JURNAL UPI

Current Issues on Elementary Education Journal

Journal homepage: https://ejournal.upi.edu/index.php/CIEE

Application of moderation in determining natural disaster mitigation strategies as inclusive education in elementary school

Kosim[1], Syahrial[2], and I Wayan Gunada[3]

[1,2,3] Teaching and Training education Faculty , University of Mataram, Mataram, Indonesia

*Correspondence: E-mail: kosim_fisika@unram.ac.id

ABSTRACT

Natural disaster mitigation learning is inclusive education in elementary school. There for, this aims to express the responses and opinions of teachers about the implementation of the disaster mitigation learning model and to improve the ability of teachers in elementary schools. The study was conducted on three schools consist elementary schools in Mataram, Ampenan, and Sembalun in Lombok Island-West Nusa Tenggara-Indonesia. The method of research begins with a presentation of a learning model for natural disaster mitigation such as peer teaching by the research team. After that discussion with moderation technique regarding disaster mitigation learning structure applied in the previous presentation. The results of the study obtained 5 main ideas of strategies about the implementation of the natural disaster mitigation learning model, namely that 1) students must be conditioned to natural disasters in the learning process, 2) teachers must have the correct steps in providing the understanding of natural disasters and in conducting direct demonstrations so that students thoroughly understand, 3) teachers must have knowledge of earthquakes, tsunamis, landslides, floods, hurricanes and volcanoes, 4) teachers provide examples of disaster mitigation learning to students using tools such as videos, disaster mitigation tools, etc, 5) understanding risk, vulnerability, threat and capability of natural disaster. In general conclusion, teachers have to ability to use technology pedagogical and content knowledge strategies for natural disaster mitigation learning.

ARTICLE INFO

Article History:
Submitted/Received 13/02/2023
First Revised 20/04/2023
Accepted 25/06/2023
First Available online 30/06/2023
Publication Date 30/06/2023

Keyword:
moderation techniques; disaster mitigation learning model elementary school

How to cite: Kosim, K,. Syahrizal, S., Gunada, I W. (2023) Application of moderation in determining natural disaster mitigation strategies as inclusive education in elementary school. *Current Issues on Elementary Education Journal, Vol 2 (1), 39-49.*

1. INTRODUCTION

Disaster mitigation learning aims to increase awareness that we live in disaster-prone areas. From January to October 2021, there have been 2,007 disasters in Indonesia (BNPB, 2021). Disasters that occur come in the form of earthquakes, landslides, floods, etc and it is also possible that a tsunami, volcano, or hurricane will occur. All disasters are called natural disasters. Therefore we have to prepare knowledge and behavior to mitigate natural disasters. Natural disaster mitigation knowledge, it's not included in the elementary school curriculum. It must be an inclusive education in elementary schools in Indonesia because Indonesia's position is prone to natural disasters. It shows that Indonesia is on the "ring of re" path. where Indonesia has the most active volcanoes in the world. This condition makes the Indonesian region also vulnerable to volcanic earthquakes (Zuhdi, 2019). In addition, the territory of Indonesia is flanked by 3 tectonic plates which can cause tectonic earthquakes to often occur in Indonesia. Also, Indonesian people need to learn natural disaster mitigation from an early age.

The understanding and education on mitigation need to be given to teachers and students, so that they are trained not to panic when dealing with disasters and can thus spread the information or knowledge about disaster mitigation or natural disaster risk reduction to the community (Ayub, S., 2019). The analogy delivering disaster mitigation to the community is the same as using a seat belt in a car: if it is not used, it will not be useful until a fatal car accident occurs. This means that we do not know when an accident will occur, so it is the safest to wear a seat belt every time we drive a car. Likewise, the understanding and education on disaster mitigation should continuously be provided, because up until now, no one has been able to predict when, where and how big the impact of a disaster will be (Ramadhani, 2020). The more the community is prepared for a threatening disaster, the smaller the risk faced (Rachmat, 2004). Teachers and students in elementary schools are one of the most vulnerable parties during disasters. In fact, not only teachers and students, the whole school community, including school principals and employees, are also vulnerable. Disaster-aware schools can be a solution in reducing disaster risks or hazards in schools (DAPS-SEQIP, 2009). Currently, the obstacle in fostering disaster awareness in schools through education with the implementation of disaster mitigation learning model is that disaster mitigation has not been included in the curriculum for education in Indonesia. The solution is to integrate disaster mitigation learning strategies as inclusive education in all subjects in elementary schools.

