
Disaster Mitigation Education for Elementary School Students in Indonesia: Challenges and Potentials

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ABSTRACT

This study has a goal to explore the implementation of disaster education for elementary school students and to find out the supporting and inhibiting factors. A survey was given to elementary schools with various accreditations standards located around Mount Merapi, Yogyakarta. This research was quantitative research with survey method using instruments in the form of questionnaires. It was found that 40% of elementary schools in disaster-prone radius have implemented disaster mitigation education for their students. However, it is not yet fully compliant with the standards set by the National Disaster Management Agency. The implementation of disaster education programs in these schools focuses on how to save oneself through simulations. Learning does not explicitly integrate disaster education. There are several identified inhibiting factors, namely the lack of facilities and infrastructure including the disaster education curriculum and its supporting instrument. However, elementary school teachers in this area have received training so that they have quite a good understanding of disaster mitigation education. This is a supporting factor for implementing disaster mitigation in this area. In addition, the applicable curriculum allows schools to design learning based on the students' needs in their environment. Unfortunately, these potentials have not been optimally utilized.

Keywords

Disaster Mitigation, Elementary School, Challenges And Potentials

Introduction

Disasters are almost certain and inevitable anywhere. Indonesia is an archipelago and the confluence of four tectonic plates. This geographical condition increases the possibilities of natural disasters. In addition, the volcanic belt that extends to the southern and eastern parts of Indonesia has the potential to cause various disasters such as volcanic eruptions, earthquakes, and tsunamis (Amri, et al, 2018).

Humans as creatures directly affected by a disaster must be able to anticipate so that they have preparedness. This attitude will be embedded in someone when they have adequate knowledge, motivation, and resources (Levac, J.J., et al 2011). Sufficient knowledge and skills in disaster mitigation will provide insight and convenience to take the most effective and efficient action.

There are several previous disaster events in Indonesia summarized by BNPB (BBC News Indonesia, 2018; Christy, 2020; Jaiswal, k. Wald, D.J., and Hearne, 2009; Putri, 2017; Ramdhani, 2018), for example, volcanic eruptions including Mount Merapi, Mount Rokatenda, Mount

Sinabung, and Mount Anak Krakatau eruptions. The eruption of Mount Anak Krakatau that occurred in 2018 was hazardous due to lava and hot clouds. It also resulted in landslides and tsunami waves. This wave devastated the west coast of Java Island and the southern tip of Sumatra Island. It took the lives of 430 people, 159 others were missing, and nearly 1,500 were injured, while around 22,000 residents were displaced.

Disasters also affect education. The impacts include (a) schools that function as shelters will result in reduced learning hours and lower syllabus coverage so that students' academic performance is not optimal; (b) difficult access to schools due to infrastructure damage will result in high student absenteeism so that the teaching and learning process cannot run properly; (c) damage to school infrastructure results in a prolonged reduction in the quality and quantity of facilities and infrastructure, thus affecting the quality of education; and (d) parents, who have lost their homes, maybe displaced to places far from their children's schools, resulting in high absenteeism of students et al, 2009; UNESCO, 2010) Thus, it

is almost certain that, when there is a disaster, the learning process in the affected schools will not run optimally.

Yogyakarta, a province in Indonesia, is one area prone to disasters. The earthquake in 2006 which took many lives and the eruption of Mount Merapi in 2010 which became a national disaster (Hartanto, 2020) became the concern of the government in conducting disaster mitigation education for the community. The government has carried out various socialization and education on disasters both to the community and to the school. When a disaster affects various sectors, the wheels of life will come to a halt. Therefore, it is necessary to handle it to reduce the risk of natural disasters. This has been applied in education, but the impact on preparedness has not been significant. Selby & Kagawa (2012) summarizes the findings on the integration of disaster risk reduction in the curriculum of 30 countries that have already done, it is known that most of the integration with natural science clusters. But, from case studies in Malawi, the challenges encountered in carrying out the integration of disaster risk reduction in education are time and resource implications; it takes longer and costs more. The same problem is also encountered in Indonesia, the Philippines, and Benin, related to the fact that teachers are often poorly trained and have a 'very narrow range of teaching methodologies' available to them (Spiekermann, Kienberger, Norton, Briones, & Weichselgartner, 2015).

