

# Studies On Creating Disaster Awareness In Disabled Individuals: Examples From Afyonkarahisar Province

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**Abstract:** Disaster education is very important for disabled individuals who are in the vulnerable group in the event of a disaster. It is extremely important for disabled individuals to be more conscious about disasters, to be able to cope better with the negative situation they will experience during a disaster and to be conscious about disasters so that they can make the right decision at the right time. In order to increase the efficiency of the disaster education to be given to disabled individuals, the education should be given according to the type of disability as much as possible. This study was carried out in 3 special education schools in Afyonkarahisar province. In the study, a questionnaire was applied as a pre-test and post-test, and a 20-minute disaster education was given to evaluate the differences between them. A significant improvement was seen in the pre-test and post-test results in school, where the medium-severe disability type was. Contrary to the general belief, it was concluded that it is possible to provide disaster awareness to students with severe-moderate mental disabilities with this type of disaster education. However, the types of disabilities of the participants and the periods of the education should be taken into consideration in the disaster education to be given. It is thought that trainings specific to each type of disability and given at certain periods as reminders will be more permanent and effective.

**Keywords:** Disaster Information, Survey, Special Education Schools, Pre-Test, Post-Test

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## I. INTRODUCTION

As is known, disasters are the result of natural, technological and human-induced events that cause physical, social and economic losses to a society and that are too big and damaging for the affected individuals to cope with with their own means [1].

In the law on disabled people numbered 5378, the definition of disabled is as follows: "An individual affected by attitudes and environmental conditions that restrict their full and effective participation in society on an equal basis with other individuals due to various levels of loss in their physical, mental, spiritual and sensory abilities" [2].

The importance of such studies conducted on disabled individuals is increasing and many studies have been conducted in this field in recent years ([3], [4], [5], [6], [7], [8]).

In this study, a study was conducted to measure the disaster knowledge levels of students with special needs studying in 3 schools (Sandıklı Özçınar Special Education Practice School, Özerler Special Education Vocational School, Zafer Special Education Practice School) located in Afyonkarahisar province. This study was carried out by applying pre-test and post-test and giving disaster training in between.

## II. MATERIALS AND METHODS

In this study, a 3-part survey method was applied to students studying in 3 special education schools. In order to implement the study, a study permit was obtained from the Çanakkale Onsekiz Mart University Graduate Education Institute Ethics Committee, Scientific Research Ethics Committee with the decision numbered 04/03 dated 17.02.2022. (Notified to us with the letter numbered E-84026528-050.01.04-2200043541 and dated 22.02.2022).

In addition, research permission was obtained from the Afyonkarahisar Provincial Directorate of National Education. Again, in this context, a written approval was obtained from the Çanakkale Martyr Brigadier General Sezgin Erdoğan Special Education Application School, stating that the survey questions would not have a negative effect on the students. In the final stage of the study's applicability, permission was

also obtained from the parents of the students who would apply the survey. Survey participation was based entirely on the students' voluntariness. In this context, the survey questions presented to the students (Table 1) were applied as a pre-test. Then, approximately 20 minutes of basic disaster training was applied to the students, and then the same survey questions were asked to the students again as a post-test. The differences and relationships between the pre-test applied to the students before the basic disaster training and the post-test applied after the training were evaluated.

In the first section of the first 10 questions, "Disaster Preparedness Knowledge Level", a total of 10 questions were asked. The evaluation categories of the answers to these questions are 5; "strongly disagree", "disagree", "undecided (no idea)", "agree" and "strongly agree". The answers, which consist of 5 different levels, were reduced to 3 categories, considering the students' disability status and for the evaluation to be more understandable. In this context:

- The total number of answers in the categories "strongly disagree (A)" and "disagree (B)" were evaluated in a new category as only "disagree (A+B)".
- The total number of answers in the categories "strongly agree (D)" and "agree (E)" were evaluated in a new category as only "agree (D+E)".
- The "undecided (no idea)" category (C) was evaluated in the same way. In the score evaluation table;

- "I disagree (A+B)" category = 0 points;
- "I am undecided (I have no idea) (C)" category = 50 points
- "I agree (D+E)" category = 100 points.