Natural disaster mitigation Learning strategies aims to increase awareness that we live in disaster-prone areas. From January to October 2021, there have been 2,007 disaster events in Indonesia (BNPB, 2021). Disasters that occur in the form of earthquakes, landslides, floods and others and it is not impossible that a tsunami, volcano or hurricane will occur. The analysis discovers that elementary school curriculum can be integrated accordance with the indicators and learning objectives of disaster mitigation that will be taught, therefore it is necessary to implement a disaster mitigation learning strategies to become a learning model in elementary schools. The disaster mitigation learning model is a model developed for teachers and students so that they have disaster awareness that raises preparedness and is realized in the form of disaster awareness attitudes or behaviour. Disaster awareness behaviour is expected to minimize casualties, environmental damage, property losses and psychological impacts for those affected. Students are community members who will try to develop their potential through the learning process on the educational path (Ibrahim,

2010) and become objects, that is, those who will experience this activity, so the disaster mitigation learning model developed is student oriented.

The learning will be carried out by the teacher, hence, the implementation of disaster mitigation learning model is carried out on the teachers of SD Negeri in Mataram, Ampenan and Sembalun, West Nusa Tenggara province in Indonesia (figure 1). These schools are surrounded by city area (SDN 12 Mataram), beach area (SDN 5 Ampenan) and mountains on Mount Rinjani (SDN 1 Sembalun).

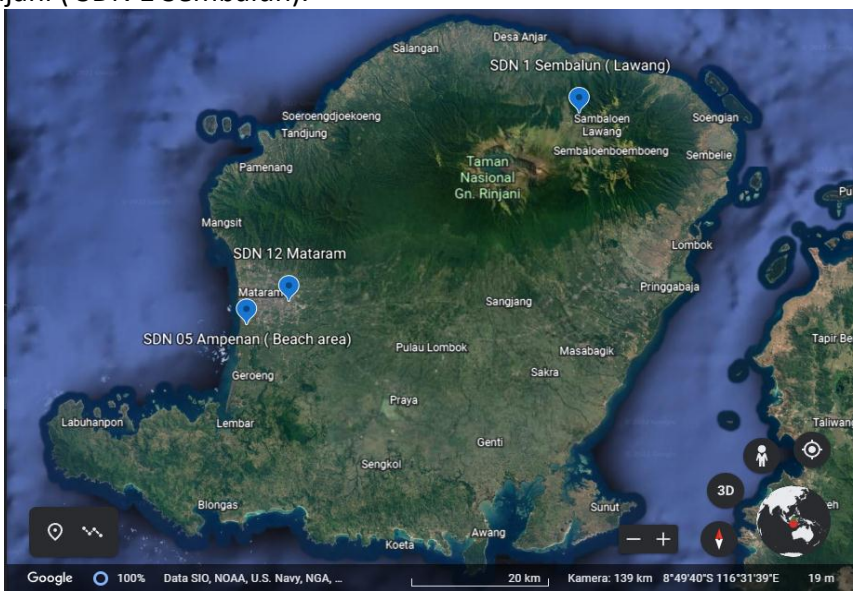

Figure 1. Location of research in SDN 12 Mataram, SDN 5 Ampenan and SDN 1 Sembalun

