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An Investigation of Research on Differentiated Instruction Approach in Preschool Education Between 2005-2022

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Abstract

Differentiated instruction is a pedagogical approach that involves differentiating the content, process, teaching methods, resources used, activities implemented and children's products to meet the learning needs of children with different levels of readiness, interests and learning styles in the same classroom. Considering the differences of children in multicultural societies, differentiated instruction helps to turn children's differences into advantages and respond to their learning needs. The aim of this study is to present a general framework for differentiated instruction in the light of the studies on differentiated instruction in preschool education between 2005 and 2022 in the literature. For this purpose, a systematic literature review on differentiated instruction in preschool education was conducted and the reflections of differentiated instruction in preschool education were investigated. The 41 articles obtained as a result of the review were analyzed by content analysis according to the years of publication, the index of the journals in which they were published, the subjects studied, the methods used, the methods of analysis, data collection sources, data collection tools and samples. As a result, in the scanned studies; the most articles were published in 2021 and it was seen that they were mostly published in SCI/SSCI indexes. It is seen that teachers are given trainings about the differentiated instruction approach as the subject of the published articles, and as a result of the trainings, teachers support the development of children with their practices.

Keywords: Preschool education, differentiated instruction, descriptive method, content analysis.

Introduction

The problem of coping with children's differences in today's preschool classrooms is increasing day by day. It is increasingly recognized that children's learning styles, motivation, abilities, needs, interests, etc. differ and that these differences affect the performance of the child, the classroom, and the school. Teachers are the first people who have an important responsibility in adapting to these differences and the diversity of levels in individual learning (George, 2005; Moore, 2005; Subban, 2006; Tomlinson et al., 2003). The standard instructional approach today does not meet the needs of all children and ignores their different characteristics (Fox & Hoffman, 2011; Subban, 2006). In contrast, in the differentiated instruction approach, teachers consider the differences among children and accept their strengths (George, 2005; Subban, 2006; Tomlinson et al., 2003).

Responding to children's differences requires intensive effort because these differences are a wide range of characteristics including children's interests, learning styles, developmental levels, learning speeds, abilities, cultural backgrounds, language levels, attitudes, etc. (Moore, 2005; Tomlinson, 2001). In differentiated instruction practices, diversity is offered to each child according to his/her needs. For example, teachers work with different groups at different levels (according to their levels or interests) to give children more support and feedback for their learning. Differentiated instruction is a flexible, fair and logical way of teaching and learning (Fox & Hoffman, 2011). Differentiated instruction allows teachers to provide different activities, deliver different content, and adopt a variety of assessment methods to meet the needs of each child (Thousand, Villa, & Nevin, 2007). In other words, teachers are expected to make explicit choices about the nature of the learning content, process and product for each child at all stages of education (Algozzinea & Anderson, 2007). Although differentiated instruction is not a new approach (Algozzinea and Anderson, 2007), it has been expressed in different ways in the literature over time. In the literature, differentiation (Hertberg-Davis and Brighton, 2006), differentiated instruction (Tomlinson, 2014), differentiated learning (Mills et al., 2014), curriculum differentiation (Schofield, 2010), differentiated learning, and so on. Although different names are given

to differentiated instruction, these concepts advocate common views such as including the diversity of children in education, adopting different teaching strategies, encouraging diversity in learning activities, and following the best learning process by following the needs of each child (Hall, Strangman, & Meyer, 2014). Differentiated instruction is often presented as a multidimensional concept as it is based on differences that vary from child to child. Many researchers present different differentiated instruction components and differentiated instruction dimensions.

Moore (2005) emphasizes the differences in content, process and product as the elements of differentiated instruction, while Fogarty and Pete (2011) emphasize children's emotions and choice factors in addition to the elements. Smit and Humpert (2012) also emphasized children's attitudes, communication, collaboration and assessment. It is seen that researchers mention five common dimensions. These common dimensions help to develop the following eclectic definition of differentiated instruction: Differentiated instruction is an instructional approach that accommodates children's differences by (1) taking into account that children are different from each other; (2) using different teaching methods and techniques; (3) encouraging diversity in learning activities; (4) monitoring children's individual needs; and (5) pursuing the most effective learning outcomes (Suprayogi, Valcke, & Godwin, 2017). Proponents of this approach state that differentiated instruction is rooted in years of educational research and theory (Hall, 2002). It is based on a number of approaches such as social constructivism, thinking and learning styles, brain research and related research (Anderson, 2007; Tomlinson & Allan, 2000). The first theory to be considered in differentiated instruction is social constructivism proposed by the Russian psychologist Vygotsky. In social constructivism, a child's learning is co-constructed through social interaction with an adult or a teacher. The social and cultural context is important in the child's development process and more emphasis is placed on social and cultural contributions to the child's development (McLeod, 2020). The second is Gardner's theory of multiple intelligences, which has studies on intelligence. In this theory, Gardner stated that human intelligence is divided into eight different areas. He stated that this would lead to the formation of characteristics that differentiate individuals from each other and provide opportunities that would allow the individual to develop the aspects that they lack by using their strengths (Avcı & Yüksel, 2014; Subban, 2006). Brain research, which is related to differentiated instruction, has provided some information about the structure of the brain and how we process information. It is known that each individual's brain is unique and that the individual internalizes information by shaping it in a unique way (Tomlinson, 2014). For learning to take place, ideas that challenge learners' brains and enable them to make meaningful connections should be presented (Tomlinson et al., 2003; Subban, 2006). In addition, Subban (2006) associates differentiated instruction with learning styles, cooperative learning and problem-based learning. Differentiated instruction is not an approach that is shaped only according to multiple intelligences or only according to learning preferences. It is to design instruction by systematically considering the characteristics that differentiate children from each other in the learning environment such as readiness, interest and learning style (Özer & Yılmaz, 2016). In order to be effective in differentiated instruction, differentiations in content, process and product should be made according to children's interest, readiness and learning profile characteristics. With a more effective program created through differentiation in content, process and product, every child in the classroom can be reached (Tomlinson, 2001). We can see how the differentiated instruction approach differs through three questions. The first of these is "What do I differentiate?" (content, process, product and emotional impact/environment); the second is "How do I differentiate?" (interest, readiness,

learning profile); and the third is “Why do I differentiate?” (to increase interest in activities, to achieve more success in activities, to help the child recognize and develop himself/herself) (Öner, 2022; Öztürk et al., 2017; Tomlinson, 2014).

