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Research Article

Returning to Education After the Earthquake in the Perspective of Teachers in Provinces Declared as Disaster Areas: Problems and Solution Suggestions

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Abstract: This research aims to reveal the problems experienced in returning to education after the earthquake in the provinces declared disaster areas and the solutions for the problems. For this purpose, the research was carried out within the scope of phenomenology, one of the qualitative research designs. The research group consisted of nine teachers working in Kahramanmaraş, Gaziantep, Hatay, Malatya and Adıyaman provinces of Türkiye. The sample of the research was determined according to the maximum diversity of purposeful sampling types. Data in the research were collected online with a semi-structured interview protocol. Content analysis technique was used in the analysis of the obtained data. The research findings are grouped under three themes: problems experienced, solutions produced, and suggestions. While the problems experienced by the teachers were examined under the titles of not being able to meet basic needs and being anxious, the problems experienced by the students were examined under the titles of transportation and absenteeism. The solutions produced were examined under the headings of establishing one-to-one communication with students, organizing activities for harmony and bonding, and providing academic support to ensure equality of opportunity.

Keywords: Earthquake, Education After Earthquake, Teacher Opinions

1. Introduction

Natural or manufactured disasters cause deep societal wounds (Arcaya et al., 2020; Bradshaw, 2004). One of these disasters is earthquakes. Although earthquakes are of natural origin, many factors, such as unconscious construction, use of poor-quality materials in buildings, and not building on good ground, cause the earthquake to become a manufactured disaster. The earthquakes that occurred in the Pazarcık (7.8 Mw) and Elbistan (7.7 Mw) districts of Kahramanmaraş on the same day resulted in significant earthquakes in 11 provinces (Kahramanmaraş, Hatay, Gaziantep, Malatya, Şanlıurfa, Adıyaman, Diyarbakır, Adana, Osmaniye, Kilis and Elazığ) caused a disaster (Istanbul Technical University [ITU], 2023). These earthquakes constitute one of the biggest disasters in our country, not only with their size but also with their impact areas covering 11 provinces. The earthquakes that occurred one after another with these magnitudes caused many losses of life and property.

It is possible to express the damages of earthquakes as loss of life, physical destruction, displacement of people, security problems, and economic losses (Deryugina, 2022). The damage that earthquakes cause significantly impacts social processes and human health (Arcaya et al., 2020). Transportation, health, education, agriculture, and other sectors are the main factors negatively affected by earthquake disasters (Marangoz & İzci, 2023). Due to the problems experienced in these sectors, people in earthquake regions have difficulties accessing services. For this reason, rapid response programs should be created by evaluating the results that may occur after the earthquake in various scenarios (Guerin-Marthe et al., 2021; He, 2021). These programs are long-term studies that require a wide variety of disciplines to work with many institutions and organizations in line with a specific goal.

Although the exact timing of earthquakes is unknown and cannot be prevented, it is possible to eliminate their destructive effects. However, people generally do not expect to be harmed by earthquakes

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(Murphy et al., 2005) and do not gain risk perception awareness (Turner et al., 1986). Although do not have sufficient awareness of the consequences of these reasons, the reflection of earthquakes on society (economic, psychological, and sociological) affects all people living in the country (Baytiyeh, 2018; Kazan, 2021; Zhang et al., 2010). In this context, as a society, our culture and awareness of earthquake preparedness should be formed against the adverse effects of earthquakes.

Practical education activities provided by teachers in schools can be a solution for the formation of an earthquake preparedness culture and awareness in society, reducing the damages of the earthquake and returning to everyday life after the earthquake (Değirmenci et al., 2019; Lazarus et al., 2003). Because disaster awareness training given at all levels is essential in order to increase the disaster resilience of the communities, reduce the rates of adverse effects from disasters and be prepared for disasters (Aksa et al., 2020; Clerveaux et al., 2010; Cvetković et al., 2015; Kurita et al., 2006; Varol & Kırıkkaya, 2017). On the other hand, education is one of the most effective tools for countries to cope with the social trauma caused by disasters (Bensalah, 2002; Le Brocque et al., 2016). Preparing for the problems arising from earthquakes and creating social awareness about natural disasters are effective methods for minimizing the damages caused by earthquakes, especially in countries such as Türkiye that are at risk of earthquakes (Öztürk, 2013). Because ignorance about earthquakes and a lack of awareness about earthquakes increase people's risk factors for earthquakes (Akpolat et al., 2021). According to Hurnen and McClure (1997), individuals with high earthquake knowledge were likelier to participate in earthquake damage reduction studies. As individuals' level of knowledge about earthquakes increases, their ability to prepare for earthquakes and create safe living spaces also increases (Aydın & Coşkun, 2010; Özdemir et al., 2001). Because among the most important causes of loss of life and property in the face of earthquakes, the inadequacy of the measures taken and the insufficient awareness of society about earthquakes are shown (Karakuş, 2013). In this context, there is a need for cooperation between the individual, family, neighborhood, local government, regional, national, and international dimensions to reduce the damages and be prepared for the earthquake. Because the participation of the family and the stakeholders in society in forming an earthquake culture in the society is essential not only for the development of disaster education but also for its sustainability (Takeuchi et al., 2011).

Children constitute a large segment of the population most affected by disasters (Le Brocque et al., 2016; Peek, 2008). Incorporating appropriate knowledge and skills about hazards and disaster risk reduction into school curricula, starting early, will significantly contribute to a safe society and disaster risk reduction (Musacchio et al., 2016). In this respect, earthquake education and awareness should be an education starting from preschool education and continuing throughout life in primary and secondary education (Karakuş, 2013; Sharpe & Kelman, 2011). Because it is vital to provide children with the knowledge and skills about hazards and disaster risk reduction in schools in order to protect these children against disasters that will occur today and to build a safe society in terms of disasters in the future (Ünalan et al., 2020; Musacchio et al., 2016). In addition, with this training, students can raise awareness by informing their families and close circles about earthquakes (Davis et al., 2003). Students' lack of knowledge about earthquakes may cause them to continue their traditional views about earthquakes and to fall into various misconceptions (Tsai, 2001; Ross & Shuell, 1993).

