



# European Journal of Educational Research

Volume 8, Issue 1, 73 - 85.

ISSN: 2165-8714

<http://www.eu-jer.com/>

## Emergency Management in Nursery Schools: An Analysis of Experiences and Opinions of Administrators in Turkey \*

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*Received: September 19, 2018 • Revised: December 8, 2018 • Accepted: December 10, 2018*

**Abstract:** The purpose of this research is to examine experiences and opinions of nursery school administrators on natural disaster and emergency management. Therefore, 11 nursery school administrators from Izmit-Kocaeli, which suffered major damage from 1999 earthquake, participated in the research. Interview data were analyzed by content analysis. The results showed that teachers and other personnel weren't adequately trained about intervention in emergencies, exercises couldn't be implemented realistically and the parents didn't have enough information about emergencies. Nursery Schools still suffer from physical disabilities, lack of financial support and educated staff, although they do meet the requirements outlined in official sources. The trainings given to school personnel regarding natural disaster and emergency management are rare and insufficient. Physical deficiencies of school buildings should be checked and schools should be in cooperation with relevant ministries and local authorities for financial support. Starting from the primary school level, training programs on natural disasters and emergencies need to be organized. As a result of the research, it was proposed to organize trainings, overcome the physical deficiencies and to provide schools with enough financial support.

**Keywords:** *School principal, Safety, Emergency, School disaster.*

**To cite this article:** Konakli, T., & Kaplan, P. (2019). Emergency management in nursery schools: an analysis of experiences and opinions of Administrators in Turkey. *European Journal of Educational Research*, 8(1), 73-85. doi:10.12973/eu-jer.8.1.73

### Introduction

Natural disasters and emergencies that require immediate response may occur in various regions of the world. Human related problems, which may happen as a result of natural disasters or different reasons, such as violence, injury, fire, poisoning, epidemic disease and terrorism have also occurred as well as the natural disasters such as Kobe earthquake in Japan in 1995, Golcuk earthquake in Turkey in 1999, Tsunami which happened in Indian Ocean in 2004, the devastating tidal wave hitting the southeastern coast of Bangladesh in 1991. The central and local governments of the countries are responsible for the management of these natural disasters and emergency situations and for the precautions to be taken in order to minimize their damages (Khan and Rahman, 2007; Shiwaku, Shaw, Kandel, Shrestha and Dixit, 2007). Especially, earthquakes have been devastating for thousands of years in every aspect of a person's life. In Turkey, policies about natural disasters and emergency management have neglected the bureaucratic institutional structure and taking preventive measures, but focused on recovery and rehabilitation stages. As a result of this situation, these policies have remained ineffective so far. 1999 Marmara and Duzce earthquakes made a sobering effect on the system and understanding of public administration in Turkey. Reforms after the earthquakes have significantly increased the rescue capacity of disaster management. However, it is necessary for decision-makers, who are responsible for disaster management, to reduce the adverse effects of disasters and emergencies by increasing the capacity of the institutions in the disaster management system by focusing on preventative practices. In this context, unless disaster and emergency management efforts are sustainable at the individual and community level, it is difficult to reduce the tragedy's loss and effect (Pandey and Ozaki, 2005). However, the management of emergencies requires not only the central and local governments but also the community to take some responsibilities. It is imperative that people take precautions on an individual level, but underestimating the importance of taking precautions and not acting to prevent or reduce damages cause increase in loss of life and property in case of a natural disaster and emergency. In order for the society to be able to take the necessary precautions against natural disasters and

\* This research is a part of a master's thesis belonging to Pinar Kaplan which was conducted under the consultancy of Asst. Prof. Dr. Tugba Konakli at Kocaeli University.

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emergencies, the country's schools have to be sufficient in management of natural disasters and emergencies. In other words, there is a close relationship between these two situations.

Natural disaster and emergency planning guidelines for schools in Turkey were determined to be compatible with the plans of Disaster and Emergency Management Presidency which have to be prepared at national and local levels according to "The Organization and Duties of the Disaster and Emergency Management Department Law" numbered 5902 , "Municipal Law" numbered 5393 , "Metropolitan Municipality Law" numbered 5216 , "Special Provincial Administration Law" numbered 5302 and "Turkey's National Disaster Response Plan " which was published in the Official Gazette numbered 28871 on January 3, 2014 (Ozmen, Gerdan and Ergunay, 2015). In Turkey on 18 October 2010, the 'School-based Disaster Education Project' was signed by the Ministry of National Education and the Japan International Cooperation Agency (JICA) in order to make administrators, teachers, students and parents aware of disaster education and to minimize damages. Within the scope of this project, an effective disaster and emergency management plan guide was developed, the related course curricula taught in formal education was improved and updated by considering the experiences of Japan, and also textbooks, tools and materials were prepared (Ozmen and Ince, 2017) . Then, as a part of the "Disaster-Ready Turkey Project", which was prepared by Ergunay and Ozmen (2013) and run by AFAD, Disaster and Emergency Management Planning Guides were prepared for schools. For this reason, this project is important for the popularization of disaster education. In Turkey, the development of disaster management systems in primary, secondary and tertiary education and the preparation of disaster and emergency management plans are still at an early stage.

