekil 1'de görülen; yüzleşme, direnme, büyüklük, hantallaşma ve yok olma temalarından hareketle madde havuzu oluşturulmuştur. Her tema altına on bir madde yazılmış olup oluşturulan 55 maddeden oluşan taslak form için uzman görüşü alınmıştır. Uzman görüşlerinden sonra madde sayısında eleme yapılmış ve 37 maddelik taslak form AFA için 125 katılımcıya uygulanmıştır.

Oluşturulan taslak form Açımlayıcı Faktör Analizi için 125 öğretmene uygulanmış ve tek değişkenli normallik varsayımını karşılayıp karşılamadığına bakılmıştır. Çalışmada, çarpıklık ve basıklık değerleri -2 +2 arasında olduğu için tek değişkenli normallik varsayımı karşılanmaktadır (George ve Mallery, 2010). Dinozorlaşma Ölçeğinin faktör yapısının incelenmesi için ölçek maddelerinin madde toplam korelasyonuna bakılmış olup madde toplam korelasyonları pozitif, .30 ile .80 arasında olduğu görülmüştür. Bu bulgu, maddelerin açımlayıcı faktör analizine uygun olduğunu göstermektedir (Büyüköztürk, 2010). 37 madde ile başlayan açımlayıcı faktör analizinde Kaiser-Meyer Olkin (KMO) Katsayısı (.87), Bartlett Test of Sphericity= 5995.39, p=.00 değerlerine ulaşılmıştır. Sonuçların anlamlı çıkması çok değişkenli normallik varsayımının da karşılandığını göstermekte olup, veriler faktör analizi için uygundur sonucuna ulaşılmıştır (Çokluk, Şekercioğlu ve Büyüköztürk, 2012; Tavşancıl, 2005). Veriler, faktörler arasında ilişki olduğu için direct oblimin rotation ile analiz edilmiştir (Büyüköztürk, 2002; Yurdakul ve Çelik, 2022). Yapılan faktör analizi sonrasında yük değeri düşük ve binişik olan toplam 19 madde ölçekten çıkarılmış olup 18 maddenin iki faktörde toplandığı görülmüştür. Şekil 2'de ve Tablo 1'de AFA'ya ait bulgular sunulmuştur.
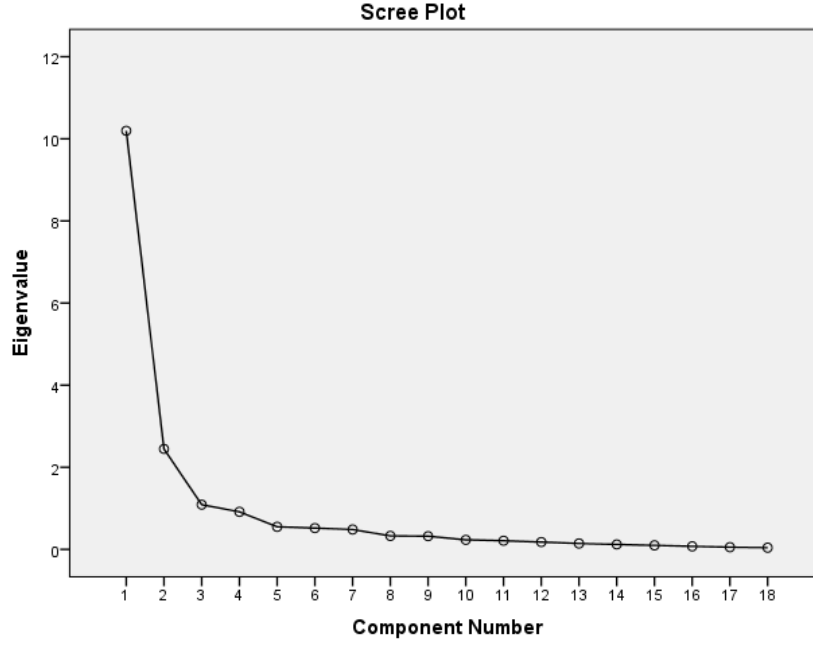
Şekil 2. Dinozorlaşma ölçeğine ait çizgi grafiği

Şekil 2'ye göre özdeğerler arasındaki fark iki faktörden sonra azalmakta olup ikinci faktörden sonraki faktörlerin varyansa katkılarının birbirine yakın olması nedeniyle ölçeğin iki faktörlü olmasına karar verilmiştir (Tabachnick ve Fidell, 2013).

