

# An Effective Material in Disaster Education: Educational Comics

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## Abstract

It is seen that disasters, which are expressed as an important threat for the world, are growing day by day and affecting wider geographies. Because of this situation, an effective disaster education should be given to individuals about what to do before and after the disaster. In this research, it was investigated what kind of perspective social studies teachers have on disaster education, which will be given through educational comics. The research was carried out on 17 social studies teachers working in public secondary schools in Samsun city center in the 2022-2023 academic year. The study was conducted by considering the case study technique, which is one of the qualitative research methods. Social studies teachers participating in the research answered the questions posed to them through the interview forum, and the answers given by the teachers to the questions were analyzed by considering the content analysis technique. As a result of the findings obtained in the research, the following conclusions were reached: educational comics embody the theoretical information on the subject, allow the readers to give the topics of disasters in an entertaining way, increase the motivation for learning the theoretical information, raise the sense of curiosity towards the subjects to the highest level and eliminate the misconceptions about the subject. has been reached.

**Keywords:** Disaster Education, Social Studies Teacher, Educational Comics.

## INTRODUCTION

Earthquake disaster, which causes great destruction in many countries, including our country, can be defined as the sudden vibrations caused by the spread of the energy created by the movement of fault fractures in the earth's crust in the form of waves, and these vibrations cause the earth to shake and consequently the destruction on the earth (Ağahan, 2018; Yolcu. and Bekler, 2020). Disaster and Emergency Presidency, (AFAD) (2021), on the other hand, indicates the earthquake, the plates in the earth's crust; He expressed it as the ground shaking that occurs after the layer breaks that occur in the places where they come into contact with each other, move away from each other, and rub against each other.

Earthquakes are one of the most destructive natural events in which structures can be damaged and destroyed depending on their size and loss of life is seen (Şenol, 2020). Because; It is of great importance to take necessary precautions by knowing the characteristics, effects and

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consequences of earthquakes (Karaçayır, 2022). For this reason, it is important to use contemporary materials that provide concrete experiences and contribute to effective learning in order to minimize the negative effects of natural disasters and especially earthquakes. One of these materials is comics.

Since the point of view towards comics in the changing and developing world has changed in the same direction, many definitions of comics have been made (Topkaya, 2014). Eisner (1974), as drawings designed by synthesizing writing and visuality and appealing to visual and verbal intelligence at the same time, Zhang (2017), as a literary work that emerges by the combination of writing and image, Özkefeli (2017), poetically and stylistically, art and art. As a tool similar to literature, Muzundar (2016) defined various subjects as cartoons telling stories, Akdağ (2023) as the material in which visuality is at the forefront, and Kaba, Maide and İlhan (2020) as the ninth branch of art in the world.

When we look at the formal features of the comic; Comics basically contain cartoons and stories. Depending on the subject to be conveyed, sometimes lines and sometimes words are given weight. However, the denser use of lines allows the message to be conveyed more clearly (Cantek, 2002; Kireççi, 2008; Topkaya, 2014). In comics, the message to be given to the comic reader is visualized through the story or the characters. In addition, texts are also used to increase the effectiveness of the message given in the picture (Cantek, 2010). Again, the subject chosen in the comics is expressed clearly and appropriately according to the level of the student; the language used is given as plain and understandable; While the characters used are mostly male, the heroines are mostly used in detective comics, and sometimes animal figures are used. While the places given as spaces are immediately understood by the readership, it is very difficult to understand the concept of time. As a matter of fact, in order to understand the concept of time in comics clearly, it is necessary to read the entire text (Lanyi, 1979; Tuncer, 1993; Kireççi, 2008; Başımoğlu, 2009; Topkaya, 2014; İlhan, 2016; Ünal, 2018; Akdağ, 2023).

There are many factors regarding the necessity of using comics in education. The most important of these factors is that comics actively involve children in the process and provide high-level motivation (Hutchinson 1949; Haugaard, 1973; Akdağ, 2023). In addition, it helps children to develop a positive attitude towards the lesson (İlhan, 2016), to use Turkish correctly, beautifully and effectively and to serve reading skills (Gürsoy, 2018; Karagöz, 2018; Karcıoğlu, 2020), to increase children's interest in the lesson (Ünal, 2018), It is seen that comics have important effects in serving learning and achieving academic success (Topkaya, 2014; Topkaya, 2016, Çiçek Şentürk, 2020; Topkaya and Doğan, 2020; Akdağ, 2023). Again, comics play a key role in conveying an abstract and difficult concept or subject to children more easily and effectively (Orçan, 2013; Topkaya and Doğan, 2020).

