Animated Video Influence on Disaster Preparedness Activity of SDN 01 Students, Cigondang, Pandeglang

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Abstract. One of the relevant media to develop the preparedness of the students in facing disasters is animation video since it can impress its viewers, especially children. This study aims to examine the disaster preparedness activity of the students of SDN 01 Cigondang, Pandeglang, Banten through the influence of animation video. This study employed Stimulus-Organism-Response Theory and experiment method quantitative approach with a positivist paradigm. Samples of this research are 114 students of grade IV, V, and VI divided into two groups: group A consists of 58 students and group B consists of 57 students. Group A is the treatment group, treated by "tsunami aware" animation video;, and group B is the control group, treated by "tsunami aware" pictorial story media. The design used is Pretest-Posttest Control Group Design. This study analyzes data through descriptive and inferential statistics. The result shows that an animation video does influence the disaster preparedness of the students of SDN 01 Cigondang, Pandeglang.

Keywords: disaster preparedness, animation video, elementary school student

Introduction

Indonesia is one of the countries included in the Pacific Ring of Fire. Ring of Fire is a term for major areas in the basin of the Pacific Ocean where volcanic eruption occurs (Bronto, 2006).

Indonesia is a meeting point of three main plates: Eurasia, Indo-Australia, and Pacific. As a country located in the ring of fire, Indonesia has many active and inactive volcanoes. Indonesia has around 129 active volcanoes, which is around 17% of the volcanoes in the whole world (Pratomo Indyo, 2006).

One of the active volcanoes in Indonesia is Anak Krakatoa (Child of Krakatoa) Volcano. It is in the Sunda Strait and a meeting point between India-Australian plate and Eurasian plate. Anak Krakatoa is a volcano appeared firstly in 1927 after the explosion of Mount Krakatoa in 1883. The explosion is one of the most dangerous disasters recorded in the history. The mount exploded and released volcanic material with the volume exceeded 18 kilometers cubic which led to tsunami with larger wave and hot cloud waves.

Several months before the tsunami, the volcanic activity of Anak Krakatoa was increased, as recorded on 22nd December 2018 at 7 AM, where BMKG (the Meteorology, Climatology and Geophysics Agency) released an early warning of the potential high waves surrounds the Sunda Strait. Eruption and weather of Sunda Strait triggered the high waves. The eruption has caused an enormous tsunami wave with a height of 30 to 40 meters and crashed along Banten west coast and Lampung south coast. The wave was formed in just a minute after the mount exploded and it happened for the next 15 minutes.

One of the affected areas was Cigondang Village, Labuan District, Pandeglang, Banten. The wave killed one person and another one was still missing. In addition, 200

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houses and 10 boats were damaged. The victims were mostly children, teenagers, and adults who lived by the coast. The impact of Banten Tsunami on December 22, 2018, is still felt by the fisheries sector in Pandeglang which experienced a drastic decline of 50 thousand tons from 200 tons (2018) to 150 tons (2019). "There is still a lot of fish. But because the fishing gear is lacking due to the tsunami, so it is indeed a bit down," said Head of Fisheries Service of Pandeglang Regency, Suaedi Kurdiatna, when confirmed by suarabanten.id on Wednesday (1/23/2020)(Saepulloh, 2020, https://banten.suara.com/read/2020/01/22/162945/imbas-tsunami-banten-produksi-ikan-di-pandeglang-menurun-50-ribu-ton).

A few weeks later, Kompas.com reported an earthquake measuring 4.9 magnitudes shook the Lebak region, Banten, on Monday (02/17/2020), around 19.11 WIB. The earthquake had no tsunami potential. "The impact of the earthquake based on community reports in the form of shocks was felt in the Cikotok region, the Penyauangan Temple, Bayah, Malingping, Rangkasbelitung, Ciptagelar, Cilograng, Pandeglang, Banjarsari and Sukabumi with an intensity scale of III MMI," said the Head of Central Office of BMKG Region II Tangerang, Hendro Nugroho, through an official statement to Kompas.com (Dewi & Hardiyanto, 2020, *https://www.kompas.com/tren/read/2020/02/17/203053665/terasa-hingga-sukabumi-gempa-m-49-di-lebak-banten-tak-berpotensi-tsunami?page=1)*.