1.1. Purpose and importance of the research

Education plays a significant role in mitigating the impact of natural disasters, particularly earthquakes. However, it is worth noting that the education sector itself is highly vulnerable and prone to substantial disruptions in the event of such disasters. The adverse effects of disasters on educational institutions encompass several aspects, including the disruption of school access, physical harm to school infrastructure, impairment of routine school services, hindered educational accessibility, and diminished student motivation to attend school. In 2010, approximately 11,000 schools in Pakistan

were destroyed or severely damaged by a significant earthquake (Chuang et al., 2018). In the earthquake in Mexico City, the capital of Mexico, in 1985, nearly 25 school buildings were destroyed, and 760 school buildings were severely damaged (Gratton et al., 1986).

Similarly, after the earthquakes that took place in our country centered in Kahramanmaraş, Pazarcık, and Elbistan on February 6, 24 out of 20,868 buildings affiliated to the Ministry of National Education in the region were destroyed, and 83 received heavy damage. This situation has brought many problems in schools. In this context, this research examines the post-earthquake education process from the teachers' perspective. In this respect, research aims to reveal the problems experienced in returning to Education after the earthquake in the provinces declared disaster areas and the solutions for the problems.

2. Method

The present investigation was conducted within the framework of a phenomenological design, one of the qualitative research designs. The primary objective of the phenomenological design is to elucidate diverse experiences about a specific phenomenon (Fraenkel et al., 2012). When disclosing these experiences, the researcher ensures that the participants engage in a thorough and enduring involvement (Moustakas, 1994). This research involved the implementation of long-term interviews with teachers employed in the region after the earthquake. Long-term interviews were employed to uncover a limited number of experiences.

2.1. Research group

The research group was determined by sampling the maximum variety of purposeful sampling types. Maximum diversity aims to identify and define the main themes that include many differences in the sample (Patton, 2015). In the maximum diversity sampling type, it aims to reflect the differences of individuals who may be a party to the problem in relatively small sample groups at the highest level (Yıldırım & Şimşek, 2013). Therefore, while forming the research group research, diversity was increased with teachers from different fields and ages working in provinces adversely affected by the earthquake. Demographic information about the participants is presented in Table 1.

Table 1

Student Distribution by City, Department, Length of Occupation, and Gender

	City	Section	Occupation Period	Gender
S-1	Malatya	Turkish Language Teacher	13	Male
S-2	Kahramanmaraş	Social Studies Teacher	10	Female
S-3	Malatya	Physical Education Teacher	18	Female
S-4	Hatay	Science Teacher	14	Male
S-5	Gaziantep	Religious Culture and Ethics Education Teachers	13	Female
S-6	Malatya	Primary School Teacher	26	Female
S-7	Adıyaman	Turkish Language Teacher	11	Male
S-8	Kahramanmaraş	Primary School Teacher	21	Female
S-9	Hatay	Guidance and Psychological Counselor	6	Male

2.2. Data collection tool and data collection process

The data collection process involved using semi-structured interviews to gather information that would shed light on the participants' experiences, aligning with the research objectives. The researcher constructs an interview guide encompassing predetermined questions during the semi-structured interview. However, the researcher also has the flexibility to incorporate additional questions based on the specific circumstances that arise during the interview (Sönmez & Alacapınar, 2016). Additional inquiries can be organized during the semi-structured interview to elicit further information from participants, enhance understanding, or illustrate concepts (Merriam, 2009). In preparing the interview questions, 10 sample questions were determined from studies conducted in the relevant literature. For the determined question pool, opinions were received from 7 academicians who work in the field of earthquake education and have a doctorate in Turkish language education. In the context of expert opinions, the interview form included 7 basic questions. These questions were asked in additional questions at the end during the interview.

The data for this research were collected through interactive means (zoom and google teams) within an online environment. The interviews were captured utilizing the voice recording functionality of the computer. A precaution was taken to permanently delete the data after transcription to safeguard participant confidentiality and prevent unauthorized access to the interview data. The interviews were conducted by the researchers and had an average duration of 27 minutes.

2.3. Analysis of data

Data analysis in qualitative research encompasses several vital steps: data preparation, coding, theme development, and presenting findings through various means such as tables, figures, or discussion (Creswell, 2016). The examination of qualitative data primarily encompasses two fundamental forms of analysis: descriptive analysis and content analysis. The present research employed content analysis as a method for analyzing the data. Content analysis refers to systematically examining qualitative materials of substantial volume, aiming to identify recurring words and themes. This process involves condensing the data into smaller qualitative units, thereby enabling the extraction of meaningful insights (Patton, 2015). Specifically, a coding system was employed wherein the first participant was denoted as "S-1," and the sixth participant was denoted as "S-6". The data is organized according to thematic categories and is supported by relevant teacher opinions in direct quotations.

2.4. Reliability of qualitative data

To enhance the internal validity of the research, the researchers employed a series of probes and momentary questions during the individual interviews conducted with the teachers. Two distinct researchers conducted the coding process separately to ensure inter-coder reliability while analyzing the acquired data. The themes and codes identified were further validated by including expert opinions. Direct quotations from the interviews with teachers were incorporated in developing the codes and themes for the research. Furthermore, there was a 30-day interval between the data collection and subsequent data analysis phases. Efforts have been made to minimize the potential influence of researchers' personal opinions on the analysis process. To enhance the research's transferability or external validity, the research group was chosen using convenient sampling, one of the purposeful sampling methods. The interviews were conducted in real time with the teachers via an online platform. Furthermore, a comprehensive literature review was undertaken to ensure the research's confirmability (external reliability). Additionally, prior to administering the interview questions, pilot interviews were conducted with the teachers, and the questions were subsequently refined based on the feedback received from experts in the field.

2.5. Ethical principles

The ethics committee approval for this study was granted by Yıldız University Rectorate Social and Humanities Research Ethics Committee with decision file and number 2023.07 on 02.07.2023.

3. Finding and interpretation

This research's findings, which examine the problems experienced in returning to education and training in disaster areas after the earthquake and teachers' opinions about the solution to these problems, are explained within three themes. These themes are problems experienced in the context of expert opinions and data, produced solutions, and suggestions. Identified themes were explained by supporting one-to-one quotations from teacher opinions.

3.1. Experiencing problems

In the interview with the teachers, the theme of "Experienced Problems," which includes the problems experienced in the education process in the disaster areas after the earthquake, was examined within the framework of two sub-themes: the problems experienced by the teachers and the problems experienced by the students according to the teachers.

Table 2

Experiencing Problems

Themes	Sub-themes	Codes
Experienced Problems	Problems Experienced by Teachers	The Problem of Not Meeting Basic Needs
		Fear and Anxiety
	Problems Experienced by Students According to Teachers	The Problem of Access to School
		Transportation Problem
		Absenteeism

3.1.1. Problems experienced by teachers

The earthquakes in Pazarcık and Elbistan in Kahramanmaraş on February 6, 2023, caused many problems for teachers working in 11 provinces. It is possible to express these problems as shelter and nutrition, fear and anxiety. Explanations regarding these problems are presented below, supported by verbatim quotes from teachers' opinions.