Content includes the concepts to be introduced to children and the materials and mechanisms used for the acquisition of concepts. The aim in content is to decide on the most appropriate content in accordance with children's differences (Tomlinson, 2001). Process is designing activities according to the appropriate content for children, offering choices, and diversifying the learning process. Since children's learning styles are different from each other, the differentiation of the process may vary from child to child (Tomlinson & Allan, 2000). Products are the tools that children create and exhibit during activities and all the materials they use in activities. When differentiating, products should focus on basic knowledge, understanding, skills and specified content objectives (Tomlinson & Imbeau, 2010). Products that encourage children to think and produce creatively can be described as high-quality. Quality products should also be products that benefit the child's learning process and enable children to transform their thoughts and skills into practice. The product should be interesting and challenging for the child. The product is not a short-term response to a few skills. On the contrary, the product emerges in the face of long efforts. With the product, children can get results individually or as a group (Tomlinson, 2014). When differentiating the product, it may vary according to the child. For some children, exhibition work can be done to design visual animations. In other words, differentiation of the product depends on the child (Tomlinson & Mctighe, 2006). Emotional impact/environment is simply the classroom climate (Öner, 2022), which is related to children's emotions and motivation. Learning environments can provide an effective differentiation on children and increase their motivation and make learning permanent and effective. It is important to organize learning environments because they stimulate children's emotions (Tomlinson, 2005). The differentiations that start depending on the characteristics of the child continue and are structured under the control of the teacher. For qualified differentiated instructional practices, teachers need to create opportunities for both children and them. Teachers should consider children's differences when implementing differentiated practices, consider assessment and activities as a whole, make changes in the elements of differentiated instruction, and provide a flexible and collaborative environment (Eidson & Tomlinson, 2003; Hall, 2002; Tomlinson, 2005). Considering that the children in the class come to the classroom with different characteristics, the teacher tries to maximize the development of the children through differentiated teaching activities.

When the literature is examined, there are studies on differentiated instruction at primary and secondary education levels (Dal, 2022; Kula & Karakuş, 2023; Özüdoğru, Sakalioğlu, Girgin, & Altiner, 2021; Scarparolo & Subban, 2021; Smale-Jacobse, Meijer, Helms-Lorenz, & Maulana, 2019). When the studies were examined, the lack of a study that examines and summarizes the articles related to the differentiated instruction approach in the national and international literature in the field of preschool education was an important factor in the emergence of this study. It was thought that it would be useful to conduct a content analysis to determine which studies are needed and research trends related to the differentiated instruction approach in preschool education. In terms of guiding future studies, it is important to determine the attitudes and interests of the teachers who make differentiation, the training they receive to make differentiation and their views on differentiated instruction as a result of the training, differentiated instruction practices in their classrooms, the size of the study groups and the characteristics of the children they practice, the methods they use, data collection tools, etc. in the studies on differentiated instruction approach in preschool education.

Method

In the study, articles on differentiated instruction in preschool education in the national and international literature between 2005 and 2022 were examined with the descriptive survey model. The survey model provides a quantitative or numerical description of trends, attitudes or opinions about a sample selected from a population (Creswell, 2016). The survey model is a type of research model in which the studies on the selected topic are examined in detail (Çalık & Sözbilir, 2014). Answers to questions such as how, how often and where the content is used are sought (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz, & Demirel, 2014). The studies included in the research were examined by document review. The articles were content analyzed by "Article Classification Form" (Sözbilir & Kutu, 2008).

Purpose and Questions of the Research

The aim of this study is to examine the articles published in the field of differentiated instruction in pre-school education as a result of a search in line with certain criteria. Thus, it is aimed to shed light on academic studies that can be developed on differentiated instruction in preschool education. In line with this main purpose, the following questions were sought to be answered.

1. What is the distribution of the articles according to the years in which they were published?
2. What is the distribution of the articles according to the indexes of the journals in which they are published?
3. What is the distribution of the articles in terms of the subjects they study?
4. What is the distribution of the methods used in the articles?
5. What is the distribution of data analysis methods used in the articles?
6. What is the distribution of data collection sources used in the articles?
7. What is the distribution of data collection tools used in the articles?
8. What is the sample distribution of the articles?
9. What are the results of the articles?

Data Collection

Two criteria, screening and inclusion criteria, were used for the data collection process. In the screening criterion, articles scanned in electronic databases including SCI/SSCI, WOS, ERIC-BEI-EI-AEI, ULAKBIM, SBVT, EKUAL, SCOPUS, Google Scholar, DergiPark and other journals (field-specific preschool and early childhood education journals) between 2005-2022 were selected. For the inclusion criterion, the keywords differentiated/differentiation/ differentiating instruction in preschool and differentiating instruction in early childhood education were used in the filtering process.

The articles included in the study were considered to include differentiated instruction approach, to include teachers, children, prospective teachers, and institution administrators in the field of preschool education, to be published in English or Turkish between 2005 and 2022, and to be full-text accessible articles. Accordingly, 109 articles were identified. In the next steps, in addition to the title and abstract review, full text review was conducted by two independent reviewers and 41 articles were included in the study with the criterion sampling method, one of the purposive sampling methods, in accordance with the criteria. The criterion sampling method provides the opportunity to conduct in-depth research in the context of the purpose of the study and enables the selection of information-rich situations (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz, & Demirel, 2014).

Data Analysis

Content analysis was used to analyze the data. Content analysis is an in-depth examination of studies on a specific subject or field. It is expected to determine the general trends of the studies, to discover neglected themes and concepts, and to benefit future studies (Ültay, Akyurt, & Ültay, 2021). The articles identified by the researchers were analyzed using Miles and Huberman's (1994) reliability formula [$\text{Reliability} = \text{Agreement} / (\text{Agreement} + \text{Disagreement})$] and the agreement between the researchers was determined as 95.1%. Agreement above 70% indicates reliability (Miles & Huberman, 1994). The studies included in accordance with the purpose of the study were categorized using the "article classification form" developed by Sözbilir and Kutu (2008) and frequency analysis was used for descriptive statistics. The categorization of the data in this study was influenced by the categories determined as the year of publication, subject distribution, methods used, data collection methods and data analysis methods of the studies included in the study.

Ethical Permissions of Research

In this study, all the rules specified to be followed within the scope of "Higher Education Institutions Scientific Research and Publication Ethics Directive" were complied with. None of the actions specified under the heading "Actions Contrary to Scientific Research and Publication Ethics", which is the second part of the directive, have been taken. Since this research is based on document analysis method, no ethics committee decision is required.

Findings

Studies conducted between 2005 and 2022 in the field of differentiated instruction in preschool education were analyzed descriptively based on the research questions.

Table 1. *Distribution of research by years*

Years	f	%	Article codes
2005	1	2.4	a33
2009	1	2.4	a9
2010	1	2.4	a30
2012	2	4.9	a16, a37
2013	1	2.4	a3
2014	4	9.8	a17, a18, a27, a32
2015	5	12.2	a2, a13, a25, a36, a41
2016	2	4.9	a4, a11
2017	5	12.2	a8, a10, a19, a28, a31
2018	1	2.4	a35
2019	5	12.2	a5, a15, a21, a26, a39
2020	4	9.8	a12, a20, a22, a38
2021	8	19.6	a1, a6, a7, a23, a24, a29, a34, a40
2022	1	2.4	a14
Total	41	100	

Table 1, it is seen that the first article in the field of preschool education was published in 2005. When the distribution of the studies according to years is examined, it is seen that there is continuity since 2009, there are studies on differentiated instruction in the field of preschool education every year, and the highest number of studies was published in 2021 (19.5%).