Among the community, children are the most potential and essential generation to receive an understanding and knowledge on preventing and dealing with disasters as they are expected to be able to save themselves. Thus, education and preparedness are essentially needed before the disaster happens. It was reported that most of the victims were children, meaning that their ability to save themselves and also their experience in dealing with disasters have not trained yet. If children do not have the ability and knowledge to save themselves from disasters, they will experience a traumatic feeling that will affect their psychological states.

LIPI and UNESCO, in 2006, conducted research in three areas: Aceh Besar Regency, Bengkulu, and Padang. The research was aimed to examine the disaster preparedness level at school, household, and community by seeing through five parameters (knowledge, policy and guidance, emergency preparedness plan, warning system, and resource mobilization). It was found that the preparedness level at school is lower compared to the level at the community and the government.

Studies on disaster preparedness at school have been conducted by many scholars. There are studies on how the disaster preparedness affects students' behavior and knowledge (Daud, Sari, Milfayetty, & Dirhamsyah, 2014), the role of communication (Sitorus, 2009), school capacity reinforcement toward disaster preparedness in Aceh (Oktari, Kumala, Rachmalia, & Husna, 2015), the preparedness of the coastal communities (Ruli As'ari, 2006), (I Gusti Agung Haryawan, Ni Luh Gede Aris Maytadewi Negara, 2012), individual and household's preparedness (Damayanti, 2015), preparedness of urban society (Arif, 2018), study in Padang (Alhadi & Sasmita, 2014) and (Ismayani, 2019), study by UNESCO in Nias (MPBI _ UNESCO, 2013), study in Bali (I Gusti Agung Haryawan, Ni Luh Gede Aris Maytadewi Negara, 2012), and the factors of disaster preparedness (Pratama, 2016).

The government has established The National Disaster Management Authority (/BNPB) responsible for national disaster prevention (Article 10 Law No. 24/2007). The National Disaster Management Authority (BNPB) Regulation concerning Organization and Work Ethics of BNPB in 2008 Article 1 mentioned that BNPB is responsible for guiding disasters prevention, emergency preparedness, rehabilitation, and fair reconstruction. One form of guidance carried out by BNPN is a tsunami animated video which was published on February 14, 2017 *(https://youtu.be/V1eR6KG68Lo)*. From the perceptive of Stimulus-Organism-Response (SOR) theory, it is hoped that the video message (stimulus) will influence the disaster preparedness (response).

The Internet, since the early millennial era, has become a new media in providing information for most people in the world. The rising of new media is triggered by the power of communication technology that supports news spreading, equipped with high speed, accessibility, and more adaptive to its users. Sometimes new media depends on communication technology and it is also perceived negatively by society. This is reasonable if the existence of new media such as websites, Facebook, Instagram, Youtube, twitter, online games, and other online media are merely the complements to lifestyle, and are not used to increase public's insight.

However, despite there are detrimental implications for the community, new media has played a role in supporting the efforts to find, obtain and use factual information, and create changes.

Youtube has appeared and succeeded as the most-used information media. It offers various sources of information that are more diverse than the television. In addition, Youtube has a stronger penetration power to be present at every moment of people's lives. This is supported by the ability of Youtube which can be accessed through a variety of devices other than computers, such as tablets, mobile phones, and even television (smart TV). These four things indicate that the frequency network has been defeated by the internet network to become the most consumed media information by the public. There is a correlation between media type, media content, media exposure and social context in watching Youtube with the fulfillment of information needs (Ahmadi, D, et.al., 2020).

The observation result shows that all students have their own gadgets and internet access. However, the students mostly use them for playing video games. Through the analysis, it is found that the lack of socialization on disasters preparedness has caused the students to have no comprehensive knowledge of disaster preparedness. The school only held tsunami simulation training once in 2016 collaborated with BNPB.

One of the relevant media in developing the need to possess the preparedness is animation video. As it contains moving pictures and sounds, an animation video is categorized as audiovisual. It can provide a more meaningful learning experience and stimulate more compared to reading activity since audiovisual and moving pictures are more impressive to the audience, especially children.

The reasons above have led to the realization of the importance of socialization in preparedness. The socialization is conducted by BNPB through an animation video. The target of the socialization is the people who live in disaster-prone areas. Based on the background of the problem, this study will examine how far the video animation has influenced the disaster preparedness of the students of SDN 01 Cigondang?