3.1.1.1.The problem of not meeting basic needs

One of the biggest problems experienced by teachers working in areas declared disaster areas after the earthquake is the inability to meet their basic needs of shelter and nutrition. Especially with the devastating effect of the earthquake in the region, there were problems in finding a rental house and food materials due to transportation. In addition, teachers needed help accessing cleaning products, communicating, finding potable water, and finding the necessary energy source for heating. According to the teachers, healthy education and training can only be realized by overcoming these problems. Because teachers have to meet their own basic needs first. For example;

> S-1 "*For many of us, the biggest problem was sheltered in the first stages, but it is still not solved for most of us. Naturally, we cannot help our students without meeting our own needs.*"

S-7 "*The most common problem is accommodation. Buildings are destroyed, everywhere is in ruins, some buildings are said to be slightly damaged, but you cannot enter that building whose wall is completely destroyed.*"

S-9*"We haven't started the task yet and these are the questions you asked, I would like to know where we will stay and what will happen, psychologically, of course, there were difficulties in adaptation.*"

S-3*"Most of our students stay in tents because their houses are burned down, and even their basic needs are a big problem, let alone education. Likewise, even if the houses are slightly damaged, no one can trust their house because the earthquakes still continue, they cannot leave their children and come to school, most of them are already trying to fill the time with reports in other provinces.*"

S-4 "*Housing is the first need. Unfortunately, the issue of Housing is left entirely to the initiative of the managers. I am not from Kırıkhan, so I do not have a house; my rented house is heavily damaged. Shared toilets and bathrooms are a big problem in container cities. Electricity and heat are involved in the same problem*."

In addition, teachers stated that they need help finding "hot water, toilet, electricity, and clean water" in tent and container cities. In this context, the inability of teachers to meet their basic needs constituted the most crucial problem affecting the education process after the earthquake. Because the teachers stated that they would only benefit the students if they met their and their family's needs. Ö-6 "*There were difficulties in housing. Our waters are dirty and continue. We could not even meet our family's needs, we did not even have time to think about education*" statements support this situation.

3.1.1.2.Fear and anxiety

According to the teachers, the tremors experienced during or after the earthquake caused fear and anxiety in many teachers. In this case, the teachers were psychologically worn out. The feeling that the earthquake would never end, the fear of death, and the anxiety of losing loved ones affected the teachers negatively in many ways. These damaging processes have caused fear and anxiety in many teachers. This state of fear and anxiety negatively affected teachers' focus, motivation, quality of life, and attitudes. For example;

S-5 "*Sometimes I felt uneasiness, sometimes fear. Because I experienced 2 big earthquakes inside the house.*"

S-7*"Psychologically, life has started to return to normal, but there is work everywhere, the destruction continues. So how can it be improved. He is constantly shaking, which affects him psychologically*."

S-2*"After the earthquake, the most experienced problem was psychological problems. We are constantly shaking and these shakes cause great panic in people, especially in aftershocks over five, there was great panic in the city. But since the school is solid in our region, we continued our education in schools rather than tents.*"

In addition, it is seen that one of the most important reasons for the fear and anxiety experienced by teachers after the earthquake stems from the loss of students. Teachers were significantly affected by the death of their students and stated that they could not focus on education because of this process. S-4's "*The death of a few of my students has been keeping me awake for months even though I am far away, I am normally a person who sleeps when my head hits the pillow, but this incident hurts me indescribably" and*Ö-6's "*We were distraught that we could not see most of our students, so it is difficult for us to teach, there are more things in life than academic lessons."* statements support this situation.

3.1.1.3.The problem of access to school

The fact that many houses in the earthquake zones were heavily damaged or demolished and the lack of rental houses forced the teachers to reside in the surrounding provinces or in the villages where the destruction was less. In this case, it limited teachers' access to the schools where they work. Especially teachers who do not have a private vehicle have difficulties in transportation to school. In this case, it negatively affects the education and training processes after the earthquake. For example;

S-7 "*Now, since there are no houses in the center, teachers have to come even from the surrounding provinces. Now, for example, the man comes from Elazığ. He cannot come, so they come in turns."*

S-5 "*Those who come and go from the villages who do not have a private vehicle have a lot of problems. Transportation in the city is a big problem. For example, the lady works too. If she doesn't leave me in the morning, it is very difficult for me to go to school. There is no transport system, so there is no city.*"

3.1.2. Problems experienced by students according to teachers

According to the teachers, many problems negatively affected the students after the earthquake. These problems are transportation problems, absenteeism, and fear and anxiety. Detailed explanations about these problems that negatively affect students are presented below.

3.1.2.1.Transportation problem

There are significant problems in transportation because the schools destroyed or severely damaged in the earthquake area are moved to different regions, there is no transportation network and service system in the cities, and teachers live in villages and other cities. These problems, on the other hand, negatively affect education and training activities. Due to the devastating effect of the earthquake in the region, the inability to provide an adequate service network for students, the destruction of students' schools, and therefore having to go to different schools by bus are among the problems experienced by students. For example;

S-3 "*Since our school was heavily damaged, we temporarily came to another building nearby. If a few students can come this time, the new school cannot come to them because it is far away from them, because the means of transportation are running very little, and there is no shuttle anyway.*"

S-6 "Schools *We had to go to other schools because it was damaged. We had transportation difficulties, transportation was* minimal."

3.1.2.2.Absenteeism

Due to the destruction in the region after the earthquake, students' attendance at school was adversely affected. According to the teachers, reasons such as the transition to bussed education as a result of the destruction of schools or severe damage, the moving of students to different provinces with their families, the fact that students do not have to attend school, and the students living in tents do not want to leave their families are among the biggest reasons for student absenteeism. Due to these problems, very few students attend school, and as a result, educational activities are negatively affected. Some teacher statements that support these statements are as follows;

S-2*"We have many students who do not come because students do not have to attend. They never came, so the classes are almost half. That's how we ended this period, frankly, in half."*

S-7"*The biggest problem after the earthquake is that students cannot attend school due to transportation. We normally have 100 students, but the number of students coming to the school is 6*."

