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Preschool Teachers' Opinions About Disaster Education in the Preschool Period

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Abstract

This qualitative study aims to gather preschool teachers' opinions about disaster education given in the preschool period. The phenomenological approach was used in the study to describe and explain the experiences related to a particular phenomenon and situation in detail. The research study group consisted of 76 preschool teachers selected through criterion and maximum diversity sampling methods. The data collection tools utilized in this study include a semi-structured "Interview Form" consisting of open-ended questions and a "Personal Information Form." The descriptive analysis technique, one of the qualitative data analysis methods, was used to analyze the data obtained from the interview form. According to the research results, most preschool teachers think disaster education is necessary for the preschool period and emphasize that they aim for children to know the types of natural disasters through disaster education. The basic concepts that should be taught to children about disasters are "danger", "precaution", "risk", and "damage." Preschool teachers generally stated that "earthquake" was the most common disaster and "avalanche" was the least common disaster mentioned in disaster education. Most of the teachers indicated that they regularly incorporate "game" activities in disaster education and the education provided should be appropriate for the children's age. Preschool teachers stated the benefits of disaster education for children as "being prepared for emergencies", "gaining life skills" and "raising awareness." Most preschool teachers agree that effective disaster education should give children "the necessary knowledge and abilities to get ready for and manage disasters".

Keywords

Disaster education, disaster awareness, preschool education, preschool teacher, phenomenology design.

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INTRODUCTION

Disaster refers to a hazard, whether natural or man-made, that significantly disrupts a community's functioning and causes human, material, economic, or environmental losses and impacts. Furthermore, the disaster exceeds the community's capability to respond to the situation (UN International Strategy for Disaster Reduction [UNISDR], 2009). In addition, a disaster is an unexpected event that damages communities' general health and living spaces and interrupts life by causing physical, mental, social, psychological, and economic losses (Beşeri, 2009; Yavaş, 2005). According to these definitions, disasters like earthquakes, floods, tsunamis, forest fires, hurricanes, and epidemics can cause severe damage and destruction. In the last 20 years, there has been a significant increase in the occurrence of natural disasters on a global scale (Seddighi & Baharmand, 2020), and negatively affected many people (Mörchen et al., 2021). One of the most vulnerable groups in the face of disasters is undoubtedly children due to their psychological, physical, and behavioral developmental levels and dependence on adults (Seddighi et al., 2022; Zahran et al., 2008). Because disasters affect children directly or indirectly in different ways (Norris et al., 2002; Seddighi et al., 2021).

During and after natural disasters, children may be exposed to numerous negative effects, such as physical harm and psychological trauma. Children appear to be more vulnerable to these effects when compared to adults (Kousky, 2016; Peek, 2008; UNISDR, 2015). Children are susceptible to harm and require protection during and after disasters. However, with their different perspectives and abilities, they can also actively participate in reducing the risks and impacts of disasters for their families and communities (Fothergill, 2017). Therefore, reducing vulnerability is the most fundamental way to protect children in disasters (Hoffman, 2009; Seddighi et al., 2019). The effects of disasters can be significantly reduced if individuals possess adequate knowledge of disaster response.

Disaster education is the most important factor in preparing children for disasters (Mermer et al., 2018; Seddighi et al., 2020). Disaster education is crucial in enhancing students' understanding and awareness of potential disasters, as well as their ability to perceive risks and prepare accordingly (Mermer et al., 2018; Ronan & Johnston, 2001). Schools have a critical role in disaster preparedness education (Faydalı et al., 2019). Teachers can contribute to children's disaster preparedness, thus, disaster risk reduction by creating rich learning environments within the scope of the curriculum and using peer education (Bandecchi et al., 2019). Therefore, the primary and crucial type of disaster education is school education (Kurita et al., 2006). Because schools serve as effective institutions to enhance children's safety knowledge and assist in disaster preparation (Bourque, 2015). In recent years, there has been a rise in the quantity of school-based Disaster Risk Reduction (DRR) programs that engage children in disaster preparedness activities, including identifying hazards, conducting drills, planning evacuations, adapting homes, and communicating risks. DRR programs aim to enhance preparedness and reduce risk (Pfefferbaum et al., 2018). Studies show that these programs can benefit children by increasing their knowledge about disaster risks and preparedness (Amri et al., 2018; Johnson et al., 2014a).

Studies on DRR education programs were generally conducted in primary and secondary schools. Although there is a limited amount of research regarding the effects of these programs on preschool children (Johnson et al., 2014a), these studies reveal that these programs raise children's awareness about disaster risks. Sharpe and Izadkhah (2014) found that children learned new information through training on earthquake preparedness and were able to retell this information to their peers and teachers; Gülay (2010) found that training on earthquake preparedness increased children's

knowledge levels, especially their knowledge about what to put in earthquake bags (water, food, flashlight). Studies indicate a lack of disaster education programs for children between the ages of 5-11. The age factor is very important because, especially in developing countries, children between the ages of 5-11 are more negatively affected by disasters. Therefore, it is vital to teach children aged 5-11 years how to prepare for disasters in schools (Seddighi et al., 2022).