SOR theory is employed in this study. The point will be emphasized in this model is how the message could be easily internalized by the audiences to later change their behavior. Deddy Mulyana (Mulyana, 2007) explained that the most essential element in the SOR model are: Message (Stimulus, S), Communicant (Organism, O), and Effect (Response, R). Furthermore, attention, understanding, and acceptance of the 'siaga tsunami' (get ready for or tsunami warning) animation videos and pictorial stories should be considered whether they fulfill the three elements (SOR) or not. The videos are also published on Youtube. Some of the videos aforementioned are Youtube as a Learning Media at School (Everhart, 2009), Youtube on Preschool Kids (Davidson, Given, Danby, & Thorpe, 2014), Kids YouTubers (McRoberts, Bonsignore, Peyton, & Yarosh, 2016), Positive and Negative Effect of Youtube (O'Keeffe et al., 2011), Youtube Literacy Media (Kholisoh, 2018) (Meek, 2012), Learning Tool for Parents (Burroughs, 2017) (Hourcade, Mascher, Wu, & Pantoja, 2015), and Advertisement and Learning for Children (Tan, Ng, Omar, & Karupaiah, 2018) (Araújo et al., 2017).

The animation video is the result of hand-drawing processing. During its creation process, motion and shape transition effect are applied (Johnson, 2019). It could be said that animation is a well-arranged moving text and graphics in order to explain a certain concept in a more simple way.

Disaster preparedness on children aged 9-12 years old is definitely different from the adults. The children will absorb the knowledge better if it is presented in a more fun way, for instance, by using audiovisual or animation video. The researcher used animation media as it could give knowledge to the students who live in a disaster-prone area on how to be more prepared in dealing with a tsunami. "Siaga Tsunami" is an animation media tells about the definition of a tsunami, its causes, signs, how to get information and rescue, and also the effort to reduce the risk.

The video was published by BNPB in 2017 and aimed to give children knowledge about how tsunami occurs, its causes and effects, and the action to reduce its risk. The plot illustrates the knowledge to prevent tsunami and reduce the risks.

According to KBBI, disaster is a phenomenon that causes or creates distress, loss, and suffering. Meanwhile, Law No. 24 2007 explains that a disaster is an event or series of events that endangers the life of a certain community, caused both by nature or

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human and it causes fatalities, environmental damage, loss, and psychological effect. Disaster becomes a full package of three elements of threat, vulnerability, and ability triggered by an event (Pemerintah Republik Indonesia, 2007). Tsunami preparedness is needed to determine an action in facing disaster. As explained in Law No. 24 in 2007, disaster preparedness is a series of activities aimed to anticipate disaster through organizing effectively and efficiently.

The preparedness level of a community can decrease with the change in socio-culture, politics, and economic conditions. Thus, preparedness should be monitored and improved (Valency & Lazarte, 2007).

There are five parameters to assess preparedness (Valency & Lazarte, 2007): (1) Knowledge and Attitude: knowledge on disaster risk. The knowledge possessed could influence people's attitudes and concerns, especially those who live in coastal areas that are vulnerable to natural disasters; (2) Policies regarding preparedness to anticipate natural disasters; (3) Emergency Response Plan: The plan becomes an essential part of preparedness, especially regarding evacuation and rescuing, thus, the victim number could be minimized. Hence, training and simulation are needed about what should be done when they heard the warning, where and how to save themselves; (4) Disaster warning system, especially tsunami. The system includes warning signs and information distribution about the disaster. The warning system could lead the community to take appropriate actions in reducing the risks; (5) Resources Mobilization. Resources such as people, funding, and facilities can support or otherwise become the obstacles in natural disaster preparedness.

The use of animation video is adjusted to the characteristics of students who still connect concrete materials in the daily life presented. In addition, the animation video provides a chance for students to be more active in the learning process. The video could also be used by the teacher in presenting preparedness learning material, starting from pre disaster, during the disaster, and post disaster.

The hypothesis of this study is formulated as follow:

Ho : "Siaga Tsunami" animation video does not influence the disaster preparedness of the students of SDN 01 Cigondang, Pandeglang

Ha : "Siaga Tsunami" animation video influence the disaster preparedness of the students of SDN 01 Cigondang, Pandeglang.

Research Methodology

The study was conducted using a quantitative approach with the positivist paradigm. The experimental method was also employed in this study. According to Sugiyono, "Experimental research method is used to determine the effect of a certain treatment on an object in a controlled condition" (Sugiyono, 2016).