### Literature Review

In the management of natural disasters and emergencies, the gap between the event's occurrence time and the response against it is quite significant. For this reason, training for emergency management is one of the most effective ways to solve possible problems. Therefore, the importance of emergency management in school and society has been emphasized by many emergency and disaster researchers (Waugh and Streib, 2006; Celik, 2007; Shiwaku et al., 2007). An emergency case means a number of hazardous situations for an individual or groups. Unexpected events that happen suddenly and leave negative impacts on all the employees and students in the school are expressed as an emergency in the school environment. Emergencies such as fire, flood, violence, earthquakes, explosions, which are very likely to happen in schools as well as in daily life, can affect the school and the nearby and distant environment of the school (Akarsu 2010; Kano, Ramirez, Ybarra, Frias and Bourque, 2007; Turkmen, 2006; Bobo, Hallenbeck and Robinson, 2003; Kumar, 2000). While schools are expected to be academically successful, they are also expected to have safe environments. For this reason, school administrators and other employees must be competent in the management of emergencies in schools (Walker and Walker, 2000; Kano and Bourque, 2008).

Emergency management refers to the process which aims to meet all needs of the affected communities on time, quickly and effectively, starting immediately after the disaster has occurred (Ozmen et.al., 2015; Shiwaku et al., 2007). The most commonly used concepts about emergency situations are danger, destruction, disaster, crisis, disaster management and crisis management (Inandi, 2008). In recent years, the concept of emergency management has been preferred because it is more comprehensive. However, some authors advocate the opposite, and describe disasters as events that require greater intervention than emergencies (Celik, 2004; Kumar, 2000; LinMoe and Pathranarakul, 2006). Disaster management includes disasters such as earthquakes, rockfall, avalanches, storms, floods, landslides, hurricanes, epidemics, and human related disasters such as forest fires and wars (Mitchell, 2006; Turkmen, 2006). Another concept associated with emergency management is crisis management. The crisis is a tense situation which is unpredictable and uncertain and threatens the organization's present values, aims and future by making the mechanisms of prevention and adaptation inadequate and it needs to be responded by the organization immediately (Tagraf and Aslan, 2003). Crisis management is defined as the interpretation of signals in possible crisis situations, the containment of the crisis and also ensuring that the crisis is avoided with minimum harm by preserving the goals, objectives and interests at the individual, organizational or country level (Waller, Lei and Pratten, 2014; Filiz, 2007). Crises can arise as a result of disasters.

The increase in the level of stress when individuals or groups cannot perform their natural routines can be expressed as a crisis. While crisis period can be traced to adversities when crisis occurs, disaster management is a far-reaching term which includes insight, warning, emergency aid, rehabilitation and restructuring (Kumar, 2000). Risk management is the fulfillment of the measures and activities within the scope of a plan aiming at eliminating the identified hazards and risks before they become a disaster. Therefore, risk management does not fully cover emergency management. It is more about emergency preparedness actions of emergency management process. Another concept which is confused with emergency management is chaos management. Ercetin (2001) refers to chaos as random instabilities that produce unpredictable situations and behaviors. So, chaos management can be defined as the control of situations and behaviors which create unpredictable instabilities. Natural disaster and emergency management is a gradual process. Hence, activities for disasters and emergencies require team work. For this reason, all school staff should interiorize the planning stages and master the plan. Plans should be simple, understandable and sustainable. While the plans are being prepared, "School Disaster and Emergency Management Committee " should be established with an understanding of team work instead of individual practices. This committee is responsible for the activities to

be carried out before, during and after the disaster and preparing the plans according to the legislation related to disasters (AFAD, 2013; Kapucu, 2008). Thus, it can be said that disaster and emergency management is a process that involves various steps that begin before an unexpected or dangerous situation arises (Kadioglu, 2011). These steps are prevention / mitigation, preparedness, response and recovery.

#### *Prevention and Mitigation*

Mitigation is an emergency prevention strategy that represents precautions for mitigating the effects of an emergency on people. Mitigation activities include structural and non-structural measures whose target is to limit the adverse effects of natural hazards, environmental degradation, and technological hazards (LinMoe and Pathranarakul, 2006). Determining the risks and deficits in the school building and its environment, monitoring the preparation of the school against emergencies, preparing and implementing an action plan are among the priority actions (Walker and Walker, 2000). Control of electrical appliances, heating and ventilation systems, repairing or controlling the school roof, determining the school building evacuation routes, regular trainings of school personnel, students and their parents about emergency situations can be shown as examples of prevention and mitigation stages (Waller et al., 2014; Mitchell, 2009).