One effective method for safeguarding children is establishing an environment in which they are aware of hazards, such as disasters, and engage in risk reduction measures. For this purpose, it is crucial to integrate disaster risk reduction educational programs into preschool education curricula (Morris & Edwards, 2008). Disaster education for children and youth is very valuable in developing their resilience against disasters (Benadusi, 2015; Black & Powell, 2012; Shaw et al., 2004).

Significance and Aim of the Study

Studies reveal that training programs focusing on disaster risk reduction in preschool education institutions can enhance children's awareness and promote positive behavioral changes. This can lead to increased participation in disaster risk reduction efforts in their homes, schools, and communities (Amri et al., 2018), ultimately supporting their capacity to mitigate environmental risks and respond to disasters effectively (Proul & Aboud, 2019). When children are educated about disaster risk reduction from an early age, they are more likely to incorporate new behaviors into their adult lives than adults who attempt to acquire the same skills (UNESCAP, 2015). It is obvious that it is critical for children to receive disaster education during the preschool period and in preschool education institutions (Faydalı et al., 2019; Seddighi et al., 2022). The quality of disaster education provided in the early childhood period increases the awareness and knowledge of individuals on what to do before, during, and after disasters in both childhood and adulthood (Amri et al., 2018; Gülay, 2010; Fothergill, 2017; Johnson et al., 2014a; Mermer et al., 2018). Providing disaster education in preschools is crucial to equip children with basic disaster knowledge. It significantly promotes awareness and prepares them for future emergencies (Izadkhah & Heshmati, 2007). Teachers are the ones who will raise children's awareness and provide basic information on disaster preparedness, disaster prevention, and disaster management in institutions (Das & Malaviya, 2013). Studies reveal that since disaster education is a voluntary subject, the effectiveness of disaster education depends on teachers' awareness and ownership of the subject (Johnson et al., 2014b). Through effective training, disaster risk reduction can be embedded in children's minds and help them be psychosocially prepared (Elangovan & Kasi, 2015). Therefore, teachers play a very important role in disaster education. Since teachers are actively involved in disaster education for children, it is very valuable to regularly evaluate their knowledge and skill levels (Chondekar, 2019). In this respect, the opinions of preschool teachers who provide disaster education to preschool children about disaster education also gain importance. This study aims to seek an answer to the question, "What are the opinions of preschool teachers about disaster education given in preschool period?".

METHOD

Research Model

This qualitative study aims to gather the opinions of preschool teachers about disaster education given in the preschool period. Qualitative research is a method of gathering data through techniques such

as interviews and document analysis to examine and comprehend events and perspectives in a comprehensive manner within a natural setting (Yıldırım & Şimşek, 2011). Phenomenology design was used in the study. Phenomenological studies focus on the shared meanings that individuals create when they experience a phenomenon of which they are aware but do not have a deep and detailed understanding (Creswell, 2015; Yıldırım & Şimşek, 2011). These studies aim to provide a detailed description of the experiences related to a specific phenomenon (Creswell, 2015; Patton, 2014). The phenomenon analyzed in this research is disaster education and the opinions and experiences of preschool teachers about it.

Study Group

The study group of the research consisted of 76 preschool teachers. Criterion and maximum variation sampling methods, both of which belong to purposeful sampling methods, were utilized to establish the study group. The criterion sampling method was selected to ensure that the sample includes individuals with the qualifications identified in connection with the problem situation (Büyüköztürk et al., 2009). The maximum variation sampling method was preferred to achieve high-level diversity in the sample (Yıldırım & Şimşek, 2011). The main criterion for selecting the teachers was to have knowledge about disaster education. Maximum diversity was determined based on gender, age, education status, professional seniority, the region worked, the province worked, the settlement worked, the type of institution, the type of preschool education institution, and the way to obtain information on disaster education. The number of participants in phenomenological research can generally be between 5 and 25 people (Patton, 2014). However, contrary to this general judgment, there are studies in which the number of participants ranges from one person (Miles & Huberman, 2015) to 325 people (Neuman, 2014). Since the maximum diversity sampling method was used to determine the study group in the research, it was tried to reach a sufficient number of participants from every region in the country. The demographic characteristics of the teachers are presented in Table 1.