This research population is students of SDN 01 Cigondang, Pandeglang, Banten. The samples are 114 students of grade IV, V, and VI which categorized as higher grades and included in the concrete operational stage (10-12 years old). The samples were divided into two groups: group A consisted of 58 students, and group B consisted of 57 students. Group A was the treatment group treated by the "Siaga Tsunami" animation video and group B was the control group treated by the "Siaga Tsunami" pictorial story.

The design used was Pretest-Posttest Control Group Design in order to simplify the steps in conducting the research. The design is also the result of the hypothesis and it compares the preliminary test and final test. The experiment design of this research is shown on the Table 1.

Table 1
Pretest-Posttest Control Group Design

	Pretest	Treatment	Posttest
Experiment Group	O_1	X_1	O_2
Control Group	O_3	X_2	O_4

Explanation:

O_1 = Preliminary ability test on the preparedness of the experiment class' students

O_2= Final ability test on the preparedness of the experiment class' students

O_3 = Preliminary ability test on the preparedness of the control class' students

O_4 = Final ability test on the preparedness of the control class' students

X_1= using "SiagaBencana Tsunami" animation video

X_2 = using "SiagaBencana Tsunami" pictured postermedia

In this research, the independent variable (X) is the variable whose effect was studied on the "Siaga Tsunami" animation

video, and the dependent variable (Y) is the preparedness of the students of SDN 01 Cigondang.

The technique in collecting data was explained as follow: primary data were gained through test and questionnaire. The test is a right-wrong test given during the pretest and posttest. The method enables the researcher to gain data that are useful in measuring the students' knowledge of preparedness. The test showed the difference between the control class and experiment class in students' ability during the treatment.

The questionnaire was given to examine the preparedness of the students in dealing with the tsunami. The questionnaire used is a rating scale. Research instrument testing was conducted in SDN 01 Cigondang. Biserial formula is used for the results of validity test and Kuder Richardson 20 (KR20) formula is used for reliability test.

The data were analyzed by both descriptive statistics and inferential statistics. Descriptive statistics were used to describe the preparedness level of the students, while inferential statistics, especially non parametric test, were used to test the score difference between the experiment group (animation video) and the control group (pictorial story) (Sulaiman, 2003).

Results and Discussion

The subjects of this study are the students of grade IV, V, and VI of SDN 01 Cigondang, Pandeglang (NPSN 20601439), which is located at Cigondang Mesjid, Cigondang Village, Labuan District, Pandeglang, Banten. The subjects in the experiment group are 57 students: 23 male students and 34 female students, while the subjects in the control group are 57 students: 34 male students and 23 female students. Most of the respondents are 10 and 11 years old (28.1%); while in video group, most of the respondents are 11 years old (35.1%). In the pictorial group, most of the respondents are male (59.6%); and in video group, most of the respondents are female (59.6%).

Treatment

The media used in the control group were pictorial story of a tsunami as in figure 1.

Figure 1. Siaga Tsunami

Experiment Group

Animation media was used in the experiment group. The duration of its presentation was four minutes. After the video was presented, the researcher conducted a discussion which aimed to take up the material in the video.

Table 2
The Results of Pretest and Post Test of Experiment and Control Group

		PICTURES TREATMENT		VIDEO TREATMENT	
No	**Questions**	**Before**	**After**	**Before**	**After**
	Knowledge aspects of Disaster	**Correct**	**Correct**	**Correct**	**Correct**
1	Natural disaster is a natural phenomenon that disturbs human and their life	54%	72%	68%	98%
2	Natural phenomena which can cause disaster are earthquake and tsunami	72%	61%	79%	98%
3	Every earthquake creates tsunami	81%	74%	56%	54%