S-3 "*After the earthquake, education became a problem in itself. Neither the students nor the teachers could come to school.*"

In addition, some students of the teachers lost their lives due to the earthquake. Due to this situation, classmates want to avoid coming to school. Because some students have lost their closest friends, teachers stated that this situation causes psychological problems and makes students feel negative emotions (anger, sadness, inability to feel next to them, fear, anxiety, etc.) toward school. S-3's "*children have lost their classmates, it is a tough situation for them. Your best friend is not with you when you come to school. These problems affect absenteeism*" statement supports this situation.

3.2. Solutions produced to adapt students to the process

The non-teachers were also asked what solutions they came up with to increase students' attendance at school and support students academically. These solutions, produced according to the teachers, were collected under the sub-themes of "Communicating One-to-One with Students, Organizing Activities, and Supporting Academically."

Table 3

Solutions Produced to Adapt Students to the Process

Themes	Sub-themes	Codes
Solutions Produced to Adapt Students to the Process	Communicating One-on-One with Students	Communication
	Organizing Harmony and Bonding Events	Support
	Providing Academic Support for Equal Opportunity	Feel Loved

3.2.1. Communicating One-on-One with students

Teachers stated that they communicated face to face with their students and colleagues when they returned to education after the earthquake. Teachers also stated that they provided psychological support to their students and colleagues in this way. Teachers stated that students need to talk, being cared for by each other makes them feel comfortable, psychological support should be provided, they should feel loved, and they should be able to give the message that they are with us. The teachers provide all this support by establishing one-to-one communication with the students. S-6 described this situation as "*We took care to communicate effectively by touching each child by establishing one-to-one communication.*" explained. At this point, to protect children from the destructive effects of the earthquake and support them, it is necessary to communicate with each student, and the student should be with their teachers, whom they value on their difficult days. Some of the teacher's views that support these statements are as follows;

S-2 "*I also personally guided children one-on-one. Because I received a TUBITAK project related to earthquake drill during the November break. Here, the project was made because there was a big earthquake expected. I was already trained for before, during and after. Since I received psychological support training at the time of the earthquake, we are not experts in the field of psychological support as much as we can, but at that time I also put it into practice during the earthquake, I don't know, there was a sense of duty, I don't know.*"

S-3 "*In the meantime, I reached most of my students, I call and ask, I talk, I try to be with them financially and morally. Even if I can't do anything, I say that I love them and that this situation will pass and better times will come, believing in my heart. I think it's much more important to us right now. Love heals every wound."*

S-9 "*Of course, the interview with the students who wanted to, as a requirement of my branch, about the psychological resilience and the acceptance of the normality of the events, was not very professional, of course, because it was over the wire.*"

S-5 "*We had few students, there was a fear and uneasiness among those who came and their families, we had conversations that would make them forget what they went through..*"

In addition, teachers also communicated with parents one-on-one. In this communication process, teachers provided educational support to parents on how to treat children in these difficult times, what activities to do, and how to tell students about losing their friends. Ö-1 "*I always answered the calls of the parents, I tried to relieve their conflicts about the school by talking. I tried to explain to the children what activities should be done and how to approach the children.*" supports this interpretation.

3.2.2. Organizing harmony and bonding events

Teachers stated that after the earthquake, they carried out various activities to ensure children's adaptation to school, to support the bond between their friends, and to support their academic and emotional skills. With these activities, teachers aimed to ensure that students stay caught up in educational activities and to protect children from the psychological effects of the earthquake. The most preferred activities by the teachers are creative drama, cooperative learning, sports activities to establish friendship ties, nature walks, music-supported skill training, in-school activities to make people like school, visits, and fun picnics. According to the teachers, the primary purpose of these activities is to increase school adjustment and strengthen the bond between peers. Because in these difficult times, the support of friends or close friends is significant for students to get through the process. Teachers stated that with these activities, they tried to contribute to the student's return to everyday life and their academic skills. Some of the teachers' opinions that support these statements are as follows;

S-1 "O *horses, awards... More precisely, by doing what they want as a student, more than what I want as a teacher. Besides the lesson, I tried to get away from the misty air of the earthquake, to make people forget what happened."*

S-8 "A *visits to relatives and friends. Being in different environments, different activities, clown shows, meals, games. Have fun. picnics. In this way, I bring students closer together."*

S-2" *Here we organized activities and tournaments mostly like this outside, whether it be a football tournament, a volleyball tournament, dodgeball... Because there are things that children might like, here we took them for a nature walk. Communication and cooperation between them became stronger*."

Teachers primarily try to provide emotional adaptation rather than academic success to support children's education and training activities in this context. In other words, according to the teachers, academic success-oriented education will only reach its goal if it eliminates emotional problems. Within this, various group activities and friend support the emotional adaptation of children. Ö-6 "*After the earthquake, we needed to attract children to school rather than teaching. In this context, many of my friends have organized activities in their own way to support children's emotional adaptation and re-establish the bond with the school and their friends.*" statement supports this situation.

3.2.3. Providing academic support for equal opportunity

Teachers have carried out various academic activities to prevent learning losses in students and provide equality of opportunity among students. In particular, the teachers provided additional training to the students to prevent the level of difference between the students and their peers and to ensure equality of opportunity. Students who do not have equal opportunities compared to their peers in educational environments show a lack of academic success. Because the presence or absence of educational environments and materials directly affects academic achievement. Teachers have implemented various academic activities so that students can have equal opportunities. These activities can be listed as giving additional homework, doing much repetition, organizing voluntary summer schools, providing distance education support, opening additional courses to students preparing for exams, and providing additional material and book support. However, teachers stated that distance education support is limited. Because teachers stated that most of the students need more technological infrastructure. The opinions of teachers supporting this interpretation are as follows;

S-1*"I tried to support the students' detachment from the lessons with plenty of repetition and award-winning assignments.*"

S-4 "*I followed the progress of my students academically and made up a scholarship exam distance education plan for the summer.*"

S-7 "*I gather students preparing for the exam in a Primary School. I explain what topics are missing for the exam, of course, I can do this to incoming students.*."

S-6 "*We were also in a very difficult situation. We asked for online education and book donations from other provinces. We tried to keep our psychology good. Our state must first correct this situation so that the additional lessons we provide do not have sufficient infrastructure for distance education in their children."*

In addition, teachers stated that they support students in subjects such as adaptation to school, motivation, psychology, attitude, anxiety, and interest in lessons to offer equal opportunities to students. Ö-1 "*We provided support to students to increase their interest, attitude and motivation to the lessons as well as academic activities so that they do not fall short of their peers in the country*, " supports this situation.