Table 2. *Journal index where the articles were published*

Published in journal	f	%	Article codes
SCI/SSCI	27	65.8	a2, a3, a7, a8, a10, a11, a12, a14, a15, a16, a17, a18, a19, a23, a24, a26, a27, a29, a30, a31, a32, a33, a35, a36, a37, a38, a40
ERIC-BEI-EI-AEI	10	24.4	a1, a5, a9, a13, a20, a21, a25, a28, a34, a41
ULAKBİM SBVT	2	4.9	a4, a6
Other	2	4.9	a22, a39
Total	41	100	

Table 2, it is seen that SCI/SSCI index (65.9%) is the index with the highest number of publications, followed by ERIC-BEI-EI-AEI (24.4%). ULAKBİM SBVT (4.9%) and other (4.9%) indexes were the least published. It is seen that differentiated instructional approach studies in preschool education are mostly published in SCI/SSCI index journals.

Table 3. *Research designs of the studies*

Research methods	f	%	Article codes
Qualitative	18	43.9	a3, a7, a12, a14, a15, a19, a20, a23, a28, a29, a32, a33, a34, a37, a38, a39, a40, a41,
Quantitative	13	31.7	a4, a5, a6, a8, a9, a13, a16, a18, a21, a22, a25, a26, a36
Mixed	10	24.4	a1, a2, a10, a11, a17, a24, a27, a30, a31, a35
Total	41	100	

Table 3, it is seen that qualitative designs (43.9%) were used the most in the studies, followed by quantitative (31.7%) and mixed (24.4%) designs, respectively.

Table 4. *Research models of the studies*

Research methodology			f	%	Article codes
Quantitative	Experimental	True experimental	5	12.2	a9, a13, a16, a22, a38
		Quasi-experimental	4	9.8	a18, a21, a26, a36
Qualitative	Non-experimental	Screening	3	7.3	a4, a5, a25
		Correlational	2	4.9	a6, a8
	Interactive	Case study	5	12.2	a12, a14, a19, a29, a41
		Action research	2	4.9	a23, a39
		Case study	2	4.9	a3, a34,
	Non-interactive	Document analysis	2	4.9	a7, a15
		Concept Analyse	1	2.4	a40
Phenomenological Approach		1	2.4	a20	
Mixed	Unspecified	Review	1	2.4	a32
			3	7.3	a28, a33, a37
Mixed			10	24.4	a1, a2, a10, a11, a17, a24, a27, a30, a31, a35
Total			41	100	

Table 4, it is seen that there are five full experimental studies, four quasi-experimental studies, three survey studies and two studies using correlation method among the studies conducted in the experimental method using quantitative design. Among the studies using qualitative design, there are five cases, two action research studies and two case studies among non-interactive methods. Among the

qualitative design studies using the interactive method, there are two document analysis, one concept analysis and one review. It is seen that there are three studies that are specified as qualitative design in the studies, but the method is not clear.

Table 5. *Subject of the studies*

Subject of the articles	f	%	Article codes
Teacher trainings and practices	14	34.1	a2, a3, a9, a10, a12, a16, a17, a21, a24, a26, a27, a31, a32, a39
Teacher trainings	7	17.1	a11, a23, a28, a30, a33, a36, a41
Attitude interest determination	7	17.1	a1, a5, a14, a19, a20, a25, a29
Differentiated instruction practices	6	14.6	a7, a13, a22, a34, a37, a38
Curriculum studies	3	7.3	a15, a35, a40
Trainee teacher training	2	4.9	a4, a18
Scale development and adaptation	2	4.9	a6, a8
Total	41	100	

Table 5, it is seen that the most studied topic is teacher trainings and practices (34.1%), followed by teacher trainings (19.5%). These topics are followed by attitude and interest determination (14.6%), differentiated instruction practices (14.6%), and curriculum studies (7.3%). The least studied topics were scale development and adaptation (4.9%) and prospective teacher training (4.9%).

Table 6. *Data collection tools used in the studies*

	Data collection tool	f	%	Article codes
Single data collection tool	Document	7	17.1	a7, a15, a23, a28, a32, a34, a40
	Survey	5	12.2	a4, a5, a18, a25, a36
	Interview	4	9.8	a14, a19, a29, a39
	Scale	4	9.8	a6, a8, a9, a38
	Observation	2	4.9	a33, a37
Two or more data collection tools	Observation and scale	3	7.3	a2, a13, a31
	Survey and interview	2	4.9	a1, a26
	Survey and observation	2	4.9	a30, a35
	Interview and observation	2	4.9	a12, a20
	Observation and Document	2	4.9	a3, a22
	Interview, observation and scale	2	4.9	a24, a27
	Survey and scale	1	2.4	a16
	Survey and Document	1	2.4	a11
	Survey, Interview and observation	1	2.4	a17
	Survey, observation and Document	1	2.4	a10
	Survey, alternative assessment tools and Document	1	2.4	a21
Interview, observation and Document	1	2.4	a41	
Total		41	100	

Table 6, it is seen that there are 22 studies (53.8%) using a single data collection tool and 19 studies (46.2%) using two or more data collection tools. It was determined that one and more than one data collection tools were used in the studies. Considering the high number of studies examining the effects of differentiated instruction approach on teachers' training and training on children's developmental areas as the subject of the studies, as well as the differentiation in the content, process and product dimensions of differentiated instruction, it is seen that many data collection sources are used.

Table 7. *Data analysis methods used in the studies*

Data analysis methods	f	%	Article codes
Qualitative data analysis	18	43.9	a3, a7, a12, a15, a16, a19, a20, a22, a23 a28, a29, a32, a33, a34, a37, a39, a40, a41
Quantitative data analysis	13	31.7	a4, a5, a6, a8, a9, a11, a13, a14, a18, a21, a25, a36, a38
Quantitative and Qualitative data analysis	10	24.4	a1, a2, a10, a17, a24, a26, a27, a30, a31, a35
Total	41	100	

Table 7, it is seen that the most commonly used data analysis method is qualitative data analysis (43.9%), followed by quantitative data analysis (31.7%). The least used data analysis method is quantitative and qualitative data analysis (24.4%). Since various data collection tools are used in the studies, data analysis methods also vary.

Table 8. *Samples of the studies*

Sample	f	%	Article codes
Teacher	15	36.7	a1, a4, a5, a6, a8, a11, a12, a14, a19, a20, a25, a28, a35, a36, a37
Children and teacher	13	31.7	a2, a9, a16, a17, a21, a23, a24, a26, a27, a30, a31, a34, a41
Children	6	14.6	a3, a7, a13, a22, a33, a38
Non-working groups (Document)	3	7.3	a15, a32, a40
Trainee teacher	2	4.9	a18, a29
Children, teachers and school administrators	1	2.4	a39
Teachers and school administrators	1	2.4	a10
Total	41	100	

Table 8, it is found that the most studied groups were "teachers" (36.6%), followed by "children and teachers" (31.7%). These sample groups were followed by "children" (14.6%) and "prospective teachers" (4.9%), and the least studied groups were "teachers and school administrators" (2.4%) and "children, teachers and school administrators" (2.4%). In addition, since there were no participants in the document analysis and compilation studies, there were "no study groups" (7.3%).