These schools were affected by the earthquakes during Lombok Earthquake in 2018 with a magnitude of 7 on the Richter scale, and is very vulnerable to other natural disasters such as tsunami, landslides, volcano Rinjani eruption, flash floods and typhoons. This is one of the reasons to implement the elementary school disaster mitigation learning model along with the teacher's responses and opinions about this learning model in this school. The teacher's responses and opinions regarding the implementation of this disaster mitigation learning model will be expressed with a moderation technique. This moderation technique can be used by anyone who wants to solve problems and ask for opinions/responses through group discussions which prioritize the active involvement of all participants and get an effective and efficient final result. And this moderation method can be done, both in the world of work, education and in society. Moderation is a way of discussing a matter in groups that prioritizes the active involvement of all participants to get an effective and efficient final result, and is a system of techniques and methods for implementing group discussions that require a guide (DAPS-SEQIP, 2009). The guide directs and provides problem solving or alternative problem solving and asks for feedback/opinions. The moderation method is currently a very popular method because it has been proven successful as a method used in groups and also as an instrument to improve cooperative attitudes, motivation and performance of teachers and school principals. Moderation technique as a method that requires the active involvement of all participants has a goal, among others, to direct the participants' ability to communicate verbally and non-verbally, to train participants' ability to express what they are thinking about the theme being discussed, to cultivate the habit of logically visualizing comments or ideas, to improve cooperative attitudes, develop efficiency and effectiveness in discussions, raise awareness in viewing conditions, foster participants' self-confidence and lead to logical and sustainable thinking skills. The thing that

distinguishes this technique from other techniques is the visualization of ideas, comments, expressions as outlined in writing, figures, and simple symbols that are easily recognizable by participants in interesting forms and the main thing is that all the ideas, suggestions and thoughts of the teacher are challenged. The following describes the characteristics of moderation technique, including: (1) visualization. Things that need to be considered for this include: the availability of tools for moderation purposes; ideas & comments and expressions are poured visually through writing and symbols; making structured and clear plaques (writing, materials, pictures, etc.); the existence of minutes as archives and documents that can be used at any time; presentation of placards during plenary session. (2) active interaction which is regulated in the rules of discussion through card questions, (3) the planning of the moderation stage (estimated time required and implementation strategy). The rules in the moderation technique are that all participants are required to participate actively, write ideas/ statements briefly and clearly on a card, the writing on the card uses printed letters, one card contains one idea / one statement that is no more than 3 (three) lines in each card, large and fat writing (not small), the writing is written from left to right, from top to bottom, the colour and shape of the markers must be the same, the moderator may not throw away any cards, ask questions, and the moderator must signal if there is a change in the moderator's role. So, based on this description, we can understand that the moderation technique is very appropriate to explore ideas and comments from all participants in the group.

Moderation techniques were originally used by entrepreneurs in Germany to improve the performance and marketing of their products. This technique was then adopted into the world of education. This technique is very powerful to get input in improving the quality of education including the performance of teachers/ principals, the quality of learning, and also in solving other educational problems. The advantage of this technique is that all the participants' opinions, ideas or suggestions from the discussion will be accommodated and appreciated, so that all will feel satisfied. There are several steps that must be taken in the moderation technique, namely:

2. METHODS

This research is a descriptive research, which is a method used to find out the description or the situation of something by describing it in as much detail as possible based on the facts. According to Sugiyono (2017), descriptive is a method used to describe or analyze a research result but not to make broader conclusions.

To obtain more accurate results on multiple regressions, it is necessary to test the classical assumptions. This means that this study only wants to know how the state of the variable itself is without any influence or relationship to other variables such as experimental research or correlation.

In the development of learning models, there are many elements that constitute it, including the approach used, the learning model chosen, the learning media that support it, up to the steps for its application in the classroom (Suprapto, 2002). Descriptive research seeks to reveal these invisible details so that learning methods can be explained as clearly as possible and valuable data that can be drawn for further research or used for its best application can be obtained (Disaptono, 2005). The steps taken to express the teacher's responses and opinions on the implementation of the disaster mitigation learning model at three location, namely (table 1.)