Table 1

Demographic Information on Teachers

Demographic Information		*n*	*f*	*%*
Gender	Female	76	49	64,47
	Male		27	35,53
Age	25-35	76	24	31,58
	36-45		32	42,10
	46-55		20	26,32
Education Status	Bachelor's degree	76	48	63,16
	Master's degree		20	26,31
	PhD		8	10,53
Professional Seniority	1-5 years	76	10	13,16
	6-10 years		14	18,42
	11-15 years		22	28,95
	16-20 years		16	21,05
	21 years and over		14	18,42
The Region Worked	Marmara Region	76	16	21,05
	Central Anatolia Region		14	18,42

	Mediterranean Region		11	14,47
	Aegean Region		10	13,16
	Black Sea Region		10	13,16
	Eastern Anatolia Region		8	10,53
	Southeastern Anatolia Region		7	9,21
The Province Worked	Konya	76	7	9,21
	Ankara		4	5,26
	Eskişehir		3	3,96
	Samsun		5	6,58
	Trabzon		5	6,58
	İstanbul		9	11,84
	Bursa		4	5,26
	Çanakkale		3	3,96
	İzmir		6	7,89
	Aydın		4	5,26
	Antalya		7	9,21
	Mersin		4	5,26
	Erzurum		4	5,26
	Malatya		4	5,26
	Şanlıurfa		5	6,58
	Adıyaman		2	2,63
The Settlement Worked	Provincial center	76	34	44,74
	District center		31	40,79
	Village		11	14,47
Type of Institution	Public School	76	45	59,21
	Private School		31	40,79
Type of Preschool Education Institution	Independent preschool	76	40	52,63
	Preschool class within a primary school		36	47,37
The Way to Obtain Information on Disaster Education	Acquired knowledge in education life	76	23	30,26
	Received in-service training		22	28,95
	Attended a seminar		18	23,68
	Made research on the subject		13	17,11

Table 1 reveals that most of the preschool teachers are female teachers (49 - 64.47%) between the ages of 36 and 45 (32 - 42.10%) with a bachelor's degree (48 - 63.16%) and professional experience of 11-15 years (22 - 28.95%). These teachers work in Marmara Region (16 - 21.05%) and specifically in İstanbul (9 - 11.84%), primarily in the provincial center (34 - 44.74%), in public schools (42 - 59.21%), and independent preschools (40 - 52.63%).

Data Collection Tools

The data collection tool used in the study consisted of a "Personal Information Form" comprising questions directed towards preschool teachers and a semi-structured "Interview Form" made up of open-ended questions suitable for qualitative research. Personal Information Form consists of questions examining personal information such as gender, age, and education level of preschool

teachers. The interview form consisted of questions about the necessity of disaster education for preschool children, the basic concepts that should be taught about disasters, the gains aimed to be achieved with disaster education, the natural disasters that are most and least included in disaster education, which methods and techniques are used in disaster education, the issues to be considered about disaster education, the benefits of disaster education for preschool children and what can be done for effective disaster education in the preschool period. In semi-structured interviews, the questions are flexible. They are pre-planned but can be rearranged during the interview. Semi-structured interviews are neither as rigid as fully structured interviews nor as flexible as unstructured interviews (Büyüköztürk, 2009; Ekiz, 2009; Karasar, 2012; Merriam, 2009). In the research, a literature review was first conducted. Then, 12 questions were prepared to be included in the interview form. Two field experts were consulted to evaluate and ensure the validity of the purpose, meaning, and scope of the interview form. An interview form consisting of 8 semi-structured questions was then created. In order to check whether the interview questions were clear and comprehensible, a preliminary application of the interview questions was made with three preschool teachers who had knowledge about disaster education and did not participate in the study; then the interview form was finalized.

Data Collection

Before collecting the data, the researcher explained the research purpose to the teachers and emphasized the importance of answering the interview questions sincerely to achieve the research goal. Participation in the research was based on the principle of volunteerism. Separate and online interviews were conducted with each of the 76 volunteer teachers between May 15, 2023 and August 15, 2023. Interviews were recorded to prevent data loss. Before the interviews, participants were notified that all the sessions would be recorded. Participants were assured that they could listen to those recordings at the end of the interviews to enhance their comfort level. Furthermore, the participants were allowed to delete the recordings partially or entirely based on their wishes. The participant interviews lasted roughly 40 minutes.

Data Analysis

The data obtained from the interview form was analyzed using the descriptive analysis technique, a qualitative data analysis method. In the descriptive analysis technique, the data obtained are summarized and interpreted according to predetermined themes (Yıldırım & Şimşek, 2011). In this research, the research questions serve as the themes. The gathered data were arranged and analyzed according to these questions. The preschool teachers (T1, T2, T3...) who participated in the research were assigned a code number to protect their anonymity during the analysis. Their names were not directly mentioned. Findings were presented using frequency and percentage values. Direct quotations were included to fully capture the teachers' opinions and ensure a clear and complete reflection of the findings.