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4	Earthquakes, volcano eruption, and landslide that occur under the sea are caused by tsunami	0%	53%	11%	100%
5	Sudden water receding is the sign of a tsunami	0%	100%	0%	100%
6	If the water recedes, we must stay away from the sea	0%	100%	0%	100%
7	To be more prepared, you need to improve your knowledge of tsunami	2%	47%	0%	98%
8	Have you known or experienced Sunda Strait Tsunami in 2018	0%	75%	0%	26%
9	Have you received any lesson about tsunami at school	0%	100%	0%	98%
10	Have you received knowledge about disaster warning, first aid, rescue and evacuation	0%	77%	0%	100%
11	Listen to information regarding tsunami through radio, tv, and internet	0%	37%	0%	100%
12	Knowledge about disaster is gained at school	100%	98%	98%	100%
13	Knowledge about disaster is gained through printed media (newspaper, magazines) and electronic media (radio, tv, internet)	0%	14%	0%	44%
14	Knowledge about disaster is gained through books, comics, leaflet, and information board	19%	82%	42%	100%
	Emergency Response Planning				
15	Books, posters, comics, and CDs about tsunami could be easily accessed at school	0%	37%	68%	68%
16	There are evacuation map and route at school	28%	46%	39%	100%
17	The school has its own Red Cross Unit	2%	0%	0%	0%
18	The school has disaster safe group	0%	0%	0%	0%
19	Join self-rescue training, acknowledge safe places, note important addresses and numbers, acknowledge important places such as hospital, firefighter office, police station, PMI, and PLN are the efforts that can be done to anticipate tsunami	72%	100%	100%	100%
20	If the tsunami occurs, we should rescue ourselves, report, take school bag, important documents, and letters	91%	100%	100%	100%
21	Favorite items should be rescued	91%	60%	68%	67%
	Disaster Warning				
22	Acknowledge the signs for tsunami (*kentongan/ bedug/*siren)	2%	100%	0%	100%
23	Acknowledge the tools/signs/sound for tsunami warning at school	0%	42%	0%	100%
24	Understand that tsunami warning could be canceled (when there is no tsunami)	0%	0%	0%	100%
25	Understand the information when the situation is safe after the tsunami has occurred	0%	46%	0%	100%
26	Have you joined training or simulation on disaster warning	32%	37%	32%	100%
27	If I hear the sign for tsunami, I will stay away from the coast and go to a higher land without panicking	2%	60%	0%	100%
	Resource Mobilization				

28	Have you joined activity or lecture regarding tsunami	0%	100%	0%	100%
29	Have you joined activity or rescue simulation	33%	37%	32%	100%
30	Have you joined Red Cross	0%	0%	0%	0%

Table 3
Pretest Result

	CONTROL GROUP			EXPERIMENT GROUP			SUBJECT		
	MEAN	IDX	COEFFI-CIENT	MEAN	IDX	COEFF-ICIENT	MEAN	IDX	COEFFI-CIENT
DISASTER KNOWLEDGE (35)	3,28	0,57	114,82	3,54	0,64	124,04	3,41	0,60	119,43
EMERGENCY RESPONSE PLANNING (15)	0,33	0,18	42,63	0,32	0,16	56,32	0,32	0,17	49,47
EARLY WARNING (25)	0,35	0,50	8,77	0,32	0,16	7,89	0,33	0,33	8,33
RESOURCE MOBILIZATION (15)	0,33	0,33	5,00	0,32	0,32	4,74	0,32	0,32	4,87
DISASTER PREPAREDNESS INDEX			171,23			192,98			182,11
status			Unpre-pared			Unpre-pared			Unpre-pared

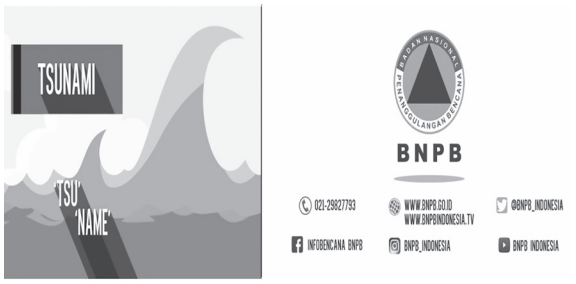

Figure 2. Siaga tsunami Video

As we can seen in figure 2 explain about student preparedness in facing Tsunami disaster in disaster prone schools.

Descriptive Analysis of Students' Preparedness Level

The results of pre-test and post-test of both experimental group and control group are presented in Table 2.

There are several points gained through the Table 2. First**,** two questions never changed on both the experiment group and control group which scored zero (0). The score showed that: (1) There is no disaster safe group at school; (2) The subjects never joined the Red Cross. The information is essential to decide the next relevant step for BNPB.

Second, there are changes in the scores of several questions from zero (0) to above after the treatment given to both groups. Before the treatment, the subjects did not know that "knowledge about disaster can be gained through printed media (newspaper, magazines) and electronic media (radio, tv, internet)". After the treatment, several subjects (14% of the control group and 44% of the experiment group) could acknowledge that. Another sample: Before the treatment, 0% of the subjects knew that "Sudden water receding is the sign of tsunami". After the treatment, 100% of the subjects acknowledged the fact. The Disaster Preparedness Index of each dimension pretest is presented in Table 3.