3.3. Suggestions

When the opinions of the teachers were examined, suggestions were made on the issues of removing compulsory service, providing a safe environment, making financial improvements, designing the transportation system by the number of students, and bringing students together in different social environments without opening schools in order to solve the problems experienced in the disaster area after the earthquake. The opinions of teachers supporting these statements are as follows;

S-5 "*We demand that the necessary measures be taken to exempt our teachers and the education community working in earthquake zones from compulsory service, that safe home and education environments are prepared as soon as possible, especially for teachers and students, and that financial support is improved accordingly.*"

S-9*"Uncertainties about what will happen come to my mind all the time. I want this situation to be shared with us as soon as possible and I want to live with awareness of what will happen. The uncertainties should be shared with us with solutions without causing anxiety and obsessions in many teachers I meet."*

S-4*"This perception changes and if each teacher is put in a personal container (with its own bathroom and toilet) and an air conditioner in each container, the housing problem is solved. We can see an example of this in Nurdağı district."*

S-7 "*For example, something like this could be done. Without transportation and security, there is no participation in education. We provided them, maybe they could participate in the training*."

S-2"*But in order for the students to see each other, maybe the school might not be opened, other methods could be found to bring the students together, or our classes could be in tents so that we can feel more comfortable.*"

4. Conclusion and Discussion

This research presents the findings of an investigation that seeks to uncover the challenges encountered during the reintegration into education following an earthquake in provinces designated as disaster areas. The research also proposes potential solutions to address these challenges. The results are organized into three overarching themes: the problems encountered, suggestions for solutions, and recommendations. This part presents the findings and analysis of the themes, sub-themes, and codes.

Upon analysis of the teachers' perspectives, it was discovered that they encountered numerous challenges inside the provinces designated as disaster regions after the earthquake. The foremost challenge among these issues is the inability to fulfill fundamental necessities. One of the primary challenges teachers face is the inability to secure suitable Housing, particularly in the aftermath of an earthquake. Additionally, the disruption of transportation lines hinders their access to an adequate food supply. Furthermore, teachers need help accessing necessities such as sanitary facilities, hot water, and clean drinking water. These issues have adverse effects on the professional life of educators but also impose constraints on their educational and instructional endeavors. In the context of large-scale disasters, the expansive geographical scope of the event leads to a substantial influx of individuals seeking to aid their loved ones from various regions across the nation. This surge in vehicular traffic poses significant challenges, resulting in congestion and subsequent disruptions to domestic and international transportation routes. Moreover, local authorities may relocate from their respective provinces and cities in response to the disaster. These problems make it difficult to help from the center (Yalçın, 1999).

One additional challenge educators encounter is the fear and anxiety experienced as a result of the profound impact of the earthquake. The teachers were adversely affected in various ways by the unpleasant emotions stemming from the persistent aftershocks of the earthquake, including a sense of perpetual uncertainty, fear of mortality, and fear of the potential loss of their loved ones. These adverse processes have resulted in the experience of fear and worry among a significant number of teachers. Fear and worry adversely affected teachers' focus, motivation, quality of life, and attitudes. The impact of traumatic occurrences, such as the loss of loved ones after an earthquake, individuals directly affected by the destruction, and survivors who endured being trapped under debris, can be experienced with heightened intensity. In conjunction with the initial anxiety experienced after an earthquake, this anxiety can induce heightened levels of dread and anxiety in persons after aftershocks or other natural calamities (Pane et al., 2008). Anxiety and fear are among the variables that impact the psychological well-being of persons. Following the seismic event, students were confronted with various concerns, including the devastation of their residences, the bereavement of their dear ones, personal injuries, and analogous circumstances (Turhan, 2022).

Furthermore, it is essential to consider that the psychological well-being of pupils may be adversely impacted by their fear of experiencing another earthquake (Kurt & Gülbahçe, 2019). Conversely, persons who transition from their stable and comfortable residences to temporary dwellings such as

tents or container cities, which may present security challenges, may experience heightened fear due to the potential exposure to issues related to security, protection, and shelter (Long & Wong, 2012). The findings of this research provide empirical support for the dread and anxiety reported by the teachers included in our research.

Based on the teachers' observations, the attendance of pupils at school was negatively impacted due to the devastation that transpired in the area following the earthquake. Students do not attend school primarily due to transportation-related issues. Furthermore, a significant contributing factor to student absenteeism is the relocation of families, which often entails pupils leaving their familiar surroundings and friends behind. Consequently, students may be reluctant to attend school due to losing these social connections. Certainly, transitioning to a new school environment can present challenges for students, which might contribute to increased absenteeism. Following the seismic event, a significant proportion of the student population was compelled to evacuate their residences alongside their respective families.

Consequently, pupils need access to an appropriate environment conducive to studying and engaging in remote educational activities. According to Ki (2020), the occurrence of this issue has the potential to impede earthquake victims' access to education. In their research, Cuaresma (2010) investigated the correlation between disaster exposure and educational outcomes, particularly regarding human capital. The research's findings indicate a robust and adverse association between catastrophe exposure and educational participation. In their research, Paudel and Ryu (2018) investigated the correlation between the seismic event of magnitude 6.9 on the moment magnitude scale (Mw) that transpired in Nepal in 1988 and its impact on educational achievements. Upon examination of the collected results, it was discovered that the continuing Education and educational completion rate was low.

Similarly, the research conducted by Caruso and Miller (2005) investigated the correlation between the seismic event of magnitude 7.9 on the Richter scale, which took place in Peru in 1970, and its impact on educational achievements. Upon examination of the acquired statistics, a discernible decline in educational involvement was seen, exhibiting variations based on gender. To clarify, the seismic event has been found to hurt the educational duration of male individuals, resulting in a reduction of around 0.5 years compared to their unaffected counterparts.

Similarly, females have a more pronounced decrease in educational duration, with a reduction of approximately 0.8 years. In addition, The research conducted by Segarra-Alméstica et al. (2022) investigated the impacts of Hurricane María and the earthquake in 2020. Following the natural catastrophe, it was determined that the kids residing in the affected region encountered difficulties attending school. In a research conducted by Pane et al. (2008), the researchers examined the collective effects of Hurricanes Katrina and Rita in 2005, drawing parallels to seismic events such as earthquakes. The research revealed that a quarter of public-school children in Louisiana experienced displacement because of hurricanes, leading to a portion of pupils not enrolling in school.