Table 1.Location of implementation of the disaster mitigation learning model

Location of Elemtary school	Participants (Teachrs' of elementary school)	Topic of peer teaching	Respond
SDN 12 Mataram	10 person	Tsunami mitigation	good
SDN 5 Ampenan	21 person	Earthquake mitigation	good
SDN 1 Sembalun	13 person	Landslide mitigation	good

The first step, the team conducted a disaster mitigation learning modelling with the topic that are mentioned in table 1 above for each elementary school location. These are intended to create real learning conditions in the classroom. The second steps, after completing the modelling activities the team and the teacher discuss the disaster mitigation learning structure associated with the model that has been shown in the first step so that the teacher gets a real example of the implementation of the disaster mitigation learning structure that was prepared. The third step, moderation techniques were conducted to express teacher responses and opinions about the implementation of disaster mitigation learning models. The fourth step, one of each group teachers conduct peer teaching and present other disaster mitigation learning models to get god strategies learning. And the fifth step or the last step, peer teaching activities carried out by teachers were observed, evaluated and reflected on to strengthen teachers' understanding of the disaster mitigation learning model. Moderation technique was carried out to find out the teacher's responses and opinions on the implementation of the disaster mitigation learning model at tree location of elementary school

The moderation technique steps were taken, first the team explained what had been described previously, namely modelling of disaster mitigation learning models, discussion of learning structures, peer teaching, observation, evaluation and reflection. Next the team asked the following questions:

(1), what is your response to the implementation of the disaster mitigation learning model in elementary schools? This question was not answered verbally by the teacher, but the team painted 3 pictures of emotions on the blackboard, namely:

a b c

Figure 2. Fictures of emotions (a). no idea , (b).reject, (c). satisfied

You are asked to choose according to the emotions you feel by putting a cross in the emotion box. Through the first question, information regarding teacher satisfaction or not with the implementation of the disaster mitigation learning model was obtained. Whatever the teacher's answer does not matter, because there will be the next question.

(2). Is it necessary for the implementation of the disaster mitigation strategies to improve learning model in elementary schools? This second question will be answered directly and orally by the teacher. 100% of the times, the teacher's instinct will answer "it needs to be improved". This answer will have consequences because there will be another question,

(3). What things need to be improved in the implementation of the disaster mitigation learning model in elementary schools? This third question was not answered verbally by the teacher, but the team gave out several cards. Each card only contained one main idea, the

teacher's response and opinion. This method is effective for capturing all teachers' responses and opinions without exception, so that all can express their responses and opinions. All opinions are accommodated and appreciated

(4). The moderator collects the teacher's responses and opinions according to their main ideas by making numbers 1, 2, 3, 4, and so on. Each card that is in a certain number contains one main idea. Should there be any new idea, it must be in a different number.

(5). The moderator guides the discussion to put the words into one sentence for each response and opinion for each main idea formed.

(6). The Moderator leads the discussion to solve problems that arise from the teacher's responses and opinions by making a solving table which essentially contains the current conditions, the person in charge, and the time needed to complete them. Furthermore, the moderator and teachers will continue to communicate to update the results of the moderation technique for determination strategies to implement the disaster mitigation learning model in elementary schools.

The following are some pictures of the one example for moderation action at SD Negeri 1 Sembalun. These are shown in figures 3 until 7 as example for the steps of moderation technique.

Figure 3. The teacher chooses according to his emotions for the first question

Figure 4. The teacher writes a sentence that represents the main idea proposed

Figure 5.Suggestion cards (zoop) placed according to the main idea

Figure 5. The moderator leads the moderation technique

3. RESULTS AND DISCUSSION

3.1 Results

The moderation technique applied to teachers at tree Elementary school teachers. It is able to explain the teachers' responses and opinions to improve the implementation of the disaster mitigation learning model in elementary schools. This technique respects all ideas from the teacher. There is no teacher who does not have an opinion so that it can be an indicator that this result is the integrity of teachers. The results of the study obtained 5 main ideas as strategies about the implementation disaster mitigation learning model, namely: 1). Students must be conditioned to face natural disasters in the learning process. In regards to number one for the main idea, the responses and opinions of the teachers include: (a) providing strong motivation in attracting students' interest, (b) choosing the right steps in attracting students' interest to find out the problems to be discussed, (c) introducing the environment to students, (d) recognizing the students' character from the problems expected by the teacher. The other word, the teachers must understand of pedagogical teaching learning . 2). Teachers must have the correct steps in providing the understanding of natural disasters and in conducting direct demonstrations so that students thoroughly understand. The teacher's responses and opinions on main idea number two include: (a) the needs to provide steps to prevent natural disasters, (b) knowledge and methods of disaster management, (c) facility or simulation of natural disasters, (d) facility of examples of ways to prevent natural disasters, (e) conducting demonstrations on ways to mitigate disasters in class. It means the teacher have to conduct simulation of disaster mitigation for evacuation