Tablo 1. Dinozorlaşma ölçeği eğik döndürülmüş bileşen matrisi

Maddeler	Faktörler	
	1	2
s4	.61	
s8	.60	
s12	.72	
s16	.67	
s18	.72	
s19	.61	
s20	.68	
s28	.70	
s37	.68	
s1		.82
s2		.81
s3		.87
s14		.52
s10		.66
s26		.83
s27		.71
s35		.79
s36		.57
%varyans	19.5	56.64
Toplam varyans	76.28	
Güvenirlik	.94	.93
Güvenirlik genel	.95	
KMO	.88	
Barlett	2028.94 (p=0.00)	

Tablo 1'de görüldüğü üzere ortaya çıkarılan iki faktör alanyazın taramasına dayanarak; değişimle yüzleşme-uyumsuzluk ve değişime direnç olarak isimlendirilmiştir. Değişimle yüzleşme ve uyumsuzluk alt boyutu maddelerinin (4-8-12-16-18-19-20-28-37) madde toplam korelasyonlarının .38 ile .72 arasında, madde yük değerlerinin .60 ile .72 arasında ve varyans açıklama oranın 19.5 olduğu belirlenmiştir. Değişime direnç alt boyutu maddelerinin (1-2-3-14-10-26-27-35-36) madde toplam korelasyonlarının .46 ile .90 arasında, madde yük değerlerinin .52 ile .83 arasında ve varyans açıklama oranının 56.64 olduğu tespit edilmiştir. Ölçeğin iki faktörünün genel varyans açıklama oranının ise 76.28 olduğu tespit edilmiştir. Genel güvenirliğin .95 olduğu belirlenmiştir.

Dinozorlaşma Ölçeğinin geçerliliğinin sağlanması için bir diğer aşama olan doğrulayıcı faktör analizi aşamasına geçilmiştir. AFA ile ulaşılan iki faktörlü ve 18 maddelik yapının uyumunu test etmek için AMOS üzerinden DFA yapılmıştır. Ölçek 172 katılımcıya uygulanmıştır. Ölçekte yüzleşme ve uyumsuzluk boyutunda yer alan iki madde faktör yükleri düşük olduğu için ölçekten çıkarılmıştır. Ölçek, 16 maddeden ve 2 boyuttan oluşmaktadır. Ölçeğin DFA sonucundaki uyum değerleri Tablo 2 ve Tablo 3'te ifade edilmiştir. Tablo 2'de alan yazında kabul gören uyum iyiliği değerleri gösterilmektedir.

Tablo 2. Uyum iyiliği değerleri

| İndeks	Mükemmel Uyum	Kabul Edilebilir Uyum
x^2/sd	$0 \leq x^2/sd \leq 2$	$2 \leq x^2/sd \leq 3$
RMSEA	$0 \leq$ RMSEA $\leq .5$	$.5 \leq$ RMSEA $\leq .8$
NFI	$.95 \leq$ NFI ≤ 1	$.90 \leq$ NFI $\leq .95$
CFI	$.97 \leq$ CFI ≤ 1	$.95 \leq$ CFI $\leq .97$
GFI	$.95 \leq$ GFI ≤ 1	$.90 \leq$ GFI $\leq .95$
AGFI	$.90 \leq$ AGFI ≤ 1	$.80 \leq$ AGFI $\leq .90$

Kaynak: Ulutaş, 2015; Ulutaş ve Arslan, 2018; Karsantık ve Çetin, 2021; Konan ve Mermer, 2021.

Tablo 2'de görüldüğü üzere; $2 \leq x^2/sd \leq 3$, $.05 \leq$ RMSEA $\leq .08$; $.95 \leq$ CFI $\leq .97$, $.80 \leq$ AGFI $\leq .90$; $.90 \leq$ NFI $\leq .95$; $.90 \leq$ GFI $\leq .95$ değerleri alan yazında kabul edilebilir uyum değerleri olarak gösterilmektedir. Bu bilgilerden hareketle modele ait uyum iyiliği değerleri incelenmiş olup sonuçlar Tablo 3'te gösterilmektedir.