Validity and Reliability of the Study

Internal validity was ensured through a clear and detailed presentation of how the findings, results, and interpretations were derived. External validity was achieved by providing detailed explanations of the research model, study group, data collection tool, and all data collection and analysis processes. To enhance internal reliability, the teachers' responses to interview questions were analyzed independently by the researcher and an expert academic in the field. Codes identifying "consensus" and "disagreement" were established, and appropriate adjustments were made. The coder reliability

analysis formula (Reliability = Agreement / [Agreement + Disagreement]×100) developed by Miles and Huberman (2015) was used to calculate the reliability of the coding. The total reliability was found to be 92% as a result of the calculations. A reliability analysis result exceeding 70% is deemed trustworthy for the research (Miles & Huberman, 2015). In order to ensure external validity, detailed and clear explanations were provided to allow for testing the research results with other studies, avoiding assumptions and biases.

Ethical Principles

Ethics committee permission for this study was obtained from Necmettin Erbakan University Social and Humanities Scientific Research Ethics Committee decisions with the decision dated 12.05.2023 and numbered 2023/209.

FINDINGS

The findings obtained from the analysis of the interview forms used to determine the opinions of preschool teachers in the study group regarding disaster education in the preschool period are presented in this section.

Necessity of Disaster Education

After analyzing the data collected from the interviews, teachers' opinions on the necessity of disaster education were grouped under three subcategories.

Table 2

Necessity of Disaster Education

Necessity of Education	n	f	%
Necessary		69	90,79
Not necessary	76	4	5,26
Undecided		3	3,95

As seen in Table 2, while most preschool teachers found disaster education necessary in preschool, some teachers stated that this education was not necessary or they were undecided about this issue because it might cause anxiety in children.

Examples of preschool teachers' responses to the necessity of disaster education:

T12: "I find disaster education necessary for children to gain awareness from an early age."

T27: "I think disaster education is necessary for preschool children; thanks to this education, children's survival skills improve."

Examples of preschool teachers' responses that disaster education is not necessary:

T33: "I do not think disaster education is necessary because it causes anxiety in children."

T38: "Whenever I give information about disasters to children, I observe that they get scared. In this respect, I think that disaster education is too early for the preschool period."

Examples of the responses of preschool teachers who were undecided about disaster education:

T7: "Preschool children can be briefly informed about disasters, but I am not sure whether disaster education is necessary or not."

T49: "I do not have a clear idea whether disaster education is necessary or unnecessary."

Basic Concepts to Be Taught about Disasters

After analyzing the data collected from the interviews, teachers' opinions on the basic concepts that should be taught about disasters were grouped under four subcategories.

Table 3

Basic Concepts to Be Taught about Disasters

Basic Concepts	n	f	%
Danger	76	29	38,16
Precaution		23	30,26
Risk		15	19,74
Damage		9	11,84

As seen in Table 3, preschool teachers listed the basic concepts that should be taught to preschool children about disasters as "danger", "precaution", "risk," and "damage".

Examples of the responses of preschool teachers who stated that the basic concept that should be taught about disasters is "danger":

T5: "I talk about the dangers that will arise as a result of disasters."

T66: "I tell my students about the dangers they may encounter."

Examples of the responses of preschool teachers who stated that the basic concept that should be taught about disasters is "precaution":

T29: "We talk about the precautions that can be taken before disasters."

T53: "I give information to my students about what to do before experiencing disasters."

Examples of the responses of preschool teachers who stated that the basic concept that should be taught about disasters is "risk":

T3: "Talking about risk situations should be a priority."

T19: "I think it is important for children to know in which situations they are at risk when faced with disasters."

Examples of the responses of preschool teachers who stated that the basic concept that should be taught about disasters is "damage":

T41: "I talk about the damages that people will face as a result of disasters."

T72: "It is necessary to explain the damages to be encountered."

Outcomes Aimed to Be Achieved through Disaster Education

After analyzing the data collected from the interviews, teachers' opinions on the outcomes aimed to be achieved through disaster education were grouped under six subcategories.

Table 4

Outcomes Aimed to Be Achieved through Disaster Education

Aimed Outcomes	n	f	%
Knowing the types of natural disasters	76	31	40,79
Knowing the causes of natural disasters		13	17,11
Understanding the importance of taking precautions before natural disasters		10	13,16
Knowing the methods of protection during natural disasters		9	11,84
Understanding the importance of cooperation after natural disasters		7	9,21
Knowing the numbers to call in case of emergencies		6	7,89

As can be seen in Table 4, preschool teachers stated the outcomes aimed to be achieved through disaster education as "knowing the types of natural disasters", "knowing the causes of natural disasters", "understanding the importance of taking precautions before natural disasters", "knowing the methods of protection during natural disasters", "understanding the importance of cooperation after natural disasters" and "knowing the numbers to call in case of emergencies."

Examples of preschool teachers' responses to "knowing the types of natural disasters" regarding the outcomes aimed to be achieved through disaster education:

T10: "I think that children should primarily know the disasters we may encounter."

T62: "They should know what natural disasters are."

Examples of preschool teachers' responses to "knowing the causes of natural disasters" regarding the outcomes aimed to be achieved through disaster education:

T18: "Children should learn why disasters occur."