action. 3). The teachers must have knowledge of earthquakes, tsunamis, landslides, floods, hurricanes and volcanoes. The teachers' response and opinion on main idea number three is to add and increase knowledge about natural disasters. It means the teacher have to dominate content knowledge about natural disaster mitigation. 4) The teachers provide examples of disaster mitigation learning to students using tools such as videos, disaster mitigation tools, etc. The teacher's responses and opinions on main idea number four are: (a) improve learning with relevant learning models, (b) provide video examples about natural disasters, (c) use tools/media so that students are motivated, (d) increase teaching aids and natural disaster VCDs, (e) use learning aids The other word, the teachers have to use technological facilities. 5) The teachers must understand the relationship between the risk, vulnerability, threat and capability of natural disaster is crucial. The teachers' responses and opinions on main idea number 5 are: (a) understanding implementation learning in natural disaster (such as earthquake, landslides, floods, hurricanes and volcanoes eruption), (b) ways to reduce the possibility of natural disaster, (c) risks posed by each natural disaster.

The finding of this strategy is very good and useful in developing teacher abilities by using moderation technique discussion. However (Toncel and Fatma, 2018) show the result that in service training did not make any contribution to some teachers and their personal development.

3.2 Discussion

(Kosim at all, 2019) have studied how to learning on landslide and tsunami mitigation at elementary school in Mataram West Nusa Tenggara Indonesia. This result that the teachers need the ability to use audio-video in order to get the interesting learning for students of elementary school. The results of the study place landslides as the main focus because they are one of the main concerns/thoughts of the teachers, which can be traced back to the location of school which is in mountainous areas. Mountains are very vulnerable to the risk of landslides. Risk refers to the probability of being hit by a disaster which is the comparison between the magnitude of the threat and vulnerability compared to the ability to cope with disasters (Adiyoso W, 2018). Mathematically, the risk can be formulated as follows

$$R = \frac{A\ x\ K}{C}$$

In regards to the formulation, R is risk, A is threat or danger, K is vulnerability or weakness and C is ability or strength. The above formulation informs that to reduce disaster risk, capabilities or strengths must be increased and threats and vulnerabilities must be reduced. Increasing understanding of the meaning of landslide, as well as its various types, signs, and being able to take appropriate action during and after a landslide is one of the attempts to increase resilience or ability. Attempts are being made to increase resilience or capability by building evacuation facilities in safe areas near potential landslide areas, building SAR and medical aid facilities in safe areas and building logistics centres in safe places. In addition, attempts that can be made to reduce vulnerability or weakness are slope stability, applying appropriate land use zoning, enforcing strict building regulations, building and placing vital economic and social facilities outside potential landslide areas, not building settlements on the edge cliffs, not creating new rice fields and ponds on the upper slopes near settlements, not cutting down trees on slopes, not digging under cliffs, immediately covering fractures with clay and making terraces on slopes in residential areas or rice fields. Threats can also be caused by earthquakes, tsunamis, volcanic eruptions, floods and storms. The level of threat can be quantified with signs of impending disaster. For example, signs of

impending landslides include the appearance of springs, seepage, or soil saturated with water that has never happened before, the emergence of new cracks or unusual bulges that occur on the ground, road paving, or sidewalks, soil moving away from building foundations, additional structures such as decks and terraces sloping and/or moving relative to the main structure of the house, concrete floors and foundations sloping or fractured, damage to water pipes and underground facilities, telephone poles, trees, retaining walls, or the fence is slightly shifted or tilted, and the door frame shifts. Signs of impending landslides need to be known to reduce the threat. If this is done, the risk of landslides will be minimized, including other disasters such as earthquakes, tsunamis, floods, volcanoes eruption and typhoons. Five points expressed by other moderation techniques should also be followed up. Operational instructions for solving the problems revealed by this research must be formulated so that the procedures for solving them are clearly explained. One example is the main idea regarding conditioning students to face natural disasters in the learning process. In this case, it is necessary to formulate the current conditions, the expected conditions, the person in charge and the time needed to achieve them. It is recommended that these troubleshooting operational instructions be made in a form of a table to make it easier to control problem solving.