#### *Preparedness*

Prevention and mitigation actions may not be effective in preventing the destructive effects of emergencies (such as natural disasters). Therefore, the safety of school staff and students can be ensured by the preparatory work. Preparedness includes the provision of timely and effective responses against the effects of dangerous situations, and measures to ensure that persons are temporarily and properly evacuated from threatened locations (Mitchell, 2009; LinMoe and Pathranarakul, 2006; Bobo et al., 2003). Conducting hazard analysis, increasing knowledge and skills related to emergency drills, and providing emergency materials are examples of the preparedness stage.

#### *Response*

It is a process that takes place within a period of 1-2 months, starting immediately after the occurrence of the emergency. The aim here is to meet people's vital requirements such as accommodation, protection, heating, food, and clothing in the shortest possible time with the most appropriate methods. For an effective response, it may be necessary to establish a management center with all kinds of communication facilities under the presidency of the school principal or assistant principal (Ozmen et al., 2015). Developing solutions to the existing situation, ensuring that the appropriate intervention option is selected, and ensuring that the chosen intervention option is put into practice properly are the steps that are followed in this process (Mac Neil and Topping, 2007).

#### *Recovery*

The recovery stage contains the decisions and actions taken after an unfavorable incident has occurred. This stage includes remedial measures to be taken in order for the affected students and employees to get back into circulation (LinMoe and Pathranarakul, 2006). It aims to recreate the safe school environment again and to start school education as soon as possible after an emergency. The recovery process is carried out in four different areas: physical recovery, administrative recovery, educational environment recovery and psycho-social support activities (Kadioglu, 2011; Ozmen et al., 2015).

Emergency management plans are important for ensuring the safety of schools. Emergency plans include actions such as identifying an emergency, ensuring the safety of employees and students, and assessment of the impact of the emergency on persons (Demirtas, 2000). In order for the emergency management plans of schools to be implemented properly, an effective "school disaster management" unit needs to be organized and cooperation and coordination among the stakeholders must be ensured. All of the hazardous factors within the school should be taken into consideration during the preparation of these plans (Inandi, 2008; Kano et al., 2007; Bobo et al., 2003; Nader and Pynoss, 1993). For this reason, all employees and student characteristics (disabled students) should be taken into consideration when preparing the emergency plan. In addition, these plans need to be developed with effective training and exercises and updated according to the conditions and characteristics of the school and its employees (Ozmen et al., 2015).

School administrators have a primary role in emergency management. Managers should play an active role in the development and operation of schools' emergency teams and ensure that they include staff (nurses, school Attendants, teachers, security personnel) working in various fields (Baytiyeh and Naja, 2014; Ergunay, 2008; Kano et al., 2007). There is limited research in the literature on school health and safety for emergency and disaster preparation (Brener, Weist, Adelman and Vernon-Smiley, 2007; Brener, Jones, Kann and McManus, 2003; MacNeil and Topping, 2007; Liou, 2014). In the previous studies, it has been found that schools conduct safety inspections and that crisis intervention plans exist but there aren't enough training and information for large-scale emergencies. Emergency management is important in nursery schools because the age of the target group is low, the children need more help, and they do not know what to do in an emergency. School administrators are expected to be able to fulfill their responsibilities for emergency management and to have adequate knowledge and equipment in order to prepare their schools for

emergencies. Therefore, in order to examine the existing situation of emergency management in schools, it is one of the aims of this research to discuss solution suggestions by identifying school administrators' definitions of emergency management, their experiences and problems. For this purpose, the following questions were asked:

1. How do nursery school administrators describe "Emergency Management"?
2. How do nursery school administrators manage events they call as an "Emergency"?
3. What are the problems that nursery school administrators have with Emergency Management?
4. What are the recommendations of the nursery school administrators for solutions to the problems they have with Emergency Management?

### Methodology

#### *Sample and Data Collection*

This study is a qualitative research. Qualitative research can be defined as research in which qualitative data gathering methods such as observation, interview and document analysis are used and a qualitative process is conducted in order to reveal the perceptions and events holistically and realistically in a natural environment (Yildirim and Simsek, 2011; Taylor, Bodan and DeVault, 2005). In the research, phenomenological method was used. In the interviews, semi-structured interview questions were asked to the administrators. The semi-structured interview technique seems to be a more appropriate technique in educational science research due to its certain level of standard and flexibility (Smith, 2004; Ekiz, 2003; Patton, 1987).

The study group of this research is composed of 11 nursery school administrators in Izmit, Kocaeli province. Snow ball sampling technique was used to reach the relevant nursery school administrators since it was aimed to meet with administrators who have implemented emergency management practices in their schools, have a variety of experiences about it and may want to share their views (Smith, 2004). The gender, length of service, graduation and training attendance of participants are presented in Table 1.