T37: "I think that knowing the causes of natural disasters is very effective in preventing disasters."

Examples of preschool teachers' responses on "understanding the importance of taking precautions before natural disasters" regarding the outcomes aimed to be achieved through disaster education:

T44: "The effect of taking precautions before a disaster can be discussed."

T51: "The vital importance of taking precautions should be emphasized."

Examples of preschool teachers' responses on "knowing the methods of protection during natural disasters" regarding the outcomes aimed to be achieved through disaster education:

T55: "Children should definitely learn what to do during a disaster."

T75: "We should teach children how to avoid disasters."

Examples of preschool teachers' responses on "understanding the importance of cooperation after natural disasters" regarding the outcomes aimed to be achieved through disaster education:

T2: "What to do after a disaster should definitely be discussed."

T24: "Helping each other after a disaster is the most practical way to heal the wounds."

Examples of preschool teachers' responses to "knowing the numbers to call in case of emergencies" regarding the outcomes aimed to be achieved through disaster education:

T4: "Teaching the emergency number is very important."

T16: "Children should learn whom to call in case of emergency."

Disasters Most and Least Mentioned in Disaster Education

After analyzing the data collected from the interviews, teachers' opinions on the disasters most frequently included in disaster education were grouped under four subcategories, and teachers' opinions on the disasters least included in disaster education were grouped under three subcategories.

Table 5

Disasters Most Frequently and Least Included in Disaster Education

Most Frequently Included Disasters	n	f	%
Earthquake	76	53	69,74
Flood		20	26,31
Fire		2	2,63
Landslide		1	1,32
The Least Included Disasters	**n**	**f**	**%**
Avalanche	76	33	43,42
Tsunami		28	36,84
Volcano		15	19,74

As seen in Table 5, preschool teachers stated that the disasters most frequently included in disaster education were "earthquake", "flood", "fire" and "landslide", while the least included disasters were "avalanche", "tsunami" and "volcano."

An example of preschool teachers' responses to "earthquake", one of the disasters most frequently included in disaster education:

T11: "I focus on earthquakes the most sometimes we even do drills in the classroom."

An example of preschool teachers' responses to "flood", one of the disasters most frequently included in disaster education:

T23: "I mostly focus on flood and earthquake disasters while doing activities."

An example of preschool teachers' responses to "fire", one of the disasters most frequently included in disaster education:

T30: "As a teacher, I strive to raise awareness about fires, especially forest fires."

An example of preschool teachers' responses to "landslide", one of the disasters most frequently included in disaster education:

T46: "We should definitely inform children about earthquake and landslide disasters."

An example of preschool teachers' responses to "avalanche", one of the least common disasters in disaster education:

T39: "I do not remember ever mentioning avalanche as a natural disaster."

An example of preschool teachers' responses to "tsunami", one of the least common disasters in disaster education:

T58: "Since tsunami is not a disaster encountered in our country, I never include it in the activities."

An example of preschool teachers' responses to "volcano", one of the least common disasters in disaster education:

T69: "I never told the children about volcanoes as disasters."

Methods and Techniques Used in Disaster Education

After analyzing the data collected from the interviews, teachers' opinions on the methods and techniques used in disaster education were grouped under four subcategories.

Table 6

Methods and Techniques Used in Disaster Education

Methods and Techniques	n	f	%
Game	76	36	47,37
Drama		21	27,63
Technology-supported applications		14	18,42
Puppet		5	6,58

As seen in Table 6, preschool teachers stated the methods and techniques they used in disaster education as "game", "drama", "technology-supported applications" and "puppet."

Examples of preschool teachers' "game" responses about the methods and techniques used in disaster education:

T6: "In the games, children learn what they should do in case of a disaster without being afraid."

T25: "We can give children all kinds of information about disasters through games."

Examples of preschool teachers' "drama" responses about the methods and techniques used in disaster education:

T9: "We make drama enactments about disasters in the classroom; this way, children understand what I tell more clearly."

T64: "I use drama because it concretizes everything, so children comprehend what I teach better."

Examples of preschool teachers' "technology-supported applications" responses about the methods and techniques used in disaster education:

T1: "I usually explain disasters with informative animations."

T28: "I usually use educational videos on such subjects that I do not know exactly how to explain."

Examples of preschool teachers' "puppet" responses about the methods and techniques used in disaster education:

T31: "Since puppets are interesting for preschool children, I use them when talking about disasters."

T74: "Puppets are very important. For example, puppets explain what we need to do before and after an earthquake in our class."

Issues To Be Considered in Disaster Education

After analyzing the data collected from the interviews, teachers' opinions on the issues to be considered in disaster education were grouped under three subcategories.