Table 2. Problem-Solving Operational Instructions as example in landslide disaster

Theme	Current **C**ondition	Expected condition	Person who responsibility	Estimated time required
Landslides	Rainy season	Rain that does not sign of landslides	Teacher who teach related to natural disaster mitigation	Two hours of explanati-on and evacuation drills

This problem-solving operational guide table must also be discussed by the team and teachers so that the main ideas expressed can be resolved in a directed and purposeful manner. The implementation of disaster mitigation learning model at elementary schools are expected to result in the school being able to become a Disaster Awareness School (SSB). The Disaster Awareness School (SSB) has a school community, namely teachers, students, principals and school employees who have disaster-aware behavior and take the initiative to influence others (Wibowo, 2019). In accordance with (Widodo, E. 2014), the application of learning tools and student-oriented learning models is effective in increasing students' awareness of disasters. In line with the finding that the response of teachers and students is very good to disaster mitigation learning tools, and Suhardjo, D. (2011), the statement regarding disaster mitigation education in the context of DRR (Disaster Risk Reduction) is as follows: it must be done through formal education in the National Education System (Diknas) program with a curriculum design from the National Education Standardization Agency (BSNP). Then, Ayriza, Yulia. (2011) concluded that there was a significant improvement in teacher skills in implementing personal-social guidance services with the aim of increasing students' psychological readiness in dealing with natural disasters between before and after having the training on the application of guidance modules, both in helping students understand the ins and outs of natural disasters and managing student affection before and after a disaster, as well as the skills to guide students in mastering various procedures and skills to save themselves in a disaster situation. Tohani, E. (2019)'s

research results in the finding that social capital makes a positive contribution in developing a disaster-resistant community even though its existence is not realized in social life. According to Dwiningrum (2020), the resilience of students should be understood by the teacher. Teacher attempts to build and develop personal resilience because they are needed to build more effective school resilience. Resilience has the readiness to play a role in disaster mitigation. Disaster Mitigation requires social synergy between the roles of principals, teachers, and students in order to build strong social cohesion.

Wedyawati, N. (2017) states that there are significant differences in student learning outcomes in the experimental class and the control class. The results of the questionnaire data analysis show that the integrated science learning model for disaster mitigation is very strong. Muhammad A., (2019), concluded that the PAI learning material in the 2013 Curriculum contains main/sub-subjects that can be integrated with natural disaster mitigation insights. Agustiana, T., (2013), found that the understanding and resilience of students who were taught with the disaster mitigation learning model was better than the understanding of students who were taught with the conventional learning model. A.Rusilowati, (2012) states that the product of five features of the learning model such as: syllabus, lesson plans, learning methods, teaching materials, as well as techniques and types of assessment developed cover science materials for grade IV, V, VI SD and VII, VII, IX of Junior High Schools. The results of the dissemination show that the learning tools developed are appropriate to be given to students, and can increase students' understanding in recognizing and dealing with disasters. Yerizon, (2020) states that the development of learning tools based on discovery learning models that are oriented towards natural disaster mitigation, can be a solution to introduce SMP/MTsN students to natural disaster mitigation. The results of the research described earlier show that learning tools and disaster mitigation tools make a significant contribution to the knowledge, skills, and attitudes of students in disaster mitigation, so that they are expected to be able to raise students' awareness of disasters. Also Reid (2007) has studied about moderation technique for writing assessment of elementary and secondary school teachers in Scotland. It has succeed.