The improvement percentages were determined by the difference between the numerical equivalents of the score values of each question in the first and last tests. The information about the 3 special education institutions in question in this study is as follows:

- School-1: Afyonkarahisar Zafer Special Education Practice School (Participant: 12)
- School-2: Afyonkarahisar Özerler Special Education Vocational School (Participant: 48)
- School-3: Afyonkarahisar Sandıklı Private Özçınar Special Education Practice School (Participant: 9)

**Table-1 Survey Questions Directed to Participants**

Disaster Preparedness Knowledge Level	Question-1	The word disaster brings up a sense of confusion in my mind.
	Question-2	Disaster education should be given according to my disability type.
	Question-3	If I receive disaster education, I will feel safer when I experience a disaster.
	Question-4	I think I have sufficient knowledge about disaster.
	Question-5	I know how to act when a disaster occurs.
	Question-6	My family knows how to act in a disaster and they taught me this.
	Question-7	The fact that my teachers are knowledgeable about disaster education makes me feel safe.
	Question-8	I want my family to receive disaster education as well.
	Question-9	I know about natural disasters in the region I live in.
	Question-10	Public service announcements about disasters on television are educational for me.
Basic Disaster Knowledge Level	Question-11	Which color warning indicates the possibility of an air attack and is heard with a 3-minute continuous siren sound?
	Question-12	Which color warning indicates the danger of an air attack and is heard with a 3-minute alternating siren sound?
	Question-13	Which color warning indicates the danger of a CBRN attack and is heard with a 3-minute intermittent siren sound?
	Question-14	Which color warning indicates the danger has passed and is announced with radio, television, loudspeaker and megaphone?
	Question-15	Under which number are the emergency call numbers of 7 institutions used for different emergency calls in our country combined?
	Question-16	When is "Earthquake Week" in our country? a) January 1-7 b) March 1-7 c) May 1-7 d) July 1-7
	Question-17	When is "Civil Defense Day" in our country? a) February 28 b) April 28 c) June 28 d) October 28

### III. RESEARCH FINDINGS

The distribution of answers to 10 questions asked within the scope of Disaster Preparedness Knowledge Level for 3 schools and the scoring table are shown in Table-2. The scoring differences and general evaluation of the "Disaster Preparedness Knowledge Level" pre-test and post-test results for all schools are shown in Table-3

**Table 2 Pre-test and Post-test Results and Scoring Table for “Disaster Preparedness Knowledge Level” for All Schools**

Q	School-1 Pre-Test				School-1 Post-Test				School-2 Pre-Test				School-2 Post-Test				School-3 Pre-Test				School-3 Post-Test			
	A+B	C	D+E	Score	A+B	C	D+E	Score	A+B	C	D+E	Score	A+B	C	D+E	Score	A+B	C	D+E	Score	A+B	C	D+E	Score
1	3	1	8	70,8	6	1	5	45,8	14	2	32	68,8	9	4	35	77,1	3	1	5	61,1	5	0	4	44,4
2	0	0	12	100	2	0	10	83,3	18	5	25	57,3	4	20	24	70,8	1	2	6	77,8	1	1	7	83,3
3	2	0	10	83,3	1	1	10	87,5	4	8	36	83,3	8	5	35	78,1	2	0	7	77,8	0	1	8	94,4
4	2	3	7	70,8	5	0	7	58,3	18	7	23	55,2	16	8	24	58,3	5	0	4	44,4	5	2	2	33,3
5	3	0	9	75	4	0	8	66,7	10	14	24	64,6	13	11	24	61,5	5	1	3	38,9	6	2	1	22,2
6	4	0	8	66,7	6	1	5	45,8	23	6	19	45,8	23	10	15	41,7	4	1	4	50	4	0	5	55,6
7	1	0	11	91,7	1	0	11	91,7	8	10	30	72,9	8	12	28	70,8	0	0	9	100	0	0	9	100
8	1	0	11	91,7	2	0	10	83,3	13	6	29	66,7	8	12	28	70,8	0	0	9	100	0	0	9	100
9	6	0	6	50	4	3	5	54,2	8	9	31	74	11	8	29	68,8	8	1	0	5,56	5	1	3	38,9
10	4	0	8	66,7	6	1	5	45,8	19	6	23	54,2	20	9	19	49	6	1	2	27,8	5	2	2	33,3