Table 7

Issues To Be Considered in Disaster Education

Issues To Be Considered	n	f	%
Be age-appropriate		51	67,11
Focus on practical skills	76	14	18,42
Be based on cooperation		11	14,47

As seen in Table 7, preschool teachers stated that the issues to be considered in disaster education should "be age-appropriate", "focus on practical skills" and "be based on cooperation."

Examples of preschool teachers' responses to "it should be age-appropriate" regarding the issues to be considered in disaster education:

T13: "Certainly, training should be appropriate for children's ages."

T21: "Information about disasters should be appropriate for children's age and developmental characteristics."

Examples of preschool teachers' responses to "it should focus on practical skills" regarding the issues to be considered in disaster education:

T8: "Information on what to do before and after disasters should be practical and suitable for children's skills."

T35: "Disaster education should be aimed at developing children's skills."

Examples of preschool teachers' responses to "it should be based on cooperation" regarding the issues to be considered in disaster education:

T52: "The information given in the training should be based on children's collaborative practices."

T67: "Children should be enabled to act together."

Benefits of Disaster Education

After analyzing the data collected from the interviews, teachers' opinions on the benefits of disaster education for preschool children were grouped under six subcategories.

Table 8

Benefits of Disaster Education

Benefits	n	f	%
Being prepared for emergencies	76	21	27,63
Gaining life skills		19	25,00
Raising awareness		16	21,05
Problem solving		12	15,79
Developing resilience		5	6,58
Helping others		3	3,95

As seen in Table 8, preschool teachers stated the benefits of disaster education for preschool children as "being prepared for emergencies", "gaining life skills", "raising awareness", "problem-solving", "developing resilience" and "helping others."

Examples of preschool teachers' responses to "being prepared for emergencies" about the benefits of disaster education for preschool children:

T26: "Children learn how to behave in emergencies."

T40: "Disaster education teaches children how to act in an emergency."

Examples of preschool teachers' responses to "gaining life skills" about the benefits of disaster education for preschool children:

T14: "Disaster education makes it possible to survive in difficult situations."

T57: "With education, for example, a child who suffers a disaster such as an earthquake or flood learns what to do to survive."

Examples of preschool teachers' responses to "raising awareness" about the benefits of disaster education for preschool children:

T61: "With this education, children become more conscious about people exposed to disasters."

T68: "Children's level of consciousness increases."

Examples of preschool teachers' responses to "problem-solving" about the benefits of disaster education for preschool children:

T15: "They gain experience on how to solve a problem when they encounter a situation."

T59: "They have knowledge about how to cope with a disaster."

Examples of preschool teachers' responses to "developing resilience" about the benefits of disaster education for preschool children:

T17: "Their ability to struggle with problems increases."

T48: "They become stronger against the problems that arise after the disaster."

Examples of preschool teachers' responses to "helping others" about the benefits of disaster education for preschool children:

T70: "With disaster education, children become more willing to help people who are damaged after disasters."

T76: "Children become more sensitive about people who need help after a disaster."

Requirements for Effective Disaster Education

After analyzing the data collected from the interviews, teachers' opinions on the requirements for effective disaster education were grouped under five subcategories.

Table 9

Requirements for Effective Disaster Education

Requirements	n	f	%
Should provide the necessary knowledge and skills in disaster preparedness and response	76	34	44,74
Content should be age-appropriate		18	23,68
Should be practice-based		13	17,11
Should support community participation		9	11,84
Should be inclusive		2	2,63

As seen in Table 9, preschool teachers stated the requirements for effective disaster education as "should provide the necessary knowledge and skills on disaster preparedness and response", "content should be age-appropriate", "should be practice-based", "should support community participation" and "should be inclusive".

Examples of preschool teachers' responses on the requirements for effective disaster education on "it should provide the necessary knowledge and skills on disaster preparedness and response":

T20: "Children should be informed in detail about being prepared for disasters."

T32: "Children should be told what to do after a disaster."

Examples of preschool teachers' responses on the requirements for effective disaster education on "content should be age-appropriate":

T43: "Disaster education should definitely be appropriate for the age of children."

T60: "The methods used in disaster education should be appropriate to the age and developmental level of children."

Examples of preschool teachers' responses on the requirements for effective disaster education on "it should be practice-based":

T71: "Disaster education should be for children to gain experience in the form of drama practices."

T73: "Training should be done through practicing, not by transferring information."

Examples of preschool teachers' responses on the requirements for effective disaster education on "it should support community participation":

T22: "Emergency services should also be supported to provide information during training."

T45: "Disaster interventions of different institutions can be mentioned."

Examples of preschool teachers' responses on the requirements for effective disaster education on "it should be inclusive":

T54: "It should address the needs of both students with normal development and students with special needs."

T56: "Disaster education should support all children."

RESULTS, DISCUSSIONS AND SUGGESTIONS

This study presents a description of the responses given to research questions regarding the perceptions of preschool teachers on disaster education provided in the preschool period. The responses are discussed in light of the relevant literature.