*Table 1: Characteristics of the participants*

| Code of participant | Gender | Length of service as an administrator | Graduation        | Training Attendance                  |
|---------------------|--------|---------------------------------------|-------------------|--------------------------------------|
| A1                  | Male   | 6-10 years                            | Bachelor's degree | Firefighting Training (10 years ago) |
| A2                  | Female | 11-15 years                           | Bachelor's degree | Occupational health and safety       |
| A3                  | Female | 6-10 years                            | Master's degree   | First-aid- Firefighting              |
| A4                  | Male   | 11-15 years                           | Bachelor's degree | Occupational health and safety       |
| A5                  | Female | 6-10 years                            | Bachelor's degree | First Aid Training                   |
| A6                  | Female | 5 years and less                      | Bachelor's degree | Search and rescue training           |
| A7                  | Male   | 6-10 years                            | Master's degree   | Not Available                        |
| A8                  | Female | 11-15 years                           | Master's degree   | Not Available                        |
| A9                  | Female | 5 years and less                      | Master's degree   | Emergency Management (AFAD)          |
| A10                 | Male   | 11-15 years                           | Bachelor's degree | Not Available                        |
| A11                 | Female | 6-10 years                            | Bachelor's degree | Occupational health and safety       |

#### *Data Sources and Procedures*

In the study, data were collected by semi-structured interview technique. The reason for preferring the semi-structured interview technique is that the pre-prepared interview questions can provide systematic and comparable information. The opinions of two field experts were consulted about the interview form which was formed by the researchers by analyzing the types of emergency management. In the direction of the recommendations, the interview questions were finalized. In the interview form, questions such as "What do you understand from emergency management? What kind of work do you do at your school in order to be prepared for an emergency? Could you tell us about an incident that we can call as an emergency? What kind of preparations do you have regarding emergency management in your school?" were asked. The school administrators were provided with standard information about why the interview was conducted and how the results would be assessed. On the appointed dates, the interviews were conducted face to face by the researcher herself. The interviews were recorded by typing or voice recording according to the interviewee's preference. Interviews lasted approximately 30 minutes for each interviewee.

#### *Analyzing of Data*

During the process of obtaining the data of the research, the voice recorded interviews were transcribed into texts and those texts and the data recorded by typing during the interviews were examined. Content analysis method was used in the analysis of the data. In this technique, similar data are grouped together within specific concepts and themes and interpreted in such a way that the reader can understand. In this context, interviews are first conceptualized and then

categories and themes are created (Yildirim and Simsek, 2011). The findings of the research were found to be consistent with the conceptual framework and theory, and the emerging concepts were found to constitute a meaningful whole. In addition, direct quotations were included in the study and the results were explained from the information provided.

## Results

The findings were presented based on the sub-problems of the research. In the original expressions transferred from the interviews, "participant codes" were used without giving the participants' names. During the coding process, all the administrators were coded with the code "A", and the interview ranks are numbered. To seek an answer for the first sub problem, nursery school administrators were asked how they described the emergency management. The codes and categories obtained by content analysis from descriptions of school administrators regarding emergency management are presented in Table 2.

School administrators' opinions are categorized as planning, providing the security, problem solving, risk management and threats in line with the codes obtained. One participant identified risk management, which was one of the most frequently repeated codes, as follows;

*"Risk management is the process of identifying and managing the possible events by making a plan for extraordinary incidents and arranging preventive measures for incidents such as fire, earthquake, flood, and the incidents that may happen to the children in the school environment such as broken desks, bookcase and washbasin falls" A7*

Table 2: Nursery school administrators' definitions of emergency management

| Category               | Code  | Participant Code        |
|------------------------|---|-------------------------|
| Planning               | Checking, planning<br>Evaluation, preparation   | A2, A5, A7, A8          |
| Providing the security | Protection<br>Security precautions<br>Preventing loss of life and property                    | A3, A7, A8, A5,A9       |
| Problem solving        | Finding practical solutions<br>Eliminating the problems<br>Decreasing the effect of emergency | A5,A6, A11              |
| Risk management        | Being aware of risky situations<br>Identifying the risks                                      | A1, A4, A6, A7, A10, A8 |
| Threat                 | An unfavorable and negative incident<br>Any kind of danger<br>Unplanned threats<br>Disasters  | A2,A4,A6, A8,A10        |

Managers generally focused on the 'Providing Security' code. One participant stated that they had made plans but that it would be difficult to implement those plans in case of a real incident;

*"Emergency management is being able to produce practical solutions in case of any event. We make an emergency action plan, but it is not easy to act according to that plan or to ensure the safety of children within that plan. I consider emergency situations as eliminating the problems by producing different solutions at the time of the event." A5*

It was determined that nursery school administrators concentrated on the categories of "risk management", "providing the security" and "taking precautions" in general when defining the concept of emergency management.