**Table 3 Differences in Scoring Results for the Pre-Test and Post-Test Results of “Disaster Preparedness Knowledge Level” for All Schools (values with improvement are shown in green, values without improvement are shown in red)**

Q	School-1			School-2			School-3		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	70,83	45,83	25	68,75	77,08	-8,33*	61,11	44,44	16,67
2	100	83,33	-16,67	57,29	70,83	13,54	77,78	83,33	5,56
3	83,33	87,5	4,17	83,33	78,13	-5,21	77,78	94,44	16,67
4	70,83	58,33	-12,5	55,21	58,33	3,13	44,44	33,33	-11,11
5	75	66,67	-8,33	64,58	61,46	-3,12	38,89	22,22	-16,67
6	66,67	45,83	-20,83	45,83	41,67	-4,17	50	55,56	5,56
7	91,67	91,67	0	72,92	70,83	-2,08	100	100	0
8	91,67	83,33	-8,33	66,67	70,83	4,17	100	100	0
9	50	54,17	4,17	73,96	68,75	-5,21	5,56	38,89	33,33
10	66,67	45,83	-20,83	54,17	48,96	-5,21	27,78	33,33	-5,56

\*The result was evaluated by subtracting the score from the first test from the last test.

When the participants' pre-test and post-test results were evaluated; an improvement was observed in the sensitivity to the word disaster, in their knowledge about natural disasters in the region they live in, and in the fact that they would feel safer if they were informed about disasters. The participants' knowledge levels on how to act in case of a disaster were over 60%.

In the second part of the applied surveys, "Basic Disaster Knowledge Level", participants were asked questions aimed at directly measuring their knowledge levels. In this context, participants were asked questions about the definitions of siren sounds for moments of danger, important phone numbers related to disasters, and when "Civil Defense Day" and "Earthquake Week" were held, and the general evaluation of the answers given by all schools to these questions is shown in Table 4.

**Table 4 “Basic Disaster Knowledge Level” Pre-Test and Post-Test Results and Scoring Table for All Schools (values showing improvement are shown in green, values showing no improvement are shown in red)**

Q	School-1			School-2			School-3		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
Question-11	0	8	8	0	26	26	0	1	1
Question-12	0	2	2	1	26	25	0	2	2
Question-13	0	3	3	0	28	28	0	1	1

Question-14	0	2	2	0	29	29	0	0	0
Question-15	1	5	4	16	45	29	2	1	-1
Question-16	2	2	0	22	28	6	3	5	2
Question-17	0	3	3	5	22	17	2	2	0

#### IV. CONCLUSION AND RECOMMENDATIONS

The study was conducted to measure the disaster knowledge levels of students with special needs studying at Sandıklı Özçınar Special Education Practice School, Özerler Special Education Vocational School and Zafer Special Education Practice School in Afyonkarahisar. The study was conducted as a pre-test and post-test; a survey consisting of 3 parts including demographic information, basic disaster knowledge level and disaster preparedness knowledge level was organized. A total of 69 people participated in the study, 31 girls and 38 boys. 80% of the participants were between the ages of 15-18 and permission was obtained from their parents for this study.

When the answers given to the questions in the Basic Disaster Knowledge Level section were evaluated, since the questions in this section directly measured the knowledge level, concrete data was obtained in the answers. The education given between the pre-test and post-test was permanent and no negative feedback was encountered. The fact that the education given for all disability levels was clear and concrete also positively affected the answers received in this direction. A significant improvement was seen in the questions of which warning sounds are warning in case of attack possibility and danger, which single number the emergency call numbers are combined into, and earthquake week, civil defense day dates.

Questions on disaster preparedness knowledge are relatively more difficult to obtain feedback from individuals with severe-moderate mental disabilities. Despite this, it was observed that disaster education provided a significant improvement in the Sandıklı Özçınar Special Education Practice School with severe-moderate mental disabilities. In this case, it was shown that there was no obstacle for individuals with disabilities to gain disaster awareness and that individuals with mental disabilities could also benefit from disaster awareness training and become part of a more conscious society. The expected success was partially achieved in the other two schools in the study. In this case, it was shown that disaster education to be given would be much more efficient for individuals with mental disabilities if it were given at certain intervals rather than just once. In disaster awareness trainings to be given to disabled individuals, the types of disabilities of the participants should definitely be taken into consideration and a training should be planned in this direction.

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