Children depend on adults for protection against emergencies and disasters as they are vulnerable regarding their physical, emotional, and cognitive abilities (Bosschaart et al., 2016; Tuladhar et al., 2015). Disaster education aims to improve children's knowledge, skills, and motivation to reduce their vulnerability to disasters (Torani et al., 2019). Because educating vulnerable people leads to actions that affect the whole society (Rohrmann, 2008). In recent years, disaster education programs for children are considered an innovative approach to disaster risk reduction (Torani et al., 2019). In the study, most preschool teachers think disaster education is necessary in the preschool period. Some preschool teachers stated that disaster education is not necessary because it may cause anxiety in children or they are undecided about this issue. Studies reveal that it is very important to provide disaster education and develop disaster awareness during the preschool period (Bulut, 2020; Komac et al., 2013; Musacchio et al., 2016) and that disaster education programs provided from an early age improve children's knowledge and awareness on disasters (Fetihi & Gülay, 2011; Sapsağlam, 2019). It is possible to reduce the destructive damages caused by disasters to individuals and society thanks to the awareness gained by children through disaster education (Clerveaux et al., 2010; Değirmenci et al., 2019). In addition, education programs related to disasters such as earthquakes help preschool children exhibit higher levels of self-confidence

and less anxiety in case of encountering these disasters (Parsizadeh & Ghafory-Ashtiany, 2010; Ronan et al., 2001). Teachers' opinions on the necessity of disaster education in the preschool period are consistent with the literature.

In the study, preschool teachers stated the basic concepts that should be taught to preschool children about disasters as "danger", "precaution", "risk", and "damage". In Anadolu University Disaster and Emergency Education Program (2017), the basic concepts related to disasters are stated as hazard, risk, risks arising from structural elements, risks arising from non-structural elements, emergency, disaster, and vulnerability. Disaster education provides information, especially about hazards and risks (Shaw et al., 2004), and can increase risk perception in children (Faber et al., 2014; Johnson, 2014). Teachers' opinions on the basic concepts that they should teach children about disasters support the literature.

Preschool teachers stated that the outcomes aimed to be achieved through disaster education are "knowing the types of natural disasters", "knowing the causes of natural disasters", "understanding the importance of taking precautions before natural disasters", "knowing the methods of protection during natural disasters", "understanding the importance of cooperation after natural disasters" and "knowing the numbers to call in emergencies." Research emphasizes the importance of training preschool children on what to do before, during, and after disasters and the necessity of knowing the phone numbers where they can ask for help in emergencies (Bulut, 2020). Through these pieces of training, children gain knowledge and skills to prevent the causes, effects, and damages of disasters (Mangione et al., 2013) and become aware of the risks before being exposed to a disaster (Muttarak & Pothisiri, 2013). Children who receive disaster education can exhibit appropriate behaviors by helping their friends during and after a disaster (Izadkhah, 2004). Teachers' opinions on the outcomes aimed to be achieved through disaster education in the preschool period are consistent with the literature. However, nearly half of the teachers' expectations that children should know the types of disasters rather than disaster prevention or protection methods as the target outcome reveals that they need support in disaster education.

Preschool teachers stated that the natural disasters most frequently included in their disaster education were "earthquake", "flood", "fire" and "landslide", while the natural disasters least frequently included were "avalanche", "tsunami" and "volcano." It is thought that the disasters that teachers prefer the most or the least in their training are related to the occurrence of disasters in Turkey. In a study conducted with classroom teachers, teachers categorized disasters as natural disasters and man-made disasters. They listed natural disasters as earthquake, avalanche, flood, tsunami, landslide, hurricane, cyclone, erosion, drought, volcanic eruptions, and storm (Avcı, 2022). The fact that the disasters that preschool teachers include in their disaster education are only natural disasters and that they do not include man-made disasters shows that the participants' disaster knowledge is limited in this respect.

Preschool teachers stated the methods and techniques they used in disaster education as "game", "drama", "technology-supported applications" and "puppet." The best teaching

methods for preschool children may be the use of fun activities such as games and songs (Izadkhah & Hosseini, 2005). Studies reveal that teachers prefer drama, educational games, and shows in training to raise disaster awareness in the preschool period (Bulut, 2020). In addition, digital technological educational tools contribute positively to children's learning performance (Ayaz et al., 2023) by allowing children to gain experience through more activities in the classroom environment (Uslu & Özgün, 2023). Disaster education can be given with the help of videos, storybooks, computer games, dramas, puppets, music, poems (Petal & Izadkhah, 2008), and drills in the form of games (Daniel et al., 2016). The methods and techniques preschool teachers use in disaster education are consistent with the literature. In this respect, it is thought that preschool teachers are adequate in terms of the different methods and techniques they use in disaster education.