Additionally, absenteeism emerged as a significant concern. The findings of this investigation are consistent with the findings of our research. In the present context, it can be argued that the occurrence of natural calamities such as earthquakes poses challenges to the accessibility of education.

Teachers have also devised multiple strategies to facilitate students' acclimation to the educational environment and mitigate issues related to student absence. One of the most crucial aspects is the establishment of direct communication channels between educators and pupils, as well as between educators and parents. Educators assert the need to maintain ongoing communication to offer pupils psychological assistance and foster a sense of connectedness. Another proposed option involves implementing activities to foster harmony and strengthen interpersonal bonds. Educators deem it

crucial to cultivate interpersonal connections with peers and the educational institution, to foster student retention within the academic setting.

Furthermore, educators have asserted that pupils need to be afforded equitable opportunities relative to their peers, resulting in a decline in their scholastic performance. In response to this particular circumstance, educators have used various strategies, including developing supplementary instructional materials, providing virtual training opportunities, and facilitating online courses. The extant scholarly literature underscores a notable decline in student attendance and a concomitant rise in absence rates in the aftermath of the seismic events. According to Silwalvd's (2018) research conducted in the aftermath of the earthquake in Nepal, it was observed that students refrained from attending schools due to the unavailability of suitable accommodations, resulting in their temporary residence in tents. Additionally, the research findings indicated a significant decline in the overall student population inside educational institutions. The present circumstance hurts the development of kids' academic and fundamental literacy abilities (Gomez & Yoshikawa, 2017; Pane et al., 2008; Segarra-Alméstica et al., 2022).

Similarly, students experience adverse academic consequences because of challenges such as disrupted school attendance and difficulties with attention following an earthquake disaster. The presence of significant adult figures is crucial for adolescents to get instruction on effectively managing their emotional responses following the cessation of an unforeseen threat. Parents, educators, and other individuals responsible for the well-being of children and adolescents can assist them in managing the aftermath of a natural calamity by maintaining composure and providing reassurance over their safety and security. According to Lazarus et al. (2003), it is imperative for emergency response efforts to prioritize the instruction of efficacious coping mechanisms, the cultivation of supportive interpersonal connections, and the facilitation of children's comprehension of their emotional responses. In this context, notwithstanding the prevailing low standard of living, educators have undertaken numerous initiatives to enhance student attendance rates, facilitate their integration into the school environment, foster academic achievement, promote equitable opportunities vis-à-vis their peers nationwide, and develop students' social connections.

According to educators, online education has yet to fulfill its intended objectives effectively. In order to ensure the successful implementation of remote Education, it is necessary to undertake a range of technological, institutional, and political actions and policies (Pregowska et al., 2021). The presence of tent cities, where most students reside, has a detrimental impact on the efficacy of online education. In their research conducted in 2007, Wang, Yang, and Li examined the impact of the 7.8 Mw earthquake that occurred in Tangshan, China, in 1976. Their findings revealed a notable decrease in educational accessibility because of the disaster. The research results indicated that the cohorts impacted by the earthquake exhibited a decrease in their performance ranging from 14% to 21% compared to their unaffected counterparts. In this instance, the evidence substantiates the notion that it is imperative to offer pupils equitable opportunities in comparison to their counterparts.

4.1. Suggestion

Some suggestions were made within the framework of the findings obtained in the research. These recommendations, supported by the literature, are presented below.

1) After the earthquake, there was an increase in the fear and anxiety of many teachers working in the region due to the aftershocks. This situation may cause fear and anxiety in the individuals who experienced the earthquake and society. Because the reflection of the earthquake on society is adequate for all people (Baytiyeh, 2018; Zhang et al., 2010). At this point, psychological support can be provided to all teachers working in the country so that they can overcome the negative process that our country

experienced in the earthquake (experiencing anxiety and fear, feeling sad, thinking that they will experience the same situation, etc.) in a positive way.

2) According to the teachers, one of the most critical problems in returning to education after the earthquake is the problem of students needing to attend school. In solving this problem, significant responsibilities fall on the state, families, and institutions. Takasaki (2017) stated that disaster relief can reduce dropout among victims. In this context, transportation, accommodation, nutrition, and similar basic needs should be met to ensure the students' attendance affected by the earthquake.

3) Earthquake students were psychologically affected negatively. Students' psychological state after the earthquake is significant, and educators should take this situation seriously (Doğan et al., 2021). In this context, teachers can do bonding activities in their Primary Schools with games that support bonding and increase school adjustment.

References

Akpolat, Y., Kaya, G., Çalışkan, A., & Karaağaç, Ş. (2021). İzmir deprem afetinden etkilenenler üzerine sosyolojik bir araştırma: depremle ilgili toplumsal bilincin analizi [A sociological research on those affected by the Izmir earthquake disaster: Analysis of social consciousness about the earthquake]. *Dokuz Eylül Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 23*(2), 723-753. https://doi.org/10.16953/deusosbil.841864

Aksa, F. I., Utaya, S., Bachri, S., & Handoyo, B. (2020). The role of knowledge and fatalism in college students related to the earthquake-risk perception. *Jàmbá: Journal of Disaster Risk Studies, 12*(1), 1-6. https://doi.org/10.4102/jamba.v12i1.954

Arcaya, M., Raker, E. J., & Waters, M. C. (2020). The social consequences of disasters: Individual and community change. *Annual Review of Sociology, 46*(1), 671-691. https://doi.org/10.1146/annurev-soc-121919-054827

Aydın, F., & Coşkun, M. (2010). Observation of the students' "earthquake" perceptions by means of phenomenographic analysis (Primary education 7th grade-Türkiye). *International Journal of the Physical Sciences, 5*(8), 1324-1330. https://doi.org/10.5897/IJPS.9000403

Baytiyeh, H. (2018). Online learning during post-earthquake school closures. *Disaster Prevention and Management: An International Journal*, *27*(2), 215-227. https://doi.org/10.1108/DPM-07-2017-0173

Bensalah, K. (2002). *Guidelines for Education in situations of emergency and crisis: EFA strategic planning*. UNESCO Publishing. https://unesdoc.unesco.org/ark:/48223/pf0000128214

Bradshaw, S. (2004). *Socio-economic impacts of natural disasters: A gender analysis. United Nations Publications*. https://www.cepal.org/sites/default/files/publication/files/5596/S045330_en.pdf

Caruso, J. B., & Miller, S. (2015). Long run effects and intergenerational transmission of natural disasters: A case study on the 1970 Ancash Eartquake. *Journal of Development Economics,* 117, 134-150. https://doi.org/10.1016/j.jdeveco.2015.07.012