Tablo 3. Modele ait uyum iyiliği değerleri

x^2/sd	RMSEA	NFI	CFI	GFI	AGFI
1,60	0,58	.92	.97	0.90	.86

Tablo 2 ve 3 incelendiğinde; $0 \leq x^2/sd \leq 2$ mükemmel uyum, RMSEA $\leq .08$ ise kabul edilebilir; CFI $\geq .95$ ise mükemmel; $.80 \leq$ AGFI $\leq .90$ değeri kabul edilebilir; $.90 \leq$ NFI $\leq .95$ değeri kabul edilebilir; $.90 \leq$ GFI $\leq .95$ değeri ise kabul edilebilir olduğu için DFA incelemesi ile ölçeğin doğrulandığı ve söylenebilir (Meydan ve Şeşen 2011; Çokluk, Şekercioğlu ve Büyüköztürk, 2012; Tabachnick ve Fidell, 2013). Dinozorlaşma Ölçeğinin DFA sonucundaki ölçüm modeli Şekil 3'te verilmektedir.
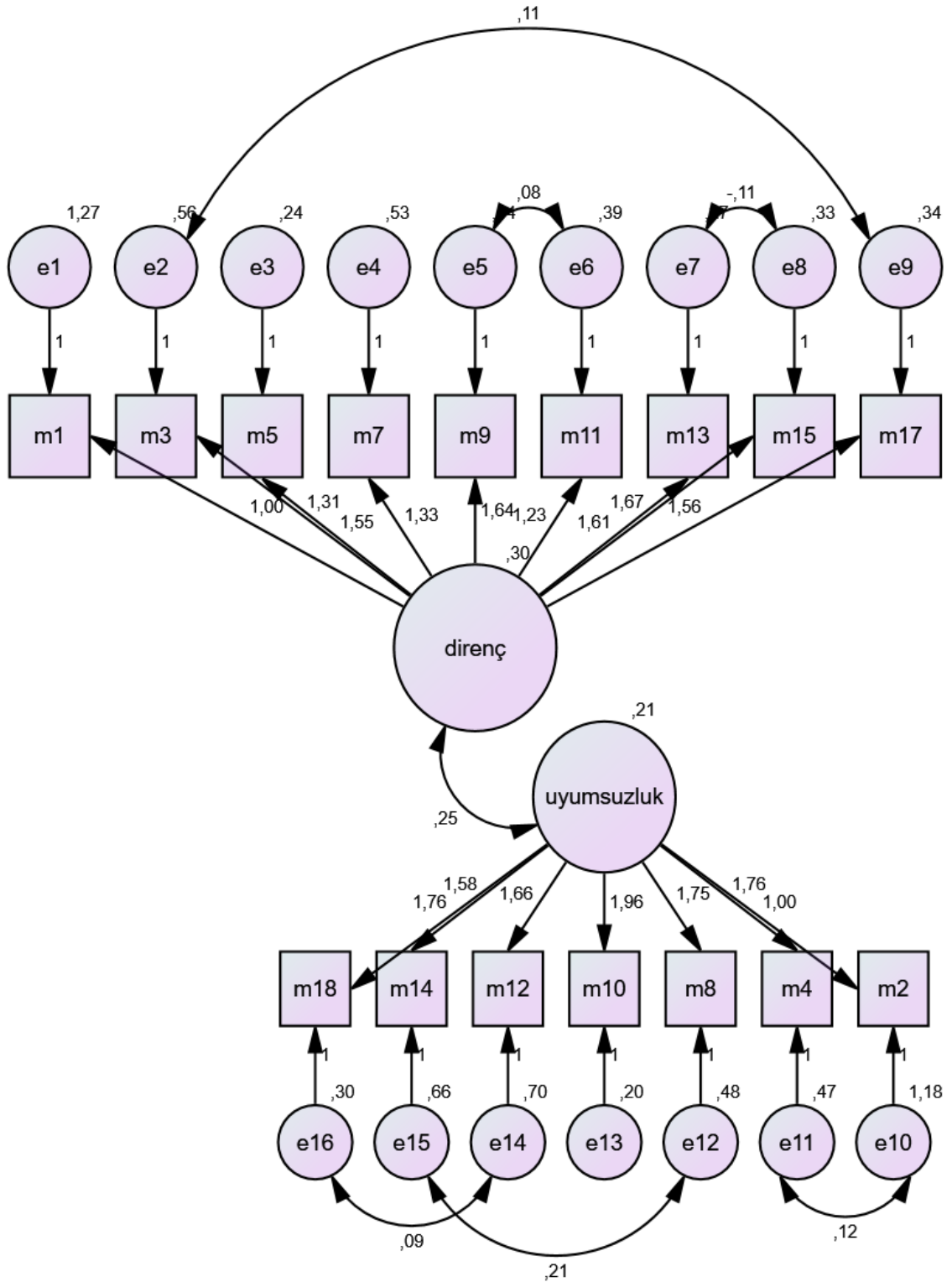
Şekil 3. Dinozorlaşma sendromu ölçeği doğrulayıcı faktör analizi ölçüm modeli