IKB=35(PS)+15(RTD)+25(SPB)+15(MS)

On the pre-test stage, both groups were unprepared. Thus, in general, the subjects' status was unprepared. The Disaster Preparedness Index of each dimension posttest is presented in Table 4.

IKB=35(PS)+15(RTD)+25(SPB)+15(MS)

On the post-test stage, both groups were in different positions. The experiment

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Table 4
Post Test Result

	CONTROL GROUP			EXPERIMENT GROUP			SUBJECT		
	MEAN	IDX	COEFFI-CIENT	MEAN	IDX	COEFFI-CIENT	MEAN	IDX	COEFFI-CIENT
DISASTER KNOWLEDGE (35)	9,91	0,49	346,93	12,18	0,77	426,14	11,04	0,63	386,54
EMERGENCY RESPONSE PLANNING (15)	3,42	0,47	58,29	4,35	0,78	65,26	3,89	0,63	61,78
EARLY WARNING (25)	2,84	0,37	71,05	6,00	1,00	150,00	4,42	0,68	110,53
RESOURCE MOBILIZATION (15)	1,37	0,37	20,53	2,00	1,00	30,00	1,68	0,68	25,26
DISASTER PREPAREDNESS INDEX			496,80			671,40			584,10
status			Nearly pre-pared			Prepa-red			Prepa-red

group was prepared; meanwhile, the control group was nearly prepared. The combined scores of both groups, in general, showed that they were prepared.

Based on the variable dimensions of disaster preparedness knowledge, four hypotheses were formulated. Each was tested with Mann-Whitney U and Wilcoxon W testing procedures as the data were categorized as data for the non-parametric test. The results are presented in Table 5.

Table 5
The Result of Hypothesis Test on Disaster Knowledge Pretest Score

	Disaster Knowledge Pre-Test Score
Mann-Whitney U	1367.000
Wilcoxon W	3020.000
Z	-1.544
Asymp. Sig. (2-tailed)	.123

The table 5 shows that Asymp. Sig. (2-tailed) = 0.123 (> 0.05). Therefore, the $H_a$is rejected. This implied that there were no statistically significant differences between the mean score of disaster knowledge dimension in the experiment group and the control group. It was due to the subjects that were not given the treatment (both picture and video animation). The results of hypothesis test on disaster knowledge post test score are presented in Table 6.

Table 6
The Result of Hypothesis Test on Disaster Knowledge Post-Test Score

	Disaster Knowledge Post-Test Score
Mann-Whitney U	404.500
Wilcoxon W	2057.500
Z	-7.039
Asymp. Sig. (2-tailed)	.000

The Table 6 showed Asymp. Sig. (2-tailed) = 0,000 (< 0,05). Therefore, the H_a is accepted. This implied that there were statistically significant differences between the mean score of the disaster knowledge dimension in the experiment group and the control group. Hence, it can be concluded that different treatments given to the experimental subjects affected the disaster knowledge dimension.

The result of hypothesis test on emergency response planning pre test score are presented in Table 7.

Table 7
The Result of Hypothesis Test on Emergency Response Planning Pre-Test Score

	Emergency Response Planning Pre-Test Score
Mann-Whitney U	714.000
Wilcoxon W	2367.000
Z	-5.603
Asymp. Sig. (2-tailed)	.000

The Table 7 showed Asymp. Sig. (2-tailed) = 0,000 (< 0,05). Therefore, the H_a is accepted.This implied that there were

statistically significant differences between the mean score of emergency response planning in the experiment group and the control group. This could be caused by other factors outside the treatment since it was not being given. The result of hypothesis test on emergency response planning post test score are presented in Table 8.

Table 8
The Result of Hypothesis Test on Emergency Response Planning Post-Test Score

	Emergency Response Planning Post-Test Score
Mann-Whitney U	624.000
Wilcoxon W	2277.000
Z	-6.042
Asymp. Sig. (2-tailed)	.000

The Table 8 showed Asymp. Sig. (2-tailed) = 0,000 (< 0,05). Therefore, the H_a is accepted. This implied that there were statistically significant differences between the mean score of emergency response planning in the experiment group and the control group.

Hence, it can be concluded that different treatments given to experimental subjects affected the emergency response planning dimension. The result of hypothesis test on Early Warning pre test score are presented in Table 9.