The necessity of using comics in social studies lessons has been revealed in many studies (Türkal, 2018; Ünal 2018; Kurt, 2019; Mutlu, 2019; Çiçek Şentürk, 2020; Akdağ, 2023). The most important reason for this is that comics contain visual elements and that visual materials serve permanent learning in social studies lessons (Kaba, Maide, and İlhan, 2020). As a matter of fact, comics that combine text and visuality to the reader facilitate learning and allow children to construct information in their minds. In addition, the use of different teaching materials and enrichment of learning environments were clearly stated in the Social Studies Curriculum (SBDÖP), which was revised in line with the constructivist approach (MEB, 2018).

In the light of this information, it is important to benefit from educational comics in order to inform children about natural disasters and especially earthquakes with great effects, to raise awareness and prepare them for the future. In many studies that comics have a great effect on affective learning in particular (Orçan, 2013; Topkaya, 2014; İlhan, 2016; Topkaya, 2016a; Topkaya 2016b; Topkaya, 2017; Ünal, 2018; Çiçek Şentürk, 2020; Akdağ, 2023) has been revealed. Again, it has been stated in studies that educational comics have many benefits in terms of sensitivity to the natural environment (Topkaya, 2016a; Topkaya, 2016b; Topkaya and Doğan, 2020; Topkaya, Yılmaz, Kalkar, Erten, and Karaoğlu, 2022; Topkaya and Yılar, 2015). For this

reason, educational comics will be used to minimize the psychological effects that may occur before, during and after the earthquake and to raise effective individuals about natural disasters.

### ***Purpose of the Research***

The main purpose of this study; The aim of this study is to reveal what kind of perspective social studies teachers have on disaster education, which will be given through educational comics. In this context, this research will seek answers to the following sub-problems:

- 1) What is the most positive aspect you see in educational comics?
- 2) What effect do educational comics have on transferring theoretical knowledge?
- 3) What effect do educational comics have on motivation for the lesson?
- 4) What effect do educational comics have on teaching the subjects?
- 5) What effect do educational comics have on concept teaching?

## **METHODOLOGY**

### ***Research Model***

This study is a qualitative research that reveals what kind of perspective social studies teachers have on disaster education, which will be given through educational comics. The case study technique, one of the qualitative research designs, was used to obtain the data. The most obvious feature in qualitative research is the in-depth examination of events. In qualitative research, the factors affecting the researched element are primarily handled with a holistic perspective, and it reveals how this existing perspective affects the examined situation and also to what extent it is affected by the current situation (Yıldırım and Şimşek, 2016). Based on these reasons, the data to be obtained in this research were obtained by considering the case study technique, one of the qualitative research designs. case study; It can be expressed as the storage of information and documents belonging to any situation (Yin, 1989). In addition, case study is a technique that focuses on making the highest level of conclusions from the obtained situations rather than generalizing, and processes these results from a longitudinal perspective (Best and Kahn, 2017; Denzin and Lincoln, 1985).