Preschool teachers stated that disaster education should "be age-appropriate", "focus on practical skills" and "be based on cooperation." Studies reveal that the knowledge acquired through disaster education that starts in the preschool period is more permanent (Sarı, 2016). Transferring these acquired knowledge and skills into practice is an effective method for disaster education (Siriwardena et al., 2013). The trainings given during this period must be appropriate for the age and developmental characteristics of children (Kandır et al., 2010). Effective participation of all stakeholders in the society in disaster education in cooperation increases the capacity to combat disasters (Chou et al., 2015). In addition, people who participate in these trainings share what they have learned with the people around them and raise awareness of more people about disasters (Yamori, 2009). It can be said that the issues to be considered in disaster education expressed by the teachers facilitate learning for preschool children. The issues teachers pay attention to in disaster education practices in preschool support the literature.

Preschool teachers stated the benefits of disaster education for preschool children as "being prepared for emergencies", "gaining life skills", "raising awareness", "problem-solving", "developing resilience," and "helping others". Disaster education increases children's awareness about the disasters they may encounter and raises their awareness about how they should behave in the event of a disaster (Değirmenci, 2019; Mızrak, 2018; Shiwaku et al., 2007). These trainings make it easier to help others affected by disasters, ensuring that people have sufficient knowledge and skills to respond to disasters with the right behaviors (Auf der Heide, 2006; Bartolucci & Magni, 2016). Disaster education is also important to increase children's resilience levels (Sawada, 2007). Teachers' opinions on the benefits of disaster education in the preschool period are consistent with the literature. From this point of view, it can be said that preschool teachers' level of knowledge about the benefits of disaster education is sufficient.

Preschool teachers stated the requirements for effective disaster education as "it should provide children with the necessary knowledge and skills on disaster preparedness and response", "the content should be age-appropriate", "it should be practice-based", "it should

support community participation" and "it should be inclusive". Transferring knowledge and skills to children about disasters and risk reduction in schools is very important in terms of protecting children from possible disasters and taking measures against these disasters (Musacchio et al., 2016; Sawada, 2007). Disaster education should consist of theoretical and practical practices based on children's learning by doing and active participation (Codreanu et al., 2014; Kadıoğlu, 2006; Yılmaz, 2014). Children, who represent one of the most vulnerable groups in taking action to prevent disasters and participating in decision-making processes, can play an active role in their families and communities (Tanner, 2010). Teachers' opinions on effective disaster education in preschool period support the literature and it can be said that teachers have sufficient knowledge about effective disaster education.

According to the results of the study, the majority of preschool teachers think that disaster education is necessary for the preschool period, and the basic concepts that should be taught to children about disasters are "danger", "precaution", "risk" and "damage". The majority of preschool teachers emphasized that they aimed for children to know the types of natural disasters through disaster education. Most preschool teachers stated that "earthquake" was the most common disaster mentioned in disaster education and "avalanche" was the least common disaster. The majority of the teachers stated that they frequently included "game" activities in disaster education and that the training should be appropriate for the age of the children. The majority of preschool teachers stated the benefits of disaster education for children as "being prepared for emergencies", "gaining life skills" and "raising awareness". Most preschool teachers argued that effective disaster education should provide children with "the necessary knowledge and skills to prepare for and respond to disasters".

The following suggestions can be made in line with the results obtained;

- Preschool teachers who participated in the study stated that they obtained information about disaster education in different ways, such as attending seminars and receiving training. Therefore, in-service training can be given to preschool teachers who have not received any training on disasters and do not have sufficient knowledge.
- It is thought that the fact that preschool teachers who have knowledge about disaster education do not include human-induced disasters in their disaster education and only include natural disasters constitutes a limitation in terms of the education given to children. For this reason, it can be suggested that the content of the training programs given to teachers should be enriched in terms of both natural disasters and human-induced disasters.
- The majority of preschool teachers who had knowledge about disaster education expressed the gains aimed to be achieved through disaster education as "knowing the types of natural disasters" instead of "taking precautions before disasters or knowing the methods of protection." From this point of view, it can be aimed to improve the perspectives of teachers who have knowledge about disaster education through different in-service trainings.

- Pre-service preschool teachers can be informed about disasters through elective courses during their undergraduate education.
- Parents can be given seminars on disasters in preschool education institutions, and family participation activities can be organized to raise awareness of their children.
- Based on experts' recommendations, an independent disaster education program for disaster awareness for the preschool period can be prepared and implemented in all preschool education institutions.
- Based on the recommendations of experts in the field, topics related to disaster education can be included in the preschool education program.
- Disaster-related institutions and organizations can organize interesting programs for children, parents, and educators who do not have sufficient knowledge about disasters to increase disaster awareness.
- More visual and written educational materials can be prepared, and media support can be provided to inform and raise awareness of children, parents, and educators who do not have sufficient knowledge about disasters.
- The study included the opinions of teachers with knowledge of disaster education. Other studies may utilize the opinions of teachers without such knowledge.

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