Various pure scientific studies have been carried out to reduce the impact of natural disasters (Capps, D., McAllister, & Boone, 2013; Gold, A., Kirk, et al, 2015; Ishimura, N., & Nakamura, 2013; Nunn, J.A., & Braud, 2013). The results of Yoon, Lee, & Jung's study (Yoon, S., Lee, Y.J., & Jung, 2018) suggest a comprehensive framework for seismic risk by providing guidelines for accurately predicting the status of damage to network systems due to earthquakes. To evaluate a network system seismic risk assessment, it is important to consider issues including (1) a spatially correlated attenuation law adopted for uncertain ground motions, (2) survival analysis

results used to consider underground pipelines, and (3) interdependence of effects between facilities (water plant treatment, pump plant, and substation). A flood disaster management model has been found (Molinari, D., Bruijn, K.D., Castillo, J., Aronica, G.T., & Bouwer, 2018; Unterberger, 2018).

It is not enough to reduce disaster risks through one point of view. Lack of understanding of disaster risk management will affect one's actions when faced with a disaster situation. The results of the survey regarding the community beliefs about tsunami hazard evacuation building in Aceh show that, although this building has the potential to save many lives, people prefer horizontal evacuation; only 26% were successfully evacuated to the evacuation building while 74% were evacuated horizontally. If a similar earthquake occurs in the future, only 32% intend to displace to the evacuation building while 68% prefer horizontal evacuation (McCaughey, J.W., Mundir, I., Daly, P., Mahdi, S., & Patt, 2017).

Schools are one of the most risky sectors, but schools also have the potential to be a means of building community resilience, which naturally starts from students' awareness of the importance of disaster preparedness. Students need habituation related to disaster preparedness. This is related to the psychological condition and self-confidence of students. To realize students who are accustomed to being prepared, it takes training in daily life (Kılıç & Simsek, 2019). Brewer, Hutton, Hammad, & Geale (2020) defines that there are four aspects that must be emphasized in disaster risk reduction activities, namely knowledge about demographics and environmental characteristics, knowledge, skills, and post-disaster preparation. While, Ilo, Izuagbe, Mole, & Ekwueme (2018) defines that there are four aspects to disaster risk reduction, namely knowledge and attitudes towards disaster preparedness, response in the event of a disaster, preparation for preparedness, and availability of resources.

Changing behaviors towards disaster preparedness is more important than an educational campaign only (Bandura, 2004). Disaster mitigation

education is more effective through formal education in schools. Schools provide a platform for disaster preparedness and disaster education programs that have the potential to foster a culture that creates a “Disaster Awareness Generation” (Tuladhar, G., Yatabe, R., Dahal, R., & Bhandary, 2015). DRR (Disaster Risk Reduction) education as part of the Hyogo Framework Action (HFA) framework is important to be taught and instilled in everyone.

Disaster education is effective to be given early. Among the human ages, children are most vulnerable to being affected when natural disasters occur. However, at that age, children are easily influenced and can become effective communicators of disasters. They can provide information from the school to family members at home (Editor. RCC (Regional on Consultative Committee on disaster management), 2007). In this way, family members and people around them will be educated (Evans, L., & Oehler-Stinnett, 2006). Therefore, elementary school students are good educators for their communities. Therefore, they contribute to the management of risks and hazards they learn in schools (United Nations Development Programme (UNDP), 2015). Based on this, children have the potential as agents of mitigation and dissemination of disaster mitigation information to their friends and family (Wachtendorf, T., Brown, B., & Nickle, 2008).