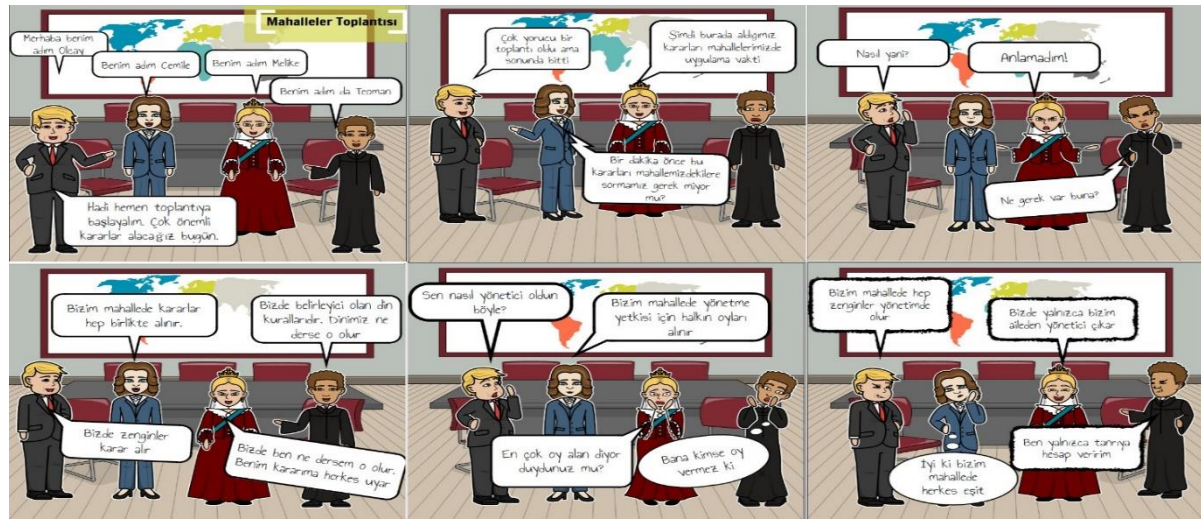
### ***Working Group***

This research was carried out on 17 social studies teachers working in public secondary schools in Samsun city center. The study was carried out in the spring semester of the 2022-2023 academic year. Of the social studies teachers in the study group, 9 (53%) were male and 8 (47%) were female. All of the social studies teachers whose opinions were consulted in the study participated in the study voluntarily without any pressure or coercion.

### ***Data Collection Tools***

In this qualitative research, the researchers who designed and conducted the research obtain data from the participants through observation, interview forms, and interviews in order to collect data for their study (Wiersma, 1995). In this study, in which the perspectives of social studies teachers on disaster education given through educational comics are revealed, data related to the subject were collected from the participants, primarily through a semi-structured interview form prepared by the researchers. There are 5 open-ended questions in the interview form prepared by the researchers. In order to determine the content and content validity of the open-ended questions in the semi-structured interview form, 4 expert opinions were requested. The concepts in the study were revised and the semi-structured interview form was given its final form. In order to get opinions from social studies teachers about educational comics, educational comics prepared in the [www.pixton.com](http://www.pixton.com) application were distributed to the participants and they were asked to read these comics. Afterwards, the prepared semi-structured interview form was distributed to the social studies teachers and they were asked to express their views on the

questions. A small section of educational comics distributed to social studies teachers is given below.



Picture 1. Educational Novel Used in the Scope of the Study

### Analysis of Data

The data obtained as a result of the views of social studies teachers on disaster education carried out through educational comics were examined by subjecting them to content analysis. The most basic principle in content analysis is to scan different types of printed or visual materials within a system and to determine thematic relationships in terms of some categories as a result of this scanning (Yıldırım and Şimşek, 2016). The most important issue in this process is the creation of certain themes by the data reached and the analysis of these data (Patton, 1990). The expressions that come to the fore in the creation of the themes put forward are listed from most to least, and the views of the participants that are suitable for the themes are included.

### RESULTS

The findings obtained as a result of the data obtained in this research, in which the views of social studies teachers on disaster education given through educational comics are investigated, are included in this section.

Table 1. Findings on the most positive aspect in educational comics

Expressions	Teacher	f	%
Concretization of theoretical knowledge	T2, T5, T7, T8, T11, T13, T15	7	41.17
Being a remarkable material	T3, T9, T10, T17	4	23.52
Having a sense of humor	T1, T4, T17	3	17.64
Presenting different perspectives	T6, T14	2	11.76
Relating topics to daily life	T12	1	5.88

"What is the most positive aspect you see in educational comics?" directed to social studies teachers. The answers given to the question are shown in Table-1 in detail. When Table-1 is examined, 7 of the social studies teachers stated that "concrete theoretical knowledge". While 4 social studies teachers gave the answer "It should be an attention-grabbing material", 3 social studies teachers gave an opinion as "Having a humorous aspect". While 2 social studies teachers expressed their views as "To reveal different perspectives", 1 social studies teacher stated as "Associating the subjects with daily life". Some of the expressions that are in line with the views in the table are as follows:

*"Educational comics take a different take on the subject they're really meant to be told. I can say that it has a very good effect on concretizing many different concepts or theoretical knowledge, especially*

*abstract. I've used many different kinds of materials in my classes, but I think these educational comics really have a magical effect. Disasters, which are very important for human beings, should be taught to children at an early age. While doing this, theoretical information about disasters should be presented to students in an attractive way. My students really learned about many different subjects about disasters through these materials."* T13.

**Table 2. Findings on the effect of educational comics in the process of transferring the topics**

Expressions	Teacher	f	%
Presenting the topics in a fun way	T1, T5, T6, T10, T11, T16	6	35.29
Clarifying matters	T3, T4, T12, T13, T14	5	29.41
Presenting different perspectives to the reader	T2, T6, T15, T17	4	23.52
Developing a critical perspective	T7, T8	2	11.76

"What is the effect of educational comics in transferring theoretical knowledge?" directed to social studies teachers. The answers given to the question are shown in Table-2 in detail. When Table-2 is examined, 6 of the social studies teachers stated that "Presenting the subjects with a fun structure". While 5 social studies teachers gave the answer "It should clarify the issues", 4 social studies teachers stated "Presenting different perspectives to the reader". On the other hand, 2 social studies teachers expressed an opinion as "Developing a critical perspective". Some of the expressions that are in line with the views in the table are as follows:

*"Today's students are unfortunately not very keen on reading. I think these comics should be used frequently in order to tell them about the issues that are so important for their own lives. Because the characters in the comics and the way they talk to each other are very funny and this amused the children a lot. If I can find comics on different subjects from now on, I would love to use them in my lessons."* T16.