The data about school administrators' implementation of the emergency management stages in their schools were analyzed and the results were presented in Table 3. School administrators have taken physical precautions for emergency management. Some school administrators' explanations about the risk analysis and the physical measures are as follows;

*"For example, we install our medicine cabinet at a place where children cannot reach. We keep our chemicals in a separate storehouse. We discuss possible emergency scenarios about what children can do in an emergency." A7*

Table 3: Implementation of emergency management stages

| Category                 | Code   | Participant Code                                |
|--------------------------|--|---|
| Official Operations      | Official letters, a team<br>A mission statement for a team,<br>An emergency plan   | A1, A2, A10, A4, A6, A8                         |
| Risk analysis and Drills | Emergency drills, scenarios<br>Risk analysis   | A1, A2, A5, A7, A8,<br>A10, A9, A11, A3         |
| Training                 | Training the commissions ,<br>Training of all staff and students<br>Seminars, Classroom activities,<br>Interviews with parents   | A4, A1, A2, A8, A10,                            |
| Maintenance              | Fire tubes and their maintenance,<br>Checking water tank status,<br>Electrical wiring system,<br>Boiler/Lift maintenance   | A1, A3, A8, A5, A3, A8<br>A9                    |
| Structural Measures      | Fire/gas alarm system<br>Warning signs around the stairs (direction<br>signs)<br>Fixing cupboards to walls,<br>Anti-slip tapes, Earth Leakage Relay,<br>Emergency exit doors, Garden wall, Shelter,<br>Protectors for heater cores, Playground's floor | A5, A1, A2, A8, A6, A9, A 11,<br>A9, A3, A4, A7 |
| Security                 | Kidnapping<br>Secure delivery<br>Communication team<br>Door locks , Telephone numbers  | A1, A2, A5, A7, A6                              |
| Hygienic measures        | Hygiene , Disinfestation,<br>Insect screens, Medicine cabinets   | A2, A3, A7                                      |

A school manager working at a prefabricated school emphasized the hygienic precautions for ensuring disaster and emergency management in schools. The statements of the school administrator are as follows:

*"It is needed to be more sensitive in the schools without building foundations. Our school is also prefabricated. This is important in case of an earthquake and also, other creatures such as insects and rats can enter the school." A3*

School administrators indicated that routine maintenance of schools should not be neglected. An administrator of a school, which was in danger of electrical fugitives and fire, expressed the precautions he had taken in his school as follows,

*"The greatest danger is electrical wiring and the possibility of fire. There are insulations, and in case of electrical leakage, these materials can flare very fast. Now, we're in a school which is in a great danger. There is a great danger since both the electricity wiring is very old and it lacks of electrical grounding" A3*

In the "official operations" category, an administrator's explanations about "making a plan, organizing a team, providing a mission statement for a committee/team, training and drills" codes are as follows;

*"First of all, we have a plan. Our plan includes the operations such as how to get to the assembly area, how to ensure the safety of children and how to get out of the emergency exit doors in case of emergency. We are working in line with this plan" A6*

A manager who pointed out the importance of training for employees, argued that there should be educated employees, and expressed regret for not having a first-aid certified employee. He said that they didn't have a first-aid certified teacher and unfortunately intervention couldn't be done without a certificate in case of emergency (A2). Another administrator, who talked about the implementation of emergency management stages, stated that emergency drills were part of those stages, but they couldn't be implemented realistically. The school administrator's explanation is as follows;

*"We have emergency plans. In addition to this, some emergency drills are being done. Everything looks good on paper. Emergency drills cannot be applied realistically enough. They are not taken seriously. I cannot trust myself or my friends about what will happen in the moment of fear and panic" A4*

The opinions of nursery school administrators on how they manage the events that they regard as emergency situations are analyzed according to the answers given to the questions. According to Table 4, it is seen that the administrators informed the parents as soon as possible, calmed down the students, took them into a safe area and

used the emergency assembly areas in case of emergency. Then, they received help from emergency service, hospitals or 112 emergency call centers.

Table 4: Nursery school administrators' emergency management styles

| Category           | Code   | Participant Code                   |
|--------------------|--|------------------------------------|
| Emergency Response | Evacuation, Emergency assembly area<br>First-aid kit, Protection Team<br>Taking the students into a safe zone<br>Informing the parents | A1,A5,A8,A9                        |
| Getting in contact | Ministry of National Education<br>Health services, Hospital<br>Superiors, Parents, Related institution                                 | A2, A10, A4, A11,<br>A3, A5, A9,A6 |

Most of the administrators indicated that the incident ought to be reported to the superiors. For example, a school administrator who had an infrastructure problem in his / her school found a workaround to the problem at first, and then tried to avoid repetition of the problem by informing the local authorities about the situation. The school administrator's explanation is as follows;

*"For example, since our school had two floors and it was an old building, the tailraces of the lower floor overflowed. The fear of teachers and students in the school caused quite a lot of trouble. At that moment we solved the problem, but we will write a petition to the municipality and ask for a more detailed infrastructure operation in order to avoid the possible future effects and damages." A6*

The expressions of the relevant school administrator indicate that the maintenance of the physical conditions of the schools must be continuously checked before an emergency situation takes place. It should be taken into consideration that those buildings will be educational institutions while they are constructed and precautions should be taken primarily for natural disasters and emergencies. These steps can be considered as the primary actions for the prevention of life and property losses.