Tartışma, Sonuç ve Öneriler

Araştırmada okul yöneticilerinin ve öğretmenlerin dinozorlaşma algısını betimlemek için "Dinozorlaşma Ölçeği" geliştirilmiş, geçerlilik ve güvenilirlik analizlerinin yapılması amaçlanmıştır. Yapılan analizler sonucunda elde edilen bulgular ölçeğin, okul yöneticilerinin ve öğretmenlerin dinozorlaşma özelliklerini ölçmede geçerli ve güvenilir olduğunu göstermektedir. Açımlayıcı Faktör

Analizi (AFA) 125 öğretmen ve okul yöneticisine uygulanmış ve sonucunda 37 madde arasında faktör yükü düşük olan maddeler çıkarılmış ve 18 maddeden ve iki boyutlu bir ölçek elde edilmiş olup ters maddeler bulunmamaktadır.

SPSS 21 paket programında AFA ile oluşturulan ölçeğin doğrulanması için AMOS programında ile Doğrulayıcı Faktör Analizi (DFA) uygulaması yapılmış ve doğrulanmıştır. Yapılan analiz sonucunda faktör yükleri düşük olan iki madde çıkarılmış ve 16 maddelik iki boyutlu bir ölçek elde edilmiştir. Ölçeğin uyum indeksleri x^2/sd=1,602; RMSEA= 0,58; NFI= .926; CFI=.970; GFI=0.90; AGFI=.860 şeklindedir (Meydan ve Şeşen 2011; Çokluk, Şekercioğlu ve Büyüköztürk, 2012; Tabachnick ve Fidell, 2013). Ölçekteki maddeler 5'li Likert tipinde "1=Kesinlikle katılmıyorum", "2=Katılmıyorum", "3=Kısmen katılıyorum", "4=Katılıyorum", "5= Tamamen Katılıyorum" seçeneklerinden oluşmaktadır. Ölçekten en düşük 16, en yüksek 80 puan alınabilmektedir. Ölçekten yüksek puan alan bir katılımcının dinozorlaşma algısının yüksek olduğu, düşük puan alan katılımcıların ise dinozorlaşma algısının düşük olduğu ifade edilebilir.

Alanyazın incelendiğinde dinozorlaşma algısını ölçmeye yönelik bir ölçeğe rastlanılmamasına rağmen değişime direnç ilgili uyarlama çalışmalara rastlanılmıştır (Balaman ve Baş, 2021; Çalışkan, 2019). Oreg (2006) tarafından geliştirilen değişime direnç ölçeği Çalışkan (2019) tarafından Türkçe'ye uyarlanmış ve davranışsal, bilişsel ve duygusal boyutlarından; Balaman ve Baş (2021) tarafından Neiva, Ros ve da Paz (2005)'a ait örgütsel değişime direnç ölçeği ise kuşkuculuk, endişe ve kabullenme boyutlarından oluştuğu görülmüştür. Değişime direnç dinozorlaşma sendromunun sadece bir boyutunu ifade etmektedir. Dinozorlaşma, değişime direnç ile yüzleşme, büyüklük, uyumsuzluk ve hantallaşma ve sonunda ise bir yok oluşa ya da entropiye gidişi ifade etmektedir. Dinozorlaşma uyumsuzluğun hissedilmeye başlaması ile değişime direnç gösterme, eski ve yeni arasında sıkışıp kalma ve asla yenileşme isteği içermemektedir (Peterson, 2016). Aynı zamanda uyarlanan bu ölçeklerin okul örgütüne ve okulun insan kaynağına yönelik olmadığı görülmüştür. Bu nedenle öğretmenlerin ve okul yöneticilerinin dinozorlaşma algısının belirlenmesine yönelik bir ölçeğin geliştirilmesinin alanyazına katkı sunacağı düşünülmektedir. Dinozorlaşma Ölçeğinin, okul yöneticileri ve öğretmenlerin değişim lideri olma, değişime uyum sağlama ve kriz durumlarını fırsata dönüştürme davranışlarının geliştirilmesine katkı sunacağı düşünülmekte olup; ölçek, öğretmen ve okul yöneticilerinin dinozorlaşma algısını betimlemede kullanılabilir.