Chuang, E., Pinchoff, J., & Psaki, S. (2018, January 23). *How natural disasters undermine schooling*. Brookings. https://www.brookings.edu/blog/education-plus-development/2018/01/23/how-natural-disastersundermine-schooling/

Clerveaux, V., Spence, B., & Katada, T. (2010). Promoting disaster awareness in multicultural societies: the DAG approach. *Disaster Prevention and Management: An International Journal, 19*(2), 199-218. https://doi.org/10.1108/09653561011038002

Cuaresma, J. C. (2010). Natural disasters and human capital accumulation. *World Bank Economic Review, 24*(2), 280-302. https://doi.org/10.1093/wber/lhq008

Cvetković, V., Dragićević, S., Petrović, M., Mijaković, S., Jakovljević, V., & Gačić, J. (2015). Knowledge and perception of secondary school students in Belgrade about earthquakes as natural disasters. *Polish Journal of Environmental Studies, 24*(4), 77-85. https://doi.org/10.15244/pjoes/39702

Davis, L., Hosseini, M., & Izadkhah, Y. O (2003). Public awareness and the development of a safety culture: Key elements in disaster risk reduction. Retrieved from: https://www.academia.edu/28041679/Public_Awareness_and_the_Development_of_a_Safety_Culture_ Key_Elements_in_Disaster_Risk_Reduction

Değirmenci, Y., Kuzey, M., & Yetişensoy, O. (2019). Sosyal bilgiler ders kitaplarında afet bilinci ve eğitimi. *E-Kafkas Eğitim Araştırmaları Dergisi, 6*(2), 33-46. https://doi.org/10.30900/kafkasegt.591345

Deryugina, T. (2022). Economic effects of natural disasters. IZA World of Labor, p. 493. https://doi.org/10.15185/izawol.493

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (8th ed.). Mc Graw HIll.

Gomez, C. J., & Yoshikawa, H. (2017). Earthquake effects: Estimating the relationship between exposure to the 2010 Chilean earthquake and preschool children's early cognitive and executive function skills. *Early Childhood Research Quarterly*, *38*, 127-136. https://doi.org/10.1016/j.ecresq.2016.08.004

Gratton, V., Thier, H. D., Arjonilla, E., & Melgar, R. (1986). *The recovery of schools from earthquake effects*. Natural Hazards Research and Applications Information Center, University of Colorado. https://digitalcommons.usf.edu/cgi/viewcontent.cgi?article=1030&context=fmhi_pub

Guérin-Marthe, S., Gehl, P., Negulescu, C., Auclair, S., & Fayjaloun, R. (2021). Rapid earthquake response: The state-of-the art and recommendations with a focus on European systems. *International Journal of Disaster Risk Reduction, 52,* 101958. https://doi.org/10.1016/j.ijdrr.2020.101958

He, J. (2021). Earthquake evacuation simulation of multi-story buildings during earthquakes. *Earthquake Spectra, 37*(1), 95–113. https://doi.org/10.1177/8755293020957353

Hurnen, F., & Mcclure, J. (1997). The effect of increased earthquake knowledge on perceived preventability of earthquake damage. *The Australasian Journal of Disaster and Trauma Studies. Electronic Journal*, 3.

İstanbul Teknik Üniversitesi-İTÜ (2023). *6 Şubat 2023: 04.17 Mw 7,8 Kahramanmaraş ve 13.24 Mw 7,7 Kahramanmaraş depremleri: Ön inceleme raporu [February 6, 2023 04:17 Mw 7.8 Kahramanmaraş and 13:24 Mw 7.7 Kahramanmaraş Earthquakes: Preliminary report].* İstanbul Teknik Üniversitesi. Retrieved from: https://haberler.itu.edu.tr/docs/default-source/default-documentlibrary/2023_itu_deprem_on_raporu.pdf?sfvrsn=77afe59e_4

Karakuş, U. (2013). Depremi yaşamış ve yaşamamış öğrencilerin deprem algılarının, metafor analizi ile incelenmesi [Examining the earthquake perceptions of students who have experienced and have not experienced the earthquake through metaphor analysis.]. *Doğu Coğrafya Dergisi, 18*(29), 97-116. https://doi.org/10.17295/ataunidcd.31309

Kazan, H. (2021). Dijital habercilik bağlamında trajik haberlerde etik ve bireyler üzerindeki etkisi üzerine bir araştırma [A research on ethics in tragic news and its impact on individuals in the context of digital journalism.]. *International Journal of Social Inquiry, 14*(2), 661-692. https://doi.org/10.37093/ijsi.962864

Kurita, T., Nakamura, A., Kodama, M., & Colombage, S. R. N. (2006). Tsunami public awareness and the disaster management system of Sri Lanka. *Disaster Prevention and Management: An International Journal, 15*(1), 92-110. https://doi.org/10.1108/09653560610654266

Kurt, E., & Gülbahçe, A. (2019). Van depremini yaşayan öğrencilerin travma sonrası stres bozukluğu düzeylerinin incelenmesi [Examining the post-traumatic stress disorder levels of students who experienced the Van earthquake.]. *Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 23*(3), 957-972

Lazarus, P. J., Jimerson, S. R., & Brock, S. E. (2003). *Helping children after a natural disaster: Information for parents and teachers*. National Association of School Psychologists.

Le Brocque, R., De Young, A., Montague, G., Pocock, S., March, S., Triggell, N., . . . Kenardy, J. (2017). Schools and natural disaster recovery: The unique and vital role that teachers and education professionals play in ensuring the mental health of students following natural disasters. *Journal of Psychologists and Counsellors in Schools, 27(*1), 1-23. https://doi.org/10.1017/jgc.2016.17

Long, D., & Wong, Y.-L. R. (2012). Time bound: The timescape of secondary trauma of the surviving teachers of the Wenchuan Earthquake. *American Journal of Orthopsychiatry, 82*(2), 241–250. https://doi.org/10.1111/j.1939-0025.2012.01144.x

Marangoz, M., & İzci, Ç. (2023). Doğal afetlerin ekonomik, sosyal ve çevresel etkilerinin 6 Şubat 2023 Kahramanmaraş merkezli depremler bağlamında girişimciler açısından değerlendirilmesi [Evaluation of the economic, social and environmental impacts of natural disasters for entrepreneurs in the context of the earthquakes centered in Kahramanmaraş on February 6, 2023]. *Sosyal ve Beşerî Bilimler Araştırmaları Dergisi, 24* (52), 1-30. Retrieved from https://dergipark.org.tr/tr/pub/sobbiad/issue/78767/1285022

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. Jossey-Bass.