Table 9. *Sample size of studies*

Sample size	f	%	Article codes
1-10	10	24.4	a7, a12, a13, a19, a20, a28, a29, a33, a37, a39
11-30	3	7.3	a3, a22, a24
31-100	13	31.7	a4, a10, a11, a14, a17, a18, a21, a30, a34, a35 a36, a38, a41
101-300	6	14.6	a1, a5, a9, a16, a26, a31
301-1000	4	9.8	a2, a6, a23, a25
1001 and more	2	4.9	a8, a27
No sample size (Document)	3	7.3	a15, a32, a40
Total	41	100	

It is seen that 31.7% of the studies have a sample size between "31-100" people, 24.4% between "1-10" people, 14.6% between "101-300" people, 9.8% between "301-1000" people, 7.3% between "11-30" people, and 4.9% between "1001 and more". In addition, it was determined that 7.3% of the studies were "document review studies without sample size" (Table 9). Studies with a small sample size are

those in which only the teacher or the teacher and the children in his/her class are included in the study. On the other hand, studies with a large sample size are scale development studies and studies in which the teacher group and the children in the classroom participated in the study.

Table 10. *Results of the studies*

Teacher trainings	In the trainings given to teachers with differentiated instruction approach, the importance of teachers' motivation, desire and ownership of educational changes is emphasized. In the researches, it was concluded that the trainings provided for teachers to make differentiations in teaching contribute to the professional development of teachers and that the differentiations made have positive effects on the developmental areas of not only children with disabilities but also all children.
Article codes:	a11, a23, a28, a30, a33, a36, a41
Attitude interest identification	Teachers' attitudes and interests differ in the studies analysed. While teachers define differentiated instruction approach as practices that can meet the needs of all children, some studies consider differentiated instruction approach as applying various practices to a group of students or children with special education needs, giving a simple homework, doing fewer activities or applying easier activities. It is seen that teachers' years of experience, classroom conditions and the subjects studied affect differentiated instruction practices. Teachers' attitudes, class size and time are stated as barriers to differentiated instruction.
Article codes:	a1, a5, a14, a19, a20, a25, a29
Scale development and adaptation	In order to measure teachers' perceptions of differentiated instruction approaches and classroom practices, it is seen that the validity and reliability of the Teacher Opinions on Differentiated Instruction Scale (DI-Quest) and the adaptation, validity and reliability study of the same scale into Turkish have been conducted. The scale developed and adapted covers not only preschool teachers but also teachers working at many levels of education. The scale adapted to Turkish consists of 25 items and 5 dimensions. The findings show that the Scale of Teachers' Views on Differentiated Instruction is a valid and reliable measurement tool.
Article codes:	a6, a8
Teacher trainings and practices	With the trainings given to teachers and the right support, it is seen that teachers are successful in the activities they implement using a differentiated instruction approach. It was stated that differentiations for the education of children with disabilities were implemented effectively and positive gains were obtained as a result of the practices. Teachers stated that differentiated instruction practices would benefit not only children with disabilities but also all children, that differentiations should be made according to children's interests, and that it is important to provide training and support to teachers on differentiation. It was stated that the differentiated instruction approach integrated into the implemented projects and programs supported the academic skills of children participating in the Head Start Program. It was found that children in the high-risk group changed faster than other children in the class and achieved gains in literacy and mathematics skills at an equal or slightly lower rate than their peers. In the study of teacher trainings and practices to support the development of children's mathematics skills, it is noted that mathematics skills increase and learning opportunities in proximal developmental areas are highlighted. It was concluded that children's academic performance was positively affected as a result of differentiation by combining different learning styles and more than one content with iPads and technology.
Article codes:	a2, a3, a9, a10, a12, a16, a17, a21, a24, a26, a27 a31, a32, a39
Program studies	In Program studies in which differentiated instruction was integrated, it was concluded that there is a need for activities that include differentiated instruction and that differentiated instruction approach should be provided through pre-service or in-service trainings. In addition, in a study examining the Head Start Program, it was determined that there was insufficient information on how to differentiate writing instruction.
Article codes:	a15, a35, a40
Candidate teacher training	In the studies, prospective teachers stated that they felt inadequate about differentiated instruction and that they needed training, courses, etc. on differentiated instruction. In the results of the studies, significant differences emerged between the prospective teachers who received training or read books on differentiated instruction and those who did not receive any training.
Article codes:	a4, a18
Differentiated teaching practices	It is seen that preschool teachers implement differentiated instruction practices as small group, large group or individual activities. It was found that the teachers worked on topics such as book reading techniques, mathematics skills, supporting academic skills, concept of space, vocabulary acquisition in the differentiated instruction activities they implemented and that they made positive progress in children on these topics.
Article codes:	a7, a13, a22, a34, a37, a38

Discussion and Conclusion

In this study, it was aimed to evaluate the articles published in the field of "differentiated instruction in preschool education" between 2005 and 2022 in terms of the year of publication, the indexes of the journals in which they were published, subject areas, methods and techniques used, data collection sources, data analysis methods, sample distributions, results and to determine the research trends in this field. In line with this purpose, the following results were obtained.

In the distribution of articles published between 2005 and 2022 according to years, it was observed that there was one article in 2005, there were no studies until 2009, the number of studies increased in the following years, and the highest number of studies was in 2021. Since 2014, a similar number of studies have been published in all years except 2018. The education system is constantly changing with information and technology in the light of new trends. In these changes, it is important to organize the education of individuals in the education system according to the requirements of the age and to include every individual in education (Çam & Acat, 2023). In this direction, the fact that the differentiated instruction approach is an approach that responds to the needs of children (Gregory & Chapman, 2002), considers the personal differences of children (Öztürk et al., 2017) and aims to reach each child may have ensured the continuity and increasing number of research on differentiated instruction. In 2022, there is only one study in the field of preschool education that includes a differentiated teaching approach. The Covid-19 pandemic, which is effective in our country and all over the world, may have affected this situation (World Health Organization (WHO), 2020). The fact that the differentiated instruction approach is based on practices (Ankrum, Genest, and Belcastro, 2014; Infurna, 2020; Mavidou and Kakana, 2019) may have caused difficulties in reaching children and teachers in preschool education during the pandemic period. Kula and Karukuş (2023) also found that thesis studies increased mostly in 2018, 2019 and 2020, and reported that the differentiated instruction approach has attracted the attention of more researchers in recent years. In the distribution of the articles included in the study according to the indexes of the journals in which they were published, 65.9% of the articles were published in SCI/SSCI index journals and 24.4% in ERIC-BEI-EI-AEI index journals. It can be said that the articles in the field of differentiated instruction in preschool education are accepted in journals with high indexes. The fact that differentiated instruction is an up-to-date and new research field may explain the number of publications in high indexes.