**Table 3. Findings on the effect of educational comics on the course process**

Expressions	Teacher	f	%
Increasing motivation for the lesson	T4, T5, T9, T12, T15	5	29.41
Allows for collaborative learning	T1, T8, T10, T11	4	23.52
Providing an environment for discussion	T2, T3, T14	3	17.64
Enabling drama	T6, T13, T17	3	17.64
Allows comparisons between ideas	T3, T7	2	11.76

"What effect do educational comics have on motivation for the lesson?" directed to social studies teachers. The answers given to the question are shown in Table-3 in detail. When Table-3 is examined, 5 of the social studies teachers stated that "It increases motivation towards the lesson". While 4 social studies teachers gave the answer "It allows for collaborative learning", 3 social studies teachers gave an opinion as "Providing a discussion environment" and 3 social studies teachers "enabling for drama". On the other hand, 2 social studies teachers expressed their opinion as "It provides opportunity to make comparisons between ideas". Some of the expressions that are in line with the views in the table are as follows:

*"Students prefer materials with more visual aspects than plain reading texts. They have already said that they prefer to read such fun things. The important thing is to increase the motivation of the students towards the lesson. Educational comics proved to have more of an impact on this than I expected. These comics should be used in many different lessons. Because children are cold towards the lessons."* T5.

Table 4. Findings on the effect of educational comics on the transfer of topics

Expressions	Teacher	f	%
Maximizing curiosity	T1, T3, T5, T6, T9, T10, T12	7	41.17
Presenting topics by simplifying them	T4, T7, T8, T13, T16, T17	6	35.29
Offering different perspectives on topics	T2, T11, T14, T15	4	23.52

“What kind of effect do educational comics have on teaching the subjects?” directed to social studies teachers. The answers given to the question are shown in Table-4 in detail. When Table-4 is examined, 7 of the social studies teachers stated that "raising the sense of curiosity to the highest level". While 6 social studies teachers gave the answer "Presenting the subjects by simplifying", 4 social studies teachers gave their opinion as "Presenting different perspectives on the subjects". Some of the expressions that are in line with the views in the table are as follows:

*“One of the most important emotions in human life is undoubtedly the sense of curiosity. I can say that these educational comics have a very successful side in triggering our students' sense of curiosity. We can see that this feeling shows itself a lot, especially in the transitions between frames. I wonder what will happen in the next frame, which brings with it a quick read.”* T10.

Table 5. Findings on the effect of educational comics on concept teaching

Expressions	Teacher	f	%
Eliminating misconceptions	T5, T7, T9, T10, T13, T16	6	35.29
Clarifying the concepts	T1, T4, T8, T17	4	23.52
Presenting different contents of concepts	T2, T3, T11, T14	4	23.52
Enriching the concepts of the subject	T6, T12, T15	3	17.64

“What effect do educational comics have on concept teaching?” directed to social studies teachers. The answers given to the question are shown in Table-5 in detail. When Table-5 is examined, 6 of the social studies teachers stated that "It should eliminate the misconceptions". 4 social studies teachers stated that they "clarified the concepts" and 4 social studies teachers stated that they "presented different contents of the concepts". Some of the expressions that are in line with the views in the table are as follows:

*“While describing the subjects, we see that there are many different concepts related to that subject. Especially in explaining a subject that is so important for human life, students need to learn the concepts of that subject correctly. Educational comics, I think, give the concepts of the existing subject in a very simple and funny way. I would really like to use these materials in my lessons later on.”* T9.

## DISCUSSION AND CONCLUSION

With the increase in the world population, industrialization activities were also affected by this situation and found the opportunity to spread to very large areas. Industrialization activities brought with it environmental pollution and environmental problems. As a result of this situation, it is witnessed that global warming, climate change, soil pollution and many other types of disasters grow and make themselves felt in wider geographies. These disasters, which are present especially in the second half of the last century, are increasingly threatening geographies of different sizes. More than 90% of current disasters are felt more effectively in countries located in continents such as Asia and Africa and which are economically and socially weak (Reeves and Lenoir, 2006).