5. CONCLUSION

The results of the study in determining of strategies are obtained 5 main ideas about the implementation of the natural disaster mitigation learning model, namely 1) conditioning students to face natural disasters in the learning process, 2) teachers must have the right steps in providing an understanding of natural disasters and conducting direct demonstrations so that students understand carefully, 3) teachers must have knowledge of earthquakes, tsunamis, landslides, floods, hurricanes and volcanoes eruption, 4) teachers provide examples of disaster mitigation learning to students using tools such as videos, disaster mitigation tools and others, 5) understanding risk/hazard, vulnerability (weakness), threat and capability/strength of landslide disaster. In other word from number 1 until 5 shown that the teachers have to apply capability of TPACK which stand for Technological, Pedagogical and Content Knowledge of natural disaster. Beside that the teacher should have capability for evacuation drills of natural disaster mitigation

6. ACKNOWLEDGMENTS

The team would like to thank the Ministry of Education, Culture, Research and Technology for funding this research, Mataram University for facilitating the team in

conducting this research and the teachers of SDN 12 Mataram, SDN 5 Ampenan and SD Negeri 1 Sembalun for their willingness and cooperation during the research.

7. REFERENCES

Ayub, S. (2019). Model Pembelajaran Kesiapsiagaan Gempabumi di Sekolah Dasar. *Jurnal Orbita Universitas Muhammadyah Mataram*, 5(2), 65-72. doi: https://doi.org/10.31764/orbita.v5i2.1187

Adiyoso, W. (2018). *Manajemen Bencana: Pengantar & Isu-isu Strategis*. Jakarta: Bumi Aksara

Agustiana, T. (2013). Pengaruh Model Pembelajaran Mitigasi Bencana terhadap Pemahaman dan Ketahanmalangan Siswa. *Jurnal Pendidikan dan Pengajaran*. 46(2), 97-105. Retrived from http://dx.doi.org/10.23887/jppundiksha.v46i2%20Juli.2660

Ayriza, Y. (2011). Peningkatan Keterampilan Guru Bimbingan Konseling dalam Pemerolehan Kesiapan Psikologis Siswa Menghadapi Bencana Alam. *Jurnal Ilmiah Pendidikan Cakrawala*. 2(2011), 230-242. Retrived from https://doi.org/10.21831/cp.v0i2.4230

BNPB. (2021). Update Bencana Alam Tahun 2021. Jakarta: Badan Nasional Penanggulangan Bencana.

DAPS - SEQIP. (2009). Materi Pelatihan Banjir Modul I -5. Jakarta : GTZ-Dcpartcmcn Pcndidikan Nasional Direktorat Pembinaan TK clan SD.

DAPS - SEQIP. (2009). Materi Pelatihan Tanah Longsor Modul 1-5. Jakarta : GTZ-Departemen Pendidikan Nasional Direktorat Pcmbinaan TK dan SD.

DAPS - SEQIP. (2009). Materi Pclatihan Gcmpa Bumi Modul 1-5. Jakarta : GTZ-Departemen Pendidi kan Nasional Direktorat Pembinaan TK dan SD.

DAPS - SEQTP. (2009). Materi Pelatihan Tsunami Modul 1-5. Jakarta : GTZ-Departemen Pendidikan Nasional Direktorat Pembinaan TK dan SD.

Diposaptono S. (2005). Tsunami Mitigation Technology. Jakarta: Republic of Indonesia Maritime and Fisheries Agency Tsunami Mitigation Training Material.

Dwiningrum, A.,I.,S. (2020). School Strategies in Strengthening Student Resilience in Disaster-Prone Areas. *Jurnal Ilmiah Pendidikan Cakrawala.* 39(3), 720-731. Retrived from https://doi.org/10.21831/cp.v39i3.30249

Diposaptono, S. (2005). *Tsunami Mitigation Technology.* Jakarta*:* Republic of Indonesia Maritime and Fisheries Agency Tsunami Mitigation Training Material.

Kosim, Syahrial.A, Wayan G & Endang H. (2019). Audio Visual Based Learning on Landslide and Tsunami Mitigation in Fith Grade Students at Primary School (SDN) 6 Matara, Advances in Social Science, Education and Humanities Reseach, Atlantis Pres, Vol (465), 359-362

Reid, L. (2007). Teachers talking about writing assessment: Valuable professional learning? *Improving Schools, 10*(2), 132–149.