Kaynakça

Balaman, F. & Baş, M. (2021). Adaptation of resistance to organizational change scale to Turkish: Validity-reliability study. *Cumhuriyet International Journal of Education, 10* (2), 676-697. DOI: 10.30703/cije.751810.

Bringselius, L. (2014) Employee objections to organizational change: A framework for addressing management responses. *Organization Development Journal, 32*(1), 41- 54.

Büyüköztürk, Ş. (2002). Factor analysis: Basic concepts and its use in scale development. Retrieved on 07.12.2022 from https://dergipark.org.tr/tr/download/article-file/108451#:~:text=sener%20b%C3%BCy%C3%BCk%C3%B6zt%C3%BCrk&text=Daniel%20(1988)%20g%C3%C3%B6re,cited by Stapleton%2C%201997).

Büyüköztürk, Ş. (2010). *Data analysis handbook for social sciences*. Ankara: Pegem Akademi.

Can, A. (2021). *Quantitative data analysis in the scientific research process with SPSS*. Ankara: Pegem Akademi.

Çalışkan, A. (2019). Resistance to change: A scale adaptation study. *Journal of Süleyman Demirel University Faculty of Economics and Administrative Sciences, 24* (2), 237-252.

Çınar, H. (2021). Dinosaur syndrome. In N. Cemaloğlu (Ed.), *Reflections of syndromes on education and management*. (159-173) in Ankara: Pegem Akademi.

Çokluk, Ö., Şekercioğlu, G. & Büyüköztürk, Ş. (2012). *Multivariate statistics for social sciences SPSS and LISREL Applications.* Ankara: Pegem Akademi.

Dent, E. B. & Goldberg, S. G. (1999). Challenging resistance to change. *The Journal of Applied Behavioral Science, 35*(1), 25-41. https://doi.org/10.1177/0021886399351003

Ertürk Kayman, E. A. (2008). *The level of realization of quantum leadership behaviors by the school administrators of the disseminator schools in the vocational education and training empowerment project*

(MEGEP) in Turkey. (Unpublished master's thesis). Hacettepe University, Institute of Educational Sciences, Ankara.

George, D. & Mallery, M. (2010). *SPSS for Windows step by step: A simple guide and reference*. Boston, MA: Pearson Education, Inc.

Gökbunar, R. & Ünal, A. G. (1999). Dinosaur syndrome in management and change in public administration. *Atatürk University Journal of Economics and Administrative Sciences, 13*(1), 45-58.

Jain, P., Asrani, C. & Jain, T. (2018). Resistance to change in an organization. Retrieved from https://www.iosrjournals.org/iosr-jbm/papers/Vol20-issue5/Version-7/E2005073743.pdf on 07.12.2022.

Kaptan, S. (1998). *Scientific research and statistical techniques*. Ankara: Tekışık Publications.

Karasar, N. (2020). *Scientific research method. Concepts principles techniques*. Ankara: Nobel Academic Publishing.

Karaxha, H. (2019). Methods for dealing with resistance to change. *Baltic Journal of Real Estate Economics and Construction Management*, 7, 290-299.

Karsantık, İ. & Çetin, M. (2021). Development of the academic leadership scale: Validity and reliability study. *Journal of Higher Education,11*(3),671-681. DOI: 10.2399/yod.20.578370

Kebabçı, S. & Erkal, H. (2009). Resistance to change- a constructive approach for managing resistant behaviors. Retrieved from http://www.diva-portal.se/smash/get/diva2:222586/FULLTEXT01.pdf on 07.12.2022.

Konan, N. & Mermer, S. (2021). Quantum leadership scale: Validity and reliability study. *E-International Journal of Pedagogy, 1*(1), 74-86. Retrieved from https://www.e-ijpa.com/index.php/pedandragoji/article/view/13.

Lawler, E. E. & Galbraith, J. R. (1994). Avoiding the Comorate I Dinosaur Syndrome. Retrieved from https://ceo.usc.edu/1994/05/21/avoiding-the-corporate-dinosaur-syndrome/ on 07.12.2022.

Marques, M. P. & Esposito, S.M. (2014). Improving change management: how communication nature influences resistance to change. *Journal of Management Development, 33*(4), 324 - 341.

Meydan, C. H. & Şeşen, H. (2011). *Structural equation modeling AMOS applications*. Ankara: Detay.

Naktiyok, A. (2007). Innovation orientation and organizational factors. *Atatürk University Journal of Economics and Administrative Sciences, 21*(2), 211-230.