Table 9
The Result of Hypothesis Test on Early Warning Pre-Test Score

	Early Warning Pretest Score
Mann-Whitney U	1606.500
Wilcoxon W	3259.500
Z	-.126
Asymp. Sig. (2-tailed)	.900

The Table 9 shows Asymp. Sig. (2-tailed) = 0.123 (> 0.05). Therefore, the H_a is rejected. This implied that there were no statistically significant differences between the mean score of early warning in the experiment group and the control group.

This could be caused by other factors outside the treatment since it was not being given. The result of hypothesis test on early warning post test score are presented in Table 10.

Table 10
The Result of Hypothesis Test on Early Warning Post-Test Score

	Early Warning Post Test Score
Mann-Whitney U	.000
Wilcoxon W	1653.000
Z	-9.900
Asymp. Sig. (2-tailed)	.000

The Table 10 showed Asymp. Sig. (2-tailed) = 0,000 (< 0,05). Therefore, the H_a is accepted. This implied that there were statistically significant differences between the mean score of early warning in the experiment group and the control group.

Hence, it can be concluded that different treatments given to experimental subjects affected the early warning dimension. The result of hypothesis test on resource mobilization pre test score are presented in Table 11.

Table 11
The Result of Hypothesis Test on Resource Mobilization Pre Test Score

	Resource Mobilization Pre Test Score
Mann-Whitney U	1596.000
Wilcoxon W	3249.000
Z	-.199
Asymp. Sig. (2-tailed)	.842

The Table 11 shows Asymp. Sig. (2-tailed) = 0.123 (> 0.05). Therefore, the H_a is rejected. This implied that there were no statistically significant differences between the mean score of resource mobilization in the experiment group and the control group. This could be caused by other factors outside the treatment since it was not being given. The result of hypothesis test on resource mobilization post test score are presented in Table 12.

Table 12
The Result of Hypothesis Test on Resource Mobilization Post Test Score

	Resource Mobilization Post Test Score
Mann-Whitney U	598.500
Wilcoxon W	2251.500
Z	-7.222
Asymp. Sig. (2-tailed)	.000

The Table 12 showed Asymp. Sig.

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(2-tailed) = 0,000 (< 0,05). Therefore, the H_a is accepted. This implied that there were statistically significant differences between the mean score of resource mobilization in the experiment group and the control group. Hence, it can be concluded that different treatments given to experimental subjects affected the resource mobilization dimension.

The differences between the pre-test and post-test scores above would be further tested. The Wilcoxon Signed Ranks Test is used to test the score before and after the treatment in the experimental and control groups. The result of mean score of dimension of disaster preparedness are presented in Table 13.

Table 13
The Mean Score of Dimensions of Disaster Preparedness

DIMENSIONS OF DISASTER PREPAREDNESS	N	Mean	
		Picture Group Gambar	Video Group
Score of Disaster Knowledge-Pre	57	3,28	3,54
Score of Emergency Response Planning-Pre	57	2,84	3,75
Score of Early Warning -Pre	57	,35	,32
Score of Resource Mobilization-Pre	57	,33	,32
Score of Disaster Knowledge-Post	57	6,21	8,47
Score of Emergency Response Planning-Post	57	3,42	4,35
Score of Early Warning-Post	57	2,84	6,00
Score of Resource Mobilization-Post	57	1,37	2,00

Note: -Pre (Pre-test) –Post (Post-test)

The Table 13 shows an increase in scores, except for the dimensions of Disaster Response and Early Warning which have lower scores (around 0.01.- 0.03). The test results below show the significance of the difference in scores.

The result of hypothesis test on four dimension of disaster preparedness are presented in Table 14. The Table 14 shows Asymp. Sig. (2-tailed) = 0,000 (<0.05). This implied that in all four dimensions of disaster preparedness, H_o (the median of the experimental group and the control group are the same) is **rejected**. Thus, it can be concluded that the differences in scores on each dimension occurs due to treatment issues, both in the experimental group (animation video) and the control group (picture).

Similar conclusions can also be seen in testing the total score of disaster preparedness before and after the experimental and control groups, as shown in the Table 15.

The Table 15 shows Asymp. Sig. (2-tailed) = 0,000 (< 0.05). This implied that H_o (the median of the experimental group and the control group are the same) is rejected. Thus, it can be concluded that the differences in the score of disaster preparedness before and after in the experimental group (mean: 7,93 became 20,82) and the control group (mean: 6,81 became 13,84) due to the treatment issues. In other words, animated videos influence disaster preparedness on the subject of experiment.