According to the content analysis of the methods used in the studies, it is seen that the majority of the studies (43.9%) were conducted with qualitative research methods, the rate of quantitative studies was 31.7%, and the rate of mixed method studies was 24.4%. When quantitative research methods are examined, it is seen that there are studies in experimental and non-experimental models. While the full experimental model was used more in experimental studies, the survey model was used more in non-experimental studies, and the correlational model was used in other non-experimental studies. In qualitative studies, it was determined that case study, action research and case study models were used in interactive studies, while phenomenological approach, document analysis and review models were used in non-interactive studies. It can be said that mixed design studies are less than other studies. The low number of quantitative measurement tools related to the differentiated instruction approach may be the reason why qualitative studies are preferred more than quantitative and mixed design studies.

When the types of data collection tools in the studies included in the research are analyzed, it is seen that there are fewer studies using a single data collection tool. Two or more data collection tools (51.2%) were mostly used in the studies. Document (17.1%), survey (12.2%), scale (9.8%), interview (9.8%) and observation were mostly used in studies using single data collection tools. It can be said that multiple data collection tools were used in qualitative studies and mixed design studies due to the diversity, creativity and flexibility of data collection tools and the fact that each research has different characteristics (Yıldırım & Şimşek, 2016). Among the multiple data collection tools, Observation (30.4%) was the most preferred, followed by Survey (19.6%), Scale (17.4%) and Interview (17.4%). The scales and surveys used in the studies were used to evaluate the impact of the practices of the teachers on the children at the end of the differentiated instructional approach training. Since there is almost no measurement tool that can be used in the field of preschool education in differentiated instructional design that can directly measure teachers' practices and competence (Coubergs, Struyven, Vanthournout, and Engels, 2017), data collection tools such as surveys, interviews, and observations developed by researchers were used in the studies.

In the studies included in the research, it is seen that teacher trainings and their effects on various areas and skills of children such as academic achievement (Kotob and Arnouss, 2019), mathematics skills (Lundqvist, Franzén, and Munter, 2021), etc. have been studied more. Determining attitudes and interest towards differentiated instruction, teacher trainings, scale development or adaptation, program studies and differentiated instruction practices are the topics of the articles examined. In the studies, giving trainings to teachers who are practitioners in differentiated instruction approach and then examining the effects of the training on children and differentiated instruction practices are more common than other studies. The reason for this may be that teachers can provide changes in content, process, product and environment, which are the elements of differentiated instruction, based on the characteristics of children in differentiated instruction approach. Teachers should be able to create opportunities for both children and them while implementing differentiated instruction (Tomlinson & Eidson, 2003; Hall, 2002). In the studies examined, it can be thought that the trainings given to teachers change their perspectives on differentiated instruction approach, improve their educational equipment necessary for differentiated instruction approach practices, and as a result, differentiated instruction practices applied to children are beneficial for both teachers and children (Powell & Napoliello, 2005; Sornson, 2015; Wu & Chang, 2015). In this direction, Doğrukök (2022) concluded that supporting teachers in differentiated instruction through training provided to teachers increased the interest of gifted children in their classes in learning and improved their thinking skills. Yenmez and Özpınar (2017) provided training to teachers on differentiated instruction and concluded that teachers' practices can be improved with the opinions of other teachers and students. The results of these studies are consistent with the study topics addressed in the research findings. When the data analysis methods of the articles are examined, it is seen that qualitative data analysis methods are used 43.9%, quantitative data analysis methods 31.7%, both quantitative and qualitative data analysis 24.4%. Descriptive analysis, frequency and percentage, predictive analysis, manova, cluster analysis, t test, factor analysis, correlational and non-parametric tests were used in quantitative data analysis, and it was determined that content analysis was mostly used in qualitative data analysis. The researchers who used both qualitative and quantitative data analysis used both quantitative and qualitative tools as data collection tools in their studies. It is thought that the reason for using both quantitative and qualitative data analysis methods is that the differentiated instruction approach has many variables (elements,

characteristics of children, principles of differentiation, etc.) and the number of scales related to the differentiated instruction approach in preschool education is very low.

In the sample selection of the analyzed articles, it is seen that teachers are mostly included with a rate of 36.6%, followed by both children and teachers with a rate of 31.7%. In the sample group, 14.6% of the studies included only children. The studies involving administrators were the least with 4.9% and the studies involving candidate teachers were the least with 4.9%. The differentiated instruction approach puts children at the center and contributes to their development by including every child in the activities (Lawrence-Brown, 2004). For this reason, the samples of the studies we analyzed included mostly children and teachers. It is seen that the effects of differentiated instructional approach practices on children were measured in studies where only children were included in the sample. It was concluded that studies were mostly conducted in small sample groups, and the number of studies with a sample size between 31-100 was higher (31.7%). Studies with small sample sizes included only teachers or teachers and children in teachers' classrooms. Studies with large sample sizes are scale development or adaptation and program studies.

According to the results of the research, it can be said that studies on differentiated instruction in preschool education are less than other levels of education and should be increased. It is important that teachers have sufficient professional knowledge and skills to design and implement differentiated instruction. Research has shown that teachers need training on differentiated instruction and do not have the skills and equipment necessary for differentiated instruction (Dijkstra, Walraven, Mooij, & Kirschner, 2017; Infurna, 2020; Kotob & Arnouss, 2019). In theory, it requires effort to implement differentiated teaching practices with different learning methods and techniques and activities for children's differences (Tomlinson & Imbeau 2010). In order for differentiated instruction practices to benefit children, teachers need to know this approach well (Santangelo & Tomlinson 2012). In Tomlinson's (2014) differentiated instruction model, the concept of teachers' mindset emerges. Teachers' mindsets can affect their success in implementing differentiated instruction (Coubergs, Struyven, Vanthournout, & Engels, 2017). Professional development programs can help teachers develop their competencies to implement differentiated instruction in their classrooms by providing them with the complex structure, philosophy, and practices of differentiated instruction (Navrátilová, 2017; Sornson, 2015; Wu & Chang, 2015). It is thought that a systematic program in preschool education should include differentiated instruction flexibly. Factors such as school climate, resources, administrators, etc. and teachers' attitudes may pose barriers to the design and implementation of differentiated instruction (Dijkstra, Walraven, Mooij, & Kirschner, 2017). School administrators are responsible for the education and training of all children, and it is thought that providing trainings on differentiated instruction to school administrators will benefit both teachers and children.

Recommendations

Since the differentiated instruction approach is new and the first article in the field of preschool education was published in 2002, the number of studies is limited (Wertheim & Leyser, 2002). It is seen that teachers' and pre-service teachers' attitudes and interest in differentiated instruction are at low levels due to lack of knowledge about differentiated instruction. Differentiated instruction approach is mostly accepted as practices that teachers should perform, and in-service trainings on differentiated instruction approach can help to improve teachers' practices and competencies. As in the program studies, it is thought that the differentiated instruction approach can be used not only for children with

disabilities but also for all children in many skills and development areas such as mathematics, language development and academic achievement areas of children and can have positive effects on the development areas of all children. With the differentiated instruction approach in preschool education, studies can be conducted in different subjects to support the developmental areas and skills of all children. The development of valid and reliable measurement tools that can be used in preschool education can make a great contribution to the field, especially since there are almost no data collection tools related to differentiated instruction in the field of preschool education. School administrators provide the greatest support to teachers in their practices at school and school administrators can be included in research on differentiated instruction approach. Since differentiated instruction studies are applied studies, practical studies can be included in the field of preschool education. In future studies, conceptual research on differentiated instruction approach in preschool education can also be conducted.