When Table 5 is examined, it is seen that the most important problem in emergency management according to the administrators is "lack of training". Managers emphasized the importance of training the teachers, other employees, students and parents.

Table 5: Nursery school administrators' problems in emergency management

| Category             | Code   | Participant Code              |
|----------------------|--|-------------------------------|
| Staff                | Insufficient number of staff/experts<br>Lack of well-trained staff   | A2, A8, A 10,A5               |
| Physical Environment | Inadequacy of physical environments<br>No emergency exit doors<br>Inadequacy of shelters<br>Entrances and exits          | A4, A8, A9,A3,A2              |
| Expenditure          | Insufficient financial sources<br>No cost calculations   | A9, A10                       |
| Training             | Lack of training<br>Having no first-aid certified teachers<br>Not being conscious<br>Ineffective implementation of plans | A5, A8, A10,<br>A 11, A2, A6, |

One of the biggest problems is the inadequacy of the physical environment. Emergency exit doors and shelters are inadequate and also there are no emergency exit doors and shelters in some schools. This situation is among the most important problems. Explanations of the school administrators about it are as follows;

*"Issues related to the inadequate number of personnel such as inadequate number of personnel even on the teams and the obligations of assigning the employees to more than one team are problems in schools."A2*

A school administrator stated that not only the school administrators and teachers but also the parents had a lack of information about emergencies.

*"The physical conditions of our schools are inadequate. For example, we don't have shelters. We don't have phosphorous lights for lighting. Our students' parents aren't informed enough about the issue."A8*

School administrators stated that emergency plans were made only "for official purposes" and their importance was not understood well enough. They said that those plans wouldn't be really functional when a disaster or emergency occurred.

"We emphasize the importance of education. I think, when the process is planned, the conditions unique to institutions are not taken into consideration. More detailed and beneficial trainings can be done. The teachers and the staff should be trained by well-trained people " A10

The schools don't do the necessary cost calculations and they don't make plans which are required to improve the physical conditions of schools. Moreover, schools' financial resources are inadequate. Those are important problems for emergencies. The opinions of school administrators about these matters are as follows:

"The most important problems are that the schools are not built in line with the occupational security rules and they lack of financial resources." A9

"For example, the regulations state that schools should have emergency exit doors. However, our schools cannot afford them since the cost is too high. Moreover, we cannot demand these needs from the National Education Directorate, or these needs are not met when we demand "A10

The school administrators stated that people were more likely to focus on earthquakes when the topic was about emergency. However, other emergencies might also occur. In addition, they pointed out that the necessary precautions for the rehabilitation of the students after an emergency weren't taken in schools.

"We focus only on the earthquakes. I think we are unprepared for disasters like floods and fires. I think that our specialists like psychologists are inadequate for post emergency problems." A8

The data about school administrators' solutions about emergency management were analyzed and the results were presented in Table 6. "Training" is suggested as a primary solution to the problems experienced in emergency management by the administrators. Within this category, school administrators' opinions about the subject are as follows;

"I think teachers need to be trained and these trainings have to be updated every year. Actually, those action plans, committees etc. are all perfunctory operations in our schools now. I think that the trainings should be given by experts and the plans should be up to date." A1

In the "physical environment" category, it was frequently suggested by the administrators that buildings must be planned considering the possible emergency situations from the very beginning, there must be shelters and they must be used in accordance with their real purposes, and there must be emergency exit gates in every school building. The explanation of a manager is as follows;

"The deficiencies in the shelters should be eliminated. Suitable shelters should be built. Emergency buttons should be located in order to be able to shut down the natural gas or electricity systems automatically in case of a danger." A8

In terms of cost planning, it was proposed that each school ought to have a separate budget. School administrators touched on the significance of cost planning stage and they underlined that this issue was very important and public awareness must be raised about it. The explanations of managers are as follows;

"I suggest that instead of depending on national education directorates, each school should have its own budget and occupational health and safety expert, and that the school nursing system should be reactivated." A9

"While the regulations are being planned, the cost management phase must be taken into consideration and planned, too. At first, the Ministry of National Education's point of view is important. Also society needs to be more sensitive about the issue. "A10