From the perspective of SOR theory, the findings provide empirical data about stimuli (animated videos and images). When the stimulus is different, the response will also be different. The stimulus of video animation increases disaster preparedness' score more than picture stimulus. This finding is in line with the findings of Sari, Elianora, and Bakar who revealed the mean knowledge of SDN 027 Sungai Sapih Kec. Kuranji, Padang. The highest group was the one who watched animation scored 13.79, compared to those who watch the video scored 3.58 (Sari, Elanora, & Bakar, 2017). This finding is also in accordance with Davidson et al., who stated that watching the video is a way to tell events to others (Davidson et al., 2014). In this context, individuals who watch animated videos report their responses on the dimensions of disaster preparedness.

One of the media that is quite relevant in fostering a sense of preparedness is an animated video because there are motion pictures and sounds. Animation can provide a more meaningful learning experience and provide a greater stimulus than reading a textbook because the message is in the form of audiovisual and the movement in an animated video gives an impressive image to the audience.

The treatment given to the control group is to provide learning with picture and

Table 14
The Result of Hypothesis Test on Four Dimensions of Disaster Preparedness

Test ofStatistics[a]					
TREATMENT GROUP		Score of Disaster Knowledge -POST - Score of Disaster Knowledge -PRE	Score of Emergency Response Planning-POST - Score of Emergency Response Planning-PRE	Score of EarlyWarning-POST - Score of EarlyWarning-PRE	Score of Resource Mobilization-POST - Score of Resource Mobilization-PRE
Control Group	Z	-6,650[b]	-3,939[b]	-6,664[b]	-7,429[b]
	Asymp. Sig. (2-tailed)	,000	,000	,000	,000
Experimental Group	Z	-6,682[b]	-5,667[b]	-6,867[b]	-6,867[b]
	Asymp. Sig. (2-tailed)	,000	,000	,000	,000
a. Wilcoxon Signed Ranks Test					
b. Based on negative ranks.					

Table 15
The Result of Hypothesis Test on Animated Video and Disaster Preparedness

TREATMENT GROUP		**Preparedness Preparedness Score-Pre**
Control Group	Z	-6,587[b]
	Asymp. Sig. (2-tailed)	,000
Experimental Group	Z	-6,602[b]
	Asymp. Sig. (2-tailed)	,000
a. Wilcoxon Signed Ranks Test		
b. Based on negative ranks		

poster media, while the experiment group is given the animated video. Based on the results of the post-test, it is found that the animation video is more significant and effective in increasing student preparedness in SDN 01 Cigondang compared to the pictorial storybook.

Furthermore, regarding the concept of organisms (O), Dollard and Miller believe that it can react to the same stimulus with different responses (Ellis, Abrams, & Abrams, 2009). This proposition seems to be supported in part by this research data. Through Mann-Whitney U test on disaster preparedness scores (without discriminating the treatment), it was found that the female group had the highest mean rank (64.27) compared to male (50.73). The Mann-Whitney U score test = 1238.5 (Asymp. Sig. [2-tailed] = 0.027). Thus, H_o was rejected, which can be concluded that the Disaster Preparedness Score after the provision of treatments in the female group was statistically and significantly higher than the male group.

In other cases, where the characteristics of the organism are the class of subjects (grades 4 and 6, for example), the following test results are obtained. Overall, by applying the Mann-Whitney U test on disaster preparedness scores (without discriminating the treatment), it was found that the group of grade 6 students (51.50) had an mean rank higher than the group of grade 4 students (38.92). The Mann-Whitney U score test = 709,500 (Asymp. Sig. [2-tailed] = 0, 020). Thus, H_o was rejected, meaning that the Disaster Preparedness Score after the provision of treatments in the group of grade 6 students was statistically and significantly higher than the group of grade 4 students.

The cases tested above confirm the importance of organism concept in learning. This view is relatively in line with Tolman (1948, p. 189) who discusses the "role of the

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organism" in information processing that can be either active or passive (Holland, 2011).

Conclusions

The use of animation video in learning process can give a positive influence on disaster preparedness knowledge. The media can stimulate students' motivation and interest in learning. In addition, the learning method with animation video presentations could encourage the students to absorb more knowledge on disaster preparedness. The final result of this study shows that there is an influence of animation video on the preparedness knowledge of the students of SDN 01 Cigondang, Pandeglang. It is concluded that the treatment with animation video media is more effective than picture media.

The recommendation of this study is that the socialization of disaster preparedness is very crucial to be delivered to children. The more effective media is animation video that can make us go deeper into the character of children.

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