Moustakas, C. E. (1994). *Phenomenological research methods.* Sage. https://doi.org/10.4135/9781412995658

Murphy, B., Falkiner, L., McBean, G., Dolan, H., & Kovacs, P. (2005). *Enhancing local level emergency management: the influence of disaster experience and the role of households and neighborhoods.* Institute for Catastrophic loss Reduction, ICLR Research.

Musacchio, G., Falsaperla, S., Bernhardsdóttır, A., Ferreira, M., Sousa, M., Carvalho, A., & Zonno, G. (2016). Education: Can a bottom-upstrategy help for earthquake disaster prevention? *Bulletin of Earthquake Engineering, 14*, 2069-2086. https://doi.org/10.1007/s10518-015-9779-1

Özdemir, Ü., Ertürk, M., Güner, İ., & Koca, M. K. (2001). İlköğretimde deprem ve depremin zararlarından korunma yollarının önemi [The importance of earthquakes in primary education and ways to protect against earthquake damage]. *Doğu Coğrafya Dergisi, 7(*7), 109-131. Retrieved from: https://dergipark.org.tr/en/download/article-file/26832

Öztürk, M. K. (2013). Sınıf öğretmeni adaylarının deprem deneyimleri üzerine bir araştırma [A research on earthquake experiences of classroom teacher candidates]. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 28*(1), 308-319. Retrieved from: https://dergipark.org.tr/en/download/article-file/87142

Pane, J. F., McCaffrey, D. F., Kalra, D., & Zhou, A.J. (2008) Effects of Student Displacement in Louisiana During the First Academic Year After the Hurricanes of 2005, *Journal of Education for Students Placed at Risk*, *13*(2-3), 168-211, https://doi.org/10.1080/10824660802350169

Patton, M. Q. (2015). *Qualitative research and evaluation methods*. Sage.

Paudel, J., & Ryu, H. (2018). Natural disasters and human capital: The case of Nepal's earthquake. *World Development*, *111*, 1-12. https://doi.org/10.1016/j.worlddev.2018.06.019

Peek, L. (2008). Children and disasters: Understanding vulnerability, developing capacities, and promoting resilience-an introduction. *Children Youth and Environments, 18*(1), 1-29. https://doi.org/10.1353/cye.2008.0052

Pregowska, A., Masztalerz, K., Garlińska, M., & Osial, M. (2021). A worldwide journey through distance education—from the post office to virtual, augmented and mixed realities, and Education during the COVID-19 pandemic. *Education Sciences, 11*(3), 1-26. https://doi.org/10.3390/educsci11030118

Ross, K. E. K., & Shuell, T. J. (1993). Children's beliefs about earthquakes. *Science Education, 77*(2), 191-205. https://doi.org/10.1002/sce.3730770207

Segarra-Alméstica, E., Caraballo-Cueto, J., Cordero, Y., & Cordero, H. (2022). The effect of consecutive disasters on educational outcomes. I*nternational Journal of Disaster Risk Reduction, 83*, 103398. https://doi.org/10.1016/j.ijdrr.2022.103398

Sharpe, J., & Kelman, I. (2011). Improving the disaster-related component of secondary school geography education in England. *International Research in Geographical and Environmental Education, 20*(4), 327-343. https://doi.org/10.1080/10382046.2011.619810

Silwal, S., Dybdahl, R., Chudal, R., Sourander, A., & Lien, L. (2018). *Psychiatric symptoms experienced by adolescents in Nepal following the 2015 earthquakes*. J Affect Disord. https://doi.org/10.1016/j.jad.2018.03.002

Sönmez, V., & Alacapınar, F. G. (2016). *Örneklendirilmiş bilimsel araştırma yöntemleri [Exemplified scientific research methods]*. Anı Yayıncılık.

Takasaki, (2017). Do natural disasters decrease the gender gap in schooling? *World Development,* 94, 75-89. https://doi.org/10.1016/j.worlddev.2016.12.041

Takeuchi, Y., Mulyasari, F., & Shaw, R. (2011). Roles of family and community. R. Shaw, K. Shiwaku, Y. Takeuchi (ed.), *Disaster education* in (77-94). Emerald Group Publishing. https://doi.org/10.1108/S2040-7262(2011)0000007010

Tsai, C. (2001). Ideas about earthquakes after experiencing a natural disaster in Taiwan: An analysis of students' Worldviews. *International Journal of Science Education, 23*(10), 1007-1016. https://doi.org/10.1080/09500690010016085

Turhan, C. E. (2022). *Deprem [Earthquake]*. Öncü Yöneticiler.

Turner, R. H., Nigg, J., & Paz, D. H. (1986). *Waiting for disaster: earthquake watch in California*. University of California Press. https://doi.org/10.1525/9780520329850

Ünalan, İ., Ünalan, H. E., & Kesici, Ş. (2020). Sınıf öğretmeni adaylarının deprem konusundaki bilgi düzeyleri ve deprem risk algıları [Classroom teacher candidates' knowledge levels and earthquake risk perceptions about earthquakes]. *International Journal of Social Sciences and Education Research, 6*(2), 1492-1510. Retrieved from: https://dergipark.org.tr/en/pub/ijsser/issue/55748

Varol, N., & Buluş Kırıkkaya, E. (2017). Afetlere karşı toplumun dirençliliği. *Dirençlilik Dergisi, 1*, 4-5. https://doi.org/10.32569/resilience.344784

Wang, J., Yang, J., & Li, B. (2017). Pain of disasters: The educational cost of exogenous shocks evidence from tangshan earthquake in 1976. *China Economic Review*, 46, 27-49. https://doi.org/10.1016/j.chieco.2017.07.013

Yalçın, A. K. (1999). Deprem ve mülki idare [Earthquake and civil administration]. *İdarecinin Sesi Dergisi, XIII*(76), 17.

Yıldırım, A., & Şimşek, H. (2013). *Sosyal bilimlerde nitel araştırma yöntemleri [Qualitative research methods in the social sciences]*. Seçkin Yayıncılık, Ankara.

Zhang, Y., Kong, F., Wang, L., Chen, H., Gao, X., Tan, X., . . . Liu, Y. (2010). Mental health and coping styles of children and adolescent survivors one year after the 2008 Chinese earthquake. *Children and Youth Services Review*, 1403-1409. https://doi.org/10.1016/j.childyouth.2010.06.009

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