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BIOGRAPHICAL NOTES

Contribution Rate of Researchers

Author 1: 50%

Author 2: 50%

Conflict Statement

There are no financial or personal organic ties with the individuals or organizations involved in the research and there is no conflict of interest related to the research.

Genişletilmiş Türkçe Özet



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2005-2022 Yılları Arasında Okul Öncesi Eğitimde Farklılaştırılmış Öğretim Yaklaşımı ile İlgili Yapılan Araştırmaların İncelenmesi

Giriş

Günümüz okul öncesi eğitim sınıflarında çocukların farklılıkları ile başa çıkma konusundaki sorun her geçen gün artmaktadır. Gün geçtikçe çocukların öğrenme stili, motivasyon, yetenek, ihtiyaç, ilgi gibi özelliklerinin farklılaştığının bilincine varılmakta ve bu farklılaşma hem çocuğun hem de sınıf ve okul performansını etkilemektedir. Öğretmenler ise bu farklılıklara, bireysel öğrenmelerdeki seviye çeşitliliğine uyum sağlamada önemli sorumluluğu olan ilk kişilerdir (George, 2005; Subban, 2006; Moore, 2005; Tomlinson vd., 2003). Standart öğretim yaklaşımı günümüzde bütün çocukların ihtiyaçlarını karşılamayarak farklı özelliklerini göz ardı etmektedir (Fox & Hoffman, 2011; Subban, 2006). Buna karşılık farklılaştırılmış öğretim yaklaşımında öğretmenler, çocuklar arasındaki farklılıkları göz önünde bulundurup çocukların güçlü yanlarını kabul etmektedirler (George, 2005; Subban, 2006; Tomlinson vd., 2003).

Alanyazın incelendiğinde farklılaştırılmış öğretim ile ilgili ilköğretim ve ortaöğretim kademelerinde çalışmalar yer almaktadır (Dal, 2022; Kula & Karakuş, 2023; Özüdoğru, Sakallıoğlu, Girgin, & Altın, 2021; Scarparolo & Subban, 2021; Smale-Jacobse, Meijer, Helms-Lorenz, & Maulana, 2019). Çalışmalar incelendiğinde okul öncesi eğitim alanında ulusal ve uluslararası alan yazında farklılaştırılmış öğretim yaklaşımı ile ilgili makaleleri inceleyip özetleyen bir araştırmanın olmayışı bu çalışmanın ortaya çıkmasında önemli bir etken olmuştur. Okul öncesi eğitimde farklılaştırılmış öğretim yaklaşımı ile ilgili olarak hangi çalışmalara gereksinim duyulduğunun ve araştırma eğilimlerinin belirlenmesi için bir içerik analizinin yapılmasının yararlı olacağı düşünülmüştür. Daha sonra yapılacak çalışmalara yol göstermesi açısından okul öncesi eğitimde farklılaştırılmış öğretim yaklaşımı ile ilgili

olarak yapılan çalışmalarda farklılaştırmayı yapan öğretmenlerin tutum ve ilgileri, farklılaştırma yapmak için aldıkları eğitim ve eğitim sonucundaki farklılaştırılmış öğretime bakışları, sınıflarındaki farklılaştırılmış öğretim uygulamaları, çalışma gruplarının büyüklüğü ve uygulama yaptıkları çocukların özellikleri, kullandıkları yöntem, veri toplama araçları vb. özelliklerin kullanıldığının belirlenmesi bu çalışmayı önemli kılan hususlardandır.

Yöntem

Bu araştırmanın amacı belirli kriterler doğrultusunda yapılan tarama sonucunda okul öncesi eğitimde farklılaştırılmış öğretim alanında yayınlanmış makaleleri incelemektir. Böylece okul öncesi eğitimde farklılaştırılmış öğretim konusunda geliştirilebilecek akademik çalışmalara ışık tutması amaçlanmaktadır. Araştırma 2005-2022 yılları arasında ulusal ve uluslararası literatürde, okul öncesi eğitimde farklılaştırılmış öğretim konusunda hazırlanmış makalelerin incelenmesine dayalı olduğu için betimsel tarama modeli çalışmanın yöntemi olarak tercih edilmiştir. Araştırmaya dâhil olan çalışmalar doküman incelemesi yapılarak incelenmiştir. Makaleler “Makale Sınıflama Formu” (Sözbilir ve Kutu, 2008) kullanılarak içerik analizi yapılmıştır. Araştırmada veri toplama süreci için tarama ve içerme kriterleri olmak üzere iki ölçüt kullanılmıştır. Tarama ölçütünde 2005-2022 yılları içinde SCI/SSCI, WOS, ERIC-BEI-EI-AEI, ULAKBİM, SBVT, EKUAL, SCOPUS, Google Scholar, DergiPark ve diğer dergilerin (alana özgü okul öncesi ve erken çocukluk eğitimi dergileri) bulunduğu elektronik veri tabanlarında taranan makaleler seçilmiştir. İçerme ölçütü için ise kullanılan filtrelemede, okul öncesinde farklılaştırılmış öğretim (differentiated/differentiation/ differentiating instruction in preschool), erken çocukluk eğitiminde farklılaştırılmış öğretim (differentiated/differentiation/ differentiating instruction in early childhood education) anahtar kelimeleri kullanılmıştır.

Araştırmaya dâhil edilen makaleler; farklılaştırılmış öğretim yaklaşımını içermesi, çalışmaların okul öncesi eğitim alanında öğretmen, çocuk, aday öğretmenler, kurum yöneticilerini içermesi, 2005-2022 yılları arasında İngilizce veya Türkçe dilinde yayınlanmış olması ve tam metin ulaşılabilir makaleler olması kriterleri dikkate alınmıştır. Bu doğrultuda 109 makale belirlenmiştir. Sonraki adımlarda başlık ve özet taramasına ek olarak tam metin incelemesi iki bağımsız değerlendirici tarafından yapılmış olup kriterlere uygun olarak amaçsal örnekleme yöntemlerinden ölçüt örnekleme yöntemi ile 41 makale araştırmaya dâhil edilmiştir. Verilerin çözümlenmesinde içerik analizi kullanılmıştır. İçerik analizi, belirli bir konuda ya da alanda yapılmış olan çalışmaların derinlemesine incelenmesidir. Çalışmanın amacına uygun olarak dâhil edilen araştırmalar Sözbilir ve Kutu (2008) tarafından geliştirilen “makale sınıflama formu” kullanılarak kategorik olarak incelenmiş ve betimsel istatistikleri için frekans analizi kullanılmıştır. Bu araştırmada verilerin kategorik hale getirilmesi, çalışmaya dâhil edilen araştırmaların yayınlanma yılı, konu dağılımı, kullanılan yöntemler, veri toplama yöntemleri ve veri analiz yöntemleri olarak belirlenen kategoriler etkili olmuştur.