Neyişçi, N. B. (2008). *The level of realization of uncertainty avoidance behaviors of school administrators in the vocational education and training empowerment project (EGEP) in Turkey*. Unpublished master's Thesis, Institute of Social Sciences, Ankara.

Özdemir, M. (2020). *Human resources management.* Ankara: Anı Publishing.

Peterson, B. (2016). Signs that your company's a dinosaur and how to evolve. Accessed from https://www.inc.com/ben-peterson/3-signs-that-your-companys-a-dinosaur--andhow-to-evolve.html on 07.12.2022.

Radzi, N.S. & Othman, R. (2016). Resistance to change: The moderating effects of leader-member exchange and role breadth self-efficacy. *Journal of Advanced Management Science, 4*(1).

Schlechty, C. P. (2020). *Rebuilding the school.* Ankara: Remzi Kitabevi.

Sönmez, V. & Alacapınar, G.F. (2019). *Exemplified scientific research methods*. Ankara: Anı Publishing.

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics*. Boston: Pearson.

Tavşancıl, E. (2005). *Measurement of attitudes and data analysis with SPSS*. Ankara: Nobel Publishing.

Tekindal, S. (2021). *Quantitative qualitative mixed methods research designs and statistics.* Ankara: Nobel Academic Publishing.

Ulutaş, M. & Arslan, H. (2018). Informatics Leadership Scale: A Scale Development Study. *Marmara University Atatürk Faculty of Education Journal of Educational Sciences, 47* (47), 105-124.DOI: 10.15285/maruaebd.2739

Ulutaş, M. (2015). *The relationship between informatics leadership, learning organization and university culture in higher education.* Unpublished Doctoral Dissertation, Çanakkale Onsekiz Mart University.

Yeşil, S. (2013). *Selected topics from new management approach considering globalization and changing environmental dynamics*. Ankara: Seçkin Publishing.

Yurdakul, A. & Çelik, K. (2022). In-group commitment in educational organizations: A scale development study. *Mersin University Journal of Faculty of Education, 18*(2), 116-131.

DİNOZORLAŞMA ÖLÇEĞİ

Maddeler	Tamamen Katılıyorum	Katılıyorum	Kısmen Katılıyorum	Katılmıyorum	Kesinlikle Katılmıyorum
1. Çevremde olan değişiklikleri dikkate almamaya çalışırım.	⑤	④	③	②	①
2. Okul idaresinin ve öğretmenlerinin sürekli değişmesi beni rahatsız eder.	⑤	④	③	②	①
3. Değişimin benim için olumlu sonuçlar doğurmayacağını düşünürüm.	⑤	④	③	②	①
4. Okulun yönetim süreçlerinde (karar alma, planlama, örgütleme, iletişim, etkileme, eşgüdümleme/koordinasyon, değerlendirme) değişiklik olması nedeniyle strese girerim.	⑤	④	③	②	①
5. Okulda meydana gelen beklenmedik durumlarla ilgilenmem.	⑤	④	③	②	①
6. Okulda düzenimi bozan her şeye karşı çıkarım.	⑤	④	③	②	①
7. Okulda meydana gelen değişimler nedeniyle işlerin nasıl olacağı konusunda endişelenirim.	⑤	④	③	②	①
8. Okul yönetimi ya da üst yönetim değişiklik için bana baskı yaptığında değişiklik bana fayda getirse bile direnirim.	⑤	④	③	②	①
9. Okul iklimindeki değişikliklere uyum sağlamakta zorlanırım.	⑤	④	③	②	①
10. Okuldaki iş ve işlemlerle ilgili planlarımı değiştirmem.	⑤	④	③	②	①
11. Beklenmedik olaylarla geçirilen bir gün yerine rutin işlerimi tercih ederim.	⑤	④	③	②	①
12. Mevzuatta yaşanan değişimlere ayak uydurmakta zorlanırım.	⑤	④	③	②	①
13. Mesleğimle ilgili planlarım yolunda gitmezse strese girerim.	⑤	④	③	②	①
14. Değişimin kaynağı okulun iç yapısı (öğretmenler, yöneticiler, öğrenciler) olsa da direnirim.	⑤	④	③	②	①
15. Okuldaki görev ve sorumlulukların değişmesine direnç gösteririm.	⑤	④	③	②	①
16. Baskı gruplarının (sivil toplum örgütleri, sendikalar) mesleğim ya da eğitim sistemi hakkındaki değişiklik talepleri karşısında tepkisiz kalırım.	⑤	④	③	②	①