Our country is exposed to different kinds of natural disasters with the effect of both geological structure and climatic events. Natural disasters sometimes cause loss of life and sometimes property. It can be said that the aforementioned loss of life and property has reached gigantic proportions, especially in locations where unplanned urbanization is intense. Disasters affect different segments of the society in different dimensions, not only materially but also spiritually.

For this reason, academic studies on the necessity of raising public awareness in order to minimize the damages caused by natural disasters draw attention (Hurnen and McClure, 1997; Erçetin, 2003; Başıbüyük, 2004; Öcal, 2005).

It should not be forgotten that an effective education for natural disasters is an advantage for the individual in particular and for the society in which he lives in general. In this context, it has been tried to reveal the perspectives of social studies teachers on disaster education given to individuals through educational comics. The results related to the sub-problems of the research are given below in detail.

"What is the most positive aspect you see in educational comics?" Social studies teachers shared the view that educational comics are materials that make important contributions to the question of concretizing theoretical knowledge. It can be stated that the emphasis of this view lies on the fact that educational comics identify the subjects they deal with with daily life. Studies supporting this result of the study are found in the relevant literature. In their study, Topkaya and Yılar (2015) revealed that educational comics are a material that concretizes information and allows to give the message to be conveyed more clearly. In the study conducted by Topkaya and Doğan (2020), it was determined that the majority of the participants who participated in the research expressed the opinion that educational comics have a significant effect on the concretization of abstract concepts. In the research conducted by Kurt (2019), it was found that educational comics are an effective material in concretizing the information given during the course process.

The second sub-problem of the research, "What is the effect of educational comics in the transfer of theoretical knowledge?" was asked to social studies teachers in this context. To the question, social studies teachers expressed the view that educational comics are products that allow the subjects to be presented with an entertaining structure. It is thought that the element of humor used in educational comics is effective in bringing this point of view to the fore. Studies supporting this result of the study are found in the relevant literature. Özdemir (2017) revealed in his study that scientific concepts are taught to students in a more entertaining way through educational comics. Olson (2008) revealed in his research that educational comics have a significant effect on creating fun classroom environments. Topkaya et al. (2022), it was determined that the social studies teachers who participated in the research expressed the opinion that the lessons taught through educational comics were taught in an entertaining way. The study by Topkaya and Doğan (2020) reveals that the students participating in the research expressed the opinion that educational comics make the lessons fun.

The third sub-problem of the research, "What kind of effect does educational comics have on motivation for the lesson?" Social studies teachers shared the opinion that it increased the motivation for the lesson. It is thought that the reason for this view to come to the fore is the fact that the subjects of the educational comics are handled in a short, clear and humorous language. Studies supporting this result of the study are found in the relevant literature. Hugaard (1973) revealed that children have a positive perspective towards educational comics and that teachers who prefer these materials during the lesson can benefit from this motivating feature of comics at a high rate. Hutchinson (1949), on the other hand, determined in his research that educational comics have an important effect on increasing the motivation for the lesson. Olson (2008) revealed that educational comics are important instructive materials in increasing interest in the course together with science literacy. In all of the studies conducted by Caruso and Feritas (2009), Popa and Trabuzan (2015), İlhan and Oruç (2019) and Şentürk (2020), it has been determined that educational comics have a significant effect on increasing the motivation for the lessons.

Determined as the fourth sub-problem of the research and directed to social studies teachers in this context, "What effect do educational comics have on teaching the subjects?" Social studies teachers shared the opinion that they raised the sense of curiosity to the highest level. It is thought that the reason for this view to come to the fore is the fact that there is a transition feature between the frames in educational comics and the language used is fluent. Studies supporting this result of the study are found in the relevant literature. In the study put forward by Topkaya and Doğan

(2020), it was determined that educational comics have an important contribution in raising the sense of curiosity to the highest level. In another study conducted by Topkaya et al., (2022), it was determined that social studies teachers who participated in the research expressed the opinion that educational comics have an important contribution in triggering the sense of curiosity.

“What effect do educational comics have on concept teaching?”, which was determined as the fifth sub-problem of the research and addressed to social studies teachers in this context. Social studies teachers shared their views on the question of eliminating misconceptions. It is thought that the reason for this view to come to the fore is the plain language used in educational comics. Studies supporting this result of the study are found in the relevant literature. In the study put forward by Topkaya and Doğan (2020), it was concluded that educational comics are an effective material in eliminating misconceptions. Hosler and Boomer (2011) and Phoon et al. (2020), it was also pointed out that educational comics have an important mission in eliminating misconceptions.

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