Bulgular

Okul öncesi eğitimde farklılaştırılmış öğretim alanında 2005-2022 yılları arasında yapılan çalışmalar, araştırma soruları temel alınarak betimsel analizleri yapılmıştır.

Okul öncesi eğitim alanında ilk makalenin 2005 yılında yapıldığı görülmektedir. Çalışmaların yıllara göre dağılımına bakıldığında 2009 yılından itibaren süreklilik gösterdiği, her yıl okul öncesi eğitim alanında farklılaştırılmış öğretim konulu çalışmaların yer aldığı ve en fazla sayıda araştırmanın 2021 (%19.5) yılında yayınlandığı görülmektedir. Okul öncesi eğitimde farklılaştırılmış öğretim

yaklaşım çalışmalarının daha çok SCI/SSCI indeks dergilerde yayınlandığı görülmektedir. Araştırmalarda en fazla nitel desenlerin (%43.9) kullanıldığı, bunu sırası ile nicel (31.7) ve karma (%24.4) desenlerin izlediği görülmektedir. Araştırmaların yöntemleri incelendiğinde nicel desenin kullanıldığı deneysel yöntemde yapılan araştırmalar arasında tam deneysel beş, yarı deneysel dört, deneysel olmayan yöntemde yapılan araştırmalar arasında ise üç tarama ve iki korelasyon yöntemi kullanan çalışma olduğu görülmektedir. Nitel desen kullanılan araştırmalar arasında etkileşimsiz yöntemler arasında beş durum, iki eylem araştırması ve iki vaka çalışması bulunmaktadır. Etkileşimli yöntemin kullanıldığı nitel desende çalışmalar arasında ise iki doküman analizi, bir kavram analizi ve bir derleme yer almaktadır. Araştırmalarda nitel desen olarak belirtilen fakat yöntemi belli olmayan üç araştırma yer aldığı görülmektedir.

Araştırmalarda en fazla çalışılan konunun öğretmen eğitimleri ve uygulamaları (%34.1), ikinci sırada ise öğretmen eğitimleri (%19.5) yer aldığı görülmektedir. Bu konuları sırası ile tutum ilgi belirleme (14.6), farklılaştırılmış öğretim uygulamaları (%14.6), program çalışmaları (%7.3) konuları takip etmektedir. En az çalışılan konular ise ölçek geliştirme ve uyarlama (%4.9) ve aday öğretmen eğitimi (%4.9) konuları olduğu belirlenmiştir. Çalışmaların konusu olarak farklılaştırılmış öğretim yaklaşımının öğretmenlere eğitimi ve eğitimlerin çocukların gelişim alanlarına etkisini inceleyen çalışmaların fazla olması ayrıca farklılaştırılmış öğretimin içerik süreç ve ürün boyutunda farklılaştırılmaların olduğu göz önüne alındığında birçok veri toplama kaynaklarının kullanıldığı görülmektedir. Araştırmaların veri analizi yöntemleri incelendiğinden çeşitli veri toplama araçları kullanılmasından dolayı veri analiz yöntemleri çeşitlilik göstermektedir. Örneklem grubu olarak en fazla “öğretmenler” (36.6) ile çalışıldığı ikinci olarak ise “çocuk ve öğretmenler” (%31.7) ile çalışıldığı saptanmıştır. Araştırmaların örneklem büyüklüğü sayılarının %31.7’sinin “31-100” kişi arasında, %24.4’ünün “1-10” kişi arasında, %14.6’sının “101-300” kişi arasında, %9.8’inin “301-1000” kişi arasında, %7.3’ünün “11-30” kişi arasında, %4.9’unun “1001 ve daha fazla” sayıda olduğu görülmektedir. Örneklem büyüklüğü az olan çalışmalar sadece öğretmen ile ya da öğretmen ve sınıfındaki çocukların çalışmaya dâhil olduğu çalışmalardır. Örneklem büyüklüğü fazla olan çalışmalar ise ölçek geliştirme ve öğretmen grubu ve sınıfındaki yer alan çocukların araştırmaya katıldığı çalışmalar olarak yer almaktadır.

Çalışmaların sonuçları, öğretmen eğitimleri ölçek geliştirme ve uyarlama öğretmen eğitimleri ve uygulamaları, aday öğretmen eğitimi, program çalışmaları ve farklılaştırılmış öğretim uygulamaları temalarında toplanmıştır. Çalışılan bu konularda öğretmenlere ve çocuklara farklılaştırılmış öğretim yaklaşımında bir çok fayda sağlanmıştır. Okul öncesi eğitim alanında farklılaştırılmış öğretim yaklaşımına ışık tutmuştur.

Tartışma ve Sonuç

2005-2022 yılları arasında yayınlanan makalelerin yıllara göre dağılımına bakıldığında 2005 yılında bir makale yer alırken 2009 yılına kadar çalışmaların olmadığı, daha sonraki yıllarda çalışmaların sayıca artış gösterdiği, en fazla sayıda çalışmanın 2021 yılında yer aldığı görülmüştür. Bu doğrultuda farklılaştırılmış öğretim yaklaşımının, çocukların gereksinimlerine cevap veren (Gregory ve Chapman, 2002), çocukların kişisel farklılıkları göz önünde bulunduran (Öztürk vd., 2017) her bir çocuğa ulaşmayı amaçlayan bir yaklaşım olması farklılaştırılmış öğretim ile ilgili araştırmaların sürekliliğini ve sayısının her geçen gün artmasını sağlamış olabilir. Kula ve Karukuş (2023) yapmış olduğu lisansüstü tezlerin incelenmesi çalışmasında tez çalışmalarının daha çok 2018, 2019 ve 2020

yılında arttığını bularak benzer sonuçlara ulaşmış ve bunu son yıllarda farklılaştırılmış öğretimi yönelik daha fazla araştırmacının ilgisini çektiğini raporlamışlardır. Çalışmaya dâhil olan makaleler yayınlandığı dergilerin tarandıkları indekslere göre dağılımında, makalelerin %65.9'u SCI/SSCI indeks dergilerde %24.4'si ERIC-BEI-EI-AEI indeks dergilerde yayınlanmıştır. Okul öncesi eğitimde farklılaştırılmış öğretim alanındaki makalelerin tarandıkları indekslere göre yüksek olan dergilerde kabul gördükleri söylenebilir. Farklılaştırılmış öğretimin güncel ve yeni bir araştırma alanı olması yüksek indekslerdeki yayın sayısını açıklayabilir. İncelenen çalışmalarda kullanılan yöntemlerin içerik analizi yapıldığında çalışmaların büyük bir çoğunluğunun (%43.9) nitel araştırmaya yöntemleriyle yapıldığı, nicel çalışmaların oranının %31.7 olduğu, karma yöntem çalışmalarının oranının ise %24.4 olduğu görülmektedir. Karma desen çalışmaların diğer araştırmalara göre daha az olduğu söylenebilir. Farklılaştırılmış öğretim yaklaşımı ile ilgili nicel ölçme araçlarının sayısının az olması nitel çalışmaların, nicel ve karma desen çalışmalardan daha fazla tercih edilmesinin nedeni olabilir. Ayrıca Farklılaştırılmış öğretim tasarımında okul öncesi eğitim alanında kullanılacak doğrudan öğretmenlerin uygulamalarını, yeterliliğini ölçebilecek ölçme aracı yok denecek seviyede olduğundan (Coubergs, Struyven, Vanthournout ve Engels, 2017) çalışmalarda daha çok araştırmacılar tarafından geliştirilen anket, görüşme, gözlem gibi veri toplama araçları kullanılmıştır.