Many countries have conducted disaster mitigation education. Cambodia, one country in South Asia that experienced a flood in 2011 making around 700,000 children the victims, has made disaster preparedness plans (Bonito, S., Minami, 2017). Disaster mitigation education in this country is carried out through the integration of DRR with the curriculum in schools in collaboration with primary and secondary schools. Besides, advocacy is carried out with the government, agencies, and communities to develop guidelines for the implementation of continuing education which contains disaster mitigation material for limited and temporal use of a school as a shelter (Ireland, N.; Schoch, 2013). The Cambodian government's strategy has been quite effective. Through school involvement as a

place in the development of continuing education, the expected targets are learning to know (recognizing challenges), learning to do (doing with consideration), and learning to be (being a dignified human being) (Shaw, 2014: 2). The impact of this education, through school collaboration with the local provincial education office, is more than 24 schools have supported the planting of mangrove forests, and more than 1,000 children and 8,000 adults increase their knowledge about DRR and Climate Change Adaptation (CCA). More than 2,000 students of the fourth and sixth grades have put the knowledge gained into practice through investigative learning activities in schools and communities.

The integration of disaster mitigation education into school curricula has also been carried out by several other countries such as Uganda and Laos. Uganda's government integrates disaster mitigation education into school curricula starting at the elementary level. It results in a positive attitude towards DRR and CCA (United Nations Development Programme (UNDP), 2015). Meanwhile, in Laos, the integration of disaster awareness starts at the secondary school level. The integration includes DRR education into school-based management through both formal and informal activities to allow children to learn by doing (Ireland, N.; Schoch, 2013). However, the implementers have difficulty implementing the policy. The results of Kanyasan, Nonaka, Chatouphonexay, Hernandez, Kounnavong, & Kobayashi's study (Kanyasan, K., et al 2018) show that this difficulty is due to the unclear rules stated in the national law, unclear mandate, poor monitoring system, insufficient human resources, and a lack of partnerships between public and private parties. These are the obstacles in the implementation of DRR education in Laos. However, these can all be overcome through strong leadership, ownership, and coordination, as demonstrated by one province studied. Also, strong support from the central government has been shown to help promote policy implementation. All schools carry out DRR activities by providing DRR classes, setting up assembly points, conducting evacuation drills and

training, and installing fire equipment. This helps most students to understand how to respond to fires appropriately. However, there appeared to be significant differences in student performance between project and non-project schools. It is recommended to address the need to scale up school-based DRR programs and enact laws that can lead to better policy implementation in Laos.

It is different in Indonesia; until now, national disaster education has not been included in the curriculum through special subjects. Based on the roadmap for disaster mitigation education by the Ministry of Education and Culture, Hamid, in the Media forum at the end of 2018 (Kemendikbud.go.id, 2018), since 2004, the government has been mapping disaster-prone schools and implementing disaster mitigation education in 223 districts/cities. The training was carried out by choosing one school to be provided with how to protect and escape and obliging it to share the results of the training with other schools. In addition, the government has built a shelter for refugees. The government also conducts training in non-formal education through the Technical Implementation Unit (UPT) and annually holds programs to respond to disasters.

The policy for mainstreaming disaster education into schools has been implemented by the government through the circular letter of the Minister of Education (Kemendiknas) No. 70a/MPN/SE/2010 concerning Mainstreaming Disasters to Schools. The policy contains the obligation of local governments to adopt and develop schools based on disaster education programs based on regional needs and characteristics but still based on general guidelines from central government policies on disaster management (Adiyoso, W., & Kanegae, 2013).

The practice of disaster mitigation education through integration with the school curriculum has been carried out in Aceh. Through a study conducted by Adiyoso & Kanegae (Adiyoso, W., & Kanegae, 2013) supported by Disaster Mitigation Urban and Cultural Heritage (DMUCH), Ritsumeikan University Global Center

of Excellence (G-COE) shows that schools that adopt curriculum-based disaster issues related to disaster risk reduction for students effectively increase disaster knowledge, the level of risk perception, and individual and school preparedness. This can raise the preparedness of students even though it is limited to visits to education and emergency facilities. This study recommends that the initial belief in God's punishment as the main cause of the tsunami should be handled comprehensively, not limited to schools. Teachers and students play an important role in raising community awareness, disseminating correct knowledge about disasters, and generating behavioral preparedness for disasters more broadly not only in schools but also in the community.