Table 6: Solution suggestions of nursery school administrators for the problems experienced in Emergency Management

| Category             | Code                                    | Participant Code                              |
|----------------------|---|---|
| Training             | Teachers should be trained              | A1, A11, A5, A10, A6, A7, A8, A6, A11, A2, A9 |
|                      | Trainings should be updated             |   |
|                      | Trainings for parents                   |   |
|                      | Conscious actions                       |   |
|                      | Specialization by means of trainings    |   |
| Physical environment | Emergency exit, Building planning       | A4, A8  |
|                      | Sheltersu, Emergency button             |   |
| Cost                 | Budget, Regulations, Costing stage      | A9, A10                                       |
|                      | Social awareness, Susceptibility        |   |
| Actions              | Supervision, Plans, Training regions    | A10, A7, A1, A2, A3                           |
|                      | Preacutions, Emergency drills/exercises |   |
|                      | School nursing                          |   |
|                      |   |   |

A school manager said that there had been no emergency drills in his school for 2 years and that issue required a serious planning and supervision process. The explanation of the manager is as follows;

*"Definitely, serious trainings must be given and planning should be done. Fire and earthquake exercises are done in schools only because they are compulsory. I believe that emergency drills/exercises should be planned and done every year. The number of trainings must be increased and trainings need to be integrated into our work. As you know, trainings are not taken seriously in our institutions. Trainings are usually held at off-hours. That is why teachers do not want to participate in these trainings. They see these trainings as a chore. I think the trainings should be done during working hours, since it's a part of our job. We haven't received any first aid training about the incidents that may occur in an emergency."A7*

Regarding the natural disaster and emergency management process, administrators mostly stated that they had created the necessary commissions and plans. However, findings show that schools are not well prepared for natural disasters and emergencies. This is due to the fact that the schools are not sufficient in terms of physical design, the employees are not adequately trained for emergencies, the trainings are inadequate in practice, the emergency exercises are not implemented realistically, the parents and students lack of education about natural disasters and emergencies and schools' financial needs are not met in spite of the Ministry of National Education intense care about the issue.

### Discussion and Conclusion

According to the results obtained from the research, emergency management is defined by school administrators as planning of the process, ensuring the safety of children, solving emerging problems, managing the risks, recognizing existing threats or resolving them.

Regarding emergency management, it has been determined that the school administrators are responsible for setting up teams, making mission statements, preparing emergency plans, making risk assessments (checking all units, taking precautions by creating emergency scenarios, conducting emergency exercises/drills), providing commission members with appropriate trainings in order to let them perform their tasks consciously, carrying out maintenance of necessary equipment (fire tubes, electrical wiring, boiler installation, elevator maintenance, water storage maintenance etc.), taking physical precautions, and they take cognizance of ensuring safety of students and taking hygienic precautions. Recent research also points out the importance of the perception of early warning signals in terms of school safety by determining the problems, the dangerous situation and the risk factors in schools (Donmez, 2001; Inandi, 2008; Maya, 2016).

School administrators stated that they managed emergency situations by interfering with the situation or by communicating with related persons and institutions. In addition, they pointed out that necessary precautions had to be taken before the emergency situation occurred, and they emphasized that they ought to act calmly in emergency situations. They stated that they informed the parents at first; they contacted 112 emergency services when necessary, and then informed the district directorate of national education about the situation. They stated that they also received support from the local governments in order to solve the problem completely when they could not overcome it. According to the results of the research, the biggest problem about emergency management is that the trainings are inadequate. The managers stressed that the trainings were sparse and inadequate. They stated that trainings should be done by experts at appropriate times and often, and that attendees should participate in trainings by understanding the seriousness of the issue. When the relevant literature was examined, it was seen that the findings related to the educational needs of school administrators and teachers regarding emergency situations were emphasized (Sayin, 2008; Tanriogen and Savci, 2011, Liou, 2014). Most of the school administrators and supervisors complain that their emergency trainings are inadequate and they have difficulty in making effective decisions and putting those decisions into practice without adequate information, time and resources under stressful conditions (Mac Neil and Topping, 2007).

The results of the research were found to be consistent with the results of the previous research in the literature (Kacmaz, 2014, Inandi, 2008, Dumeier et al. 2015). Similarly, a research conducted in 157 state schools from various districts of California found that more than half of the schools experienced emergencies connected with natural dangers and that these events damaged functions of schools, caused loss of resources, and affected the physical and mental health of students and employees in a negative way. In this study, it was emphasized that all school personnel should be trained on emergency procedures at least once a year, and that the most appropriate staff should be provided with special training about emergency response (Kano and Bourque, 2008). When the relevant literature was examined, it was concluded that emergency education programs were especially effective for children under 18 years of age (Baytiyeh and Naja, 2014; Battersby, Mitchell and Cutter, 2011; Izadkhah and Hosseini, 2005). In this context, based on the results of the research, it can be suggested that the students should participate actively in the trainings about emergency management which will be given in the schools.