Makaleler konularına göre incelendiğinde daha çok öğretmen eğitimleri ve eğitimlerin çocukların akademik başarıları (Kotob ve Arnouss, 2019), matematik becerileri (Lundqvist, Franzén ve Munter, 2021) vb. çeşitli alan ve becerilerine olan etkisinin çalışıldığı görülmektedir. İncelenen araştırmalarda öğretmenlere verilen eğitimler sonucunda öğretmenlerin farklılaştırılmış öğretim yaklaşımına bakış açılarının değiştirildiği, farklılaştırılmış öğretim yaklaşımı uygulamaları için gerekli olan eğitimsel donanımlarının geliştirildiği bunun sonucunda çocuklara uygulanan farklılaştırılmış öğretim uygulamalarının hem öğretmene hem de çocuklara faydalı olduğu düşünülebilir (Powell ve Napoliello, 2005; Sornson, 2015; Wu ve Chang, 2015). Bu çalışmaların sonuçları araştırma bulgularında ele alınan çalışma konuları ile tutarlılık göstermektedir. Makalelerin verileri analiz etme yöntemleri incelendiğinde nitel veri analizi yöntemleri %43.9 nicel veri analiz yöntemleri %31.7, hem nicel hem de nitel veri analizi %24.4 oranında kullanıldığı görülmektedir. Hem nicel hem nitel veri analiz yöntemini kullanmalarının nedeni farklılaştırılmış öğretim yaklaşımının birçok değişkeninin (öğeleri, çocukların özellikleri, farklılaştırmanın ilkeleri vb.) olması ve okul öncesi eğitimde farklılaştırılmış öğretim yaklaşımı ile ilgili ölçek sayısının çok az olmasından kaynaklandığı düşünülmektedir. İncelenen makalelerin örneklem seçiminde %36.6 oranı ile en çok öğretmenlerin dâhil edildiği, daha sonrasında ise hem çocuk hem de öğretmenlerin %31.7 oranı ile dâhil edildikleri görülmektedir. Örneklem grubunda %14.6 oranı ile sadece çocukların olduğu çalışmalar yer almaktadır. Yöneticilerin dâhil edildiği çalışma %4.9 ve aday öğretmenlerin dâhil edildiği %4.9 oranı ile en az bulunan çalışmalardır. Farklılaştırılmış öğretim yaklaşımı çocukları merkeze almakta ve her çocuğu etkinliklere dâhil ederek çocukların gelişimlerine katkı sağlamaktadır (Lawrence-Brown, 2004).

Araştırma sonuçlarına göre okul öncesi eğitimde farklılaştırılmış öğretime yönelik çalışmaların diğer eğitimdeki kademelere göre az olduğu ve artırılması gerektiği söylenebilir. Öğretmenlerin farklılaştırılmış öğretim tasarlama ve uygulama konusunda yeterli mesleki bilgi ve yeteneğe sahip olmaları önemlidir. Araştırmalar öğretmenlerin farklılaştırılmış öğretim konusunda eğitimleri ihtiyaç duydukları ve farklılaştırılmış öğretim için gerekli olan beceri ve donanımlara sahip olmadıklarını göstermiştir (Dijkstra, Walraven, Mooij, & Kirschner, 2017; Infurna, 2020; Kotob, Arnouss, 2019). Okul öncesi eğitimde sistematik bir programın içine farklılaştırılmış öğretimi esnek olarak yer vermesi

gerektiđi düşünölmektedir. Sistematik programın okul iklimi, kaynaklar, yöneticiler vb. faktörler ve öğretmenin tutumları farklılaştırılmış öğretimin tasarlanmasında ve yürütölmesinde engeller teşkil edebilmektedirler (Dijkstra, Walraven, Mooij, & Kirschner, 2017). Okul yöneticileri tüm çocukların eğitim ve öğretiminden sorumlu kişiler olup okul yöneticilerine farklılaştırılmış öğretim ile ilgili eğitimler verilmesinin hem öğretmenlere hem de çocuklara fayda sağlayacağı düşünölmektedir.

Öneriler

Farklılaştırılmış öğretim yaklaşımının yeni olması, okul öncesi eğitim alanında ilk makalenin 2002 yılında yayınlanmış olması nedeni ile çalışmaların sayısının sınırlı olduđu görölmektedir (Wertheim & Leyser, 2002). Öğretmenlerin ve öğretmen adaylarının farklılaştırılmış öğretime olan tutum ve ilgilerinin farklılaştırılmış öğretim hakkında bilgi eksikliğinden dolayı düşük seviyelerde olduđu görölmektedir. Farklılaştırılmış öğretim yaklaşımı çoğunlukla öğretmenlerin gerçekleştirilmesi gereken uygulamalar olarak kabul edilmekte olup farklılaştırılmış öğretim yaklaşımı ile ilgili hizmet içi eğitimlerle öğretmenlerin uygulamaları ve yeterliliklerinin geliştirilmesine yardımcı olunabilir. Program çalışmalarında da olduđu gibi farklılaştırılmış öğretim yaklaşımının çocukların matematik, dil gelişimi ve akademik başarı alanları gibi birçok beceri ve gelişim alanında sadece engelli çocuklar için değil tüm çocuklar için kullanabileceđi ve tüm çocukların gelişim alanlarına olumlu etkileri olabileceđi düşünölmektedir. Okul öncesi eğitimde farklılaştırılmış öğretim yaklaşımı ile tüm çocukların gelişim alanlarını, becerilerini destekleyecek şekilde farklı konularda çalışmalar yapılabilir. Özellikle okul öncesi eğitim alanının farklılaştırılmış öğretim ile ilgili veri toplama araçlarının neredeyse yok denecek kadar az olmasından dolayı okul öncesi eğitimde kullanılabilecek geçerli ve güvenilir ölçme araçlarının geliştirilmesi alana büyük katkı sağlayabilir. Öğretmenlerin okuldaki uygulamalarında en büyük destek sağlayan okul yöneticileri olup farklılaştırılmış öğretim yaklaşımı ile ilgili araştırmalara okul yöneticilerinin dahil edilmesi sağlanabilir. Farklılaştırılmış öğretim çalışmaları uygulamalı çalışmalar olduğundan dolayı okul öncesi eğitim alanında uygulamaya dönük çalışmalara yer verilebilir. Daha sonraki araştırmalarda okul öncesi eğitimde farklılaştırılmış öğretim yaklaşımı ile ilgili kavramsal araştırmalar da yapılabilir.

Appendix 1. Articles Analyzed in the Study and Codes

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