It has been found that the physical deficiencies of schools are also of importance in terms of emergencies. Regarding physical environment arrangements, the findings about the necessity of school plans and emergency exit doors, the importance of building up and operationalizing the shelters and the fact that school should not have multistory buildings reveal the importance of the school buildings in terms of emergency management. Besides, in some studies on the physical conditions of schools, it has been found that there are insufficiencies in ensuring the physical

requirements of children, such as safety, and findings of those studies support this result (Gomleksiz, et al., 2008; Ekinci, 2010). For example, in a survey conducted in primary schools in Canakkale, Turkey, it was concluded that each school had a disaster plan on paper. This shows that each school is aware of the importance of possible damages of disasters. However, in schools, emergency management plans are prepared only with the participation of school administrators and teachers. The opinions of the families of the students who will be affected by the consequences of the disasters and also the service drivers' opinions should be taken. Within the scope of the prepared plan, school personnel and other groups should be informed about their duties and responsibilities. Emergency exercises should be implemented periodically. Students should be informed in practice about what they should do in the event of a disaster (Yesil and Erenoglu, 2017; Kano and Bourque, 2008).

As a result of the research, during the planning and construction of the school buildings, the factors which are directly related to emergency response practices must be taken into consideration. The findings of the research show that the design of school buildings is very important in the prevention of emergencies, as well as preventing disciplinary problems, ensuring effective learning and teaching, and increasing student motivation. (Epstein, 2001; Da Graca, Kowaltowski and Petreche, 2007).

Emergency plans which are only made on paper, the lack of qualified personnel and inadequate emergency teams consisting of insufficient number of staff are some of the mentioned problems. When the relevant literature is examined, it is concluded by various studies that schools have taken various precautions for emergencies and crises, but these are not enough. The findings of these related studies support the results of this research (Dumeier, et al. 2015; Lou, 2014; Tattum, 1997). For example, in a survey conducted in three public schools in Los Angeles, the survey revealed the need for improvements in written disaster plans, emergency response training and availability of equipment and supplies (Kano et al., 2007).

It is important to communicate with local governments in terms of the prevention stage of the management of natural disasters and emergencies (Kano and Bourque, 2008). Although the results of this study showed that school administrators were trying to communicate with the relevant units and institutions, participants didn't said that their demands were met sufficiently. Apart from the standards determined by local governments in case of emergencies, priority should be given to ensuring first aid training in schools, eliminating the shortages of physical environment and providing financial support by local governments.

In this research, the importance of trainings was emphasized as a solution to the problems. The results of the survey show that not only school principals but also teachers, other employees, students and parents should be informed about emergency management. In the relevant literature, it is stated that the effective leadership of the school administrator will lead to success in management of emergencies by emphasizing the importance of the collaborative approach of school members in emergency management and crisis situations (Khan and Rahman, 2007; Shaw, Shiwaku, Kobayashi and Kobayashi, 2004; Waugh and Streib, 2006). For example, under the leadership of the school administration in Japan, primary school students are given trainings about natural disasters and emergencies. These trainings have two basic stages. At the first stage, the causes and effects of disasters such as earthquakes are explained to the students. In the second stage, methods of protection from such natural disasters are given in applied courses (Shaw et al., 2004). The studies also show that the participation of families in the emergency management process increases the effectiveness of the process (Kano et al., 2007; Brickman, Jones and Groom, 2004; Tattum, 1997). Another example of a schools' collaborative approach against natural disasters and emergencies is from California. The California Department of Health Services and the California Department of Education share their plan about what to do in case of an emergency (infectious disease, pandemic influenza) with school administrators, teachers, students and families over a website. The sharing of information and precautions with schools through various means of communication can reduce the adverse effects of disasters and emergencies. Therefore, this research's results about the importance of informing and raising awareness of teachers, students, other school staff and their families about emergencies under the leadership of the school manager are consistent with the other studies.

Schools are expected to be safe institutions where the physical and psychological safety of students and other staff are ensured as well as the academic achievement goals. Precautions taken by central and local administrations against natural disasters and emergencies need to be applied diligently in schools. In particular, for the developing countries such as Turkey which are under the risk of natural disasters, it is of utmost importance to identify and overcome the problems that are encountered during the applications and the precautions taken against the natural disasters. Based on the results of the research it can be suggested that seminars and courses about disaster and emergency management should be given to teachers, civil servants and support staff in addition to school administrators by the Ministry of National Education. It is also recommended that the Ministry of National Education should carry out the necessary inspections carefully so that the studies and activities to be carried out by the schools regarding the management of emergencies do not stay on paper. However, the limitation of this research is that only the school administrators were interviewed about emergency management, and no interviews were held with teachers and parents. In further studies, the opinions and experiences of teachers and parents about emergencies can be examined. Moreover, studies can be done to reveal the opinions and competencies of the administrators, working in the provincial and district national

education directorates. It is also possible to conduct research that examines the content and quality of emergency management trainings and their impact on participants (managers, teachers, students, other employees).

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