Disasters affect Indonesia as well as other countries in the world. As a measure to mitigate various disaster risks, the world through the United Nations World Conference on Disaster Reduction (UNWCDR) has involved various countries discussing various matters related to this issue. This conference was first held in Kobe, Japan, in 2005 (Wisner, 2007). In 2015, the Sendai Framework for Disaster Risk Reduction 2015-2030 was formulated, which was adopted by the UN Member States at the Third UN World Conference on Disaster Risk Reduction in Sendai City, Japan, (United Nations Office for Disaster Risk Reduction (Bastian, 2011).

Research results from Arnold et al. (Arnold, S.A., et al 2018) show that disaster management which seeks to consider culture follows two parallel approaches: first, identifying and addressing not only vulnerabilities but also the capabilities of specific cultural groups and, second, identifying and using cultural factors to improve community preparedness for disasters and disaster response. Excavation of local wisdom is needed to provide an understanding of local culture regarding knowledge of disaster characteristics and prohibitions on activities that destroy the natural environment (Mirza Desfandi, 2014).

Because disaster risk reduction is based on a strategy of continuous vulnerability and risk

assessment, many actors need to be involved, from government, technical and educational institutions, professions, interests of the business world, and local communities. Their activities will need to be integrated into planning and development strategies that both enable and encourage a broad exchange of information. The new multi-disciplinary relationship is fundamental to making disaster risk reduction comprehensive and sustainable.

The Sendai Framework is the first major agreement with seven targets and four priorities for action. The seven targets are as follows.

1. Substantially reducing the death toll from global disasters by 2030. The goal is to reduce the global average per 100,000 mortality rate for 2020-2030 compared to 2005-2015;
2. Substantially reducing the number of people affected globally by 2030. The goal is to reduce the global average per 100,000 for 2020-2030 compared to 2005-2015;
3. Reducing direct economic losses due to disasters related to the global gross domestic product (GDP) in 2030;
4. Substantially reducing catastrophic damage to critical infrastructure and disruption of basic services, including health and education facilities, including through developing resilience by 2030;
5. Substantially increasing the number of countries with national and local disaster risk reduction strategies by 2020;
6. Substantially increasing international cooperation with developing countries through adequate means and ongoing support to complement their national actions as the implementation of this framework by 2030;
7. Substantially increasing the availability and access to a multi-hazard early warning system and information and disaster risk assessment to the public by 2030.

The priority actions for the Sendai Framework are as follows: understanding disaster risk, strengthening disaster risk governance to manage disaster risk, investing in disaster risk reduction for resilience, and enhancing disaster preparedness for effective response and to “Build

Back Better” in recovery, rehabilitation, and reconstruction.

Therefore, this study is necessary to be conducted to determine the implementation of disaster mitigation education in the elementary schools in disaster-prone areas and explore the supporting and inhibiting factors of the program implementation through a survey of the implementation of disaster mitigation in disaster-prone areas. Based on the description above, this study aims to find out the implementation of disaster mitigation education in elementary schools, impacts, as well as a map of the distribution of schools that have carried out disaster mitigation education in areas prone to eruptions of Mount Merapi. In addition, this study aims to find out the supporting factors and inhibitory factors of the implementation of disaster mitigation programs in elementary schools in disaster-prone areas of Mount Merapi eruption to then analyze the challenges and potentials of disaster risk reduction education for elementary school students.

Researchers believe that the implementation of disaster mitigation education through integration with the school curriculum from the elementary level is quite effective in providing initial understanding for individuals. Well-educated students will become agents for channeling information to their family members at home. Early knowledge of the implementation of disaster mitigation education in elementary schools will provide information to the government in implementing policies and better breakthroughs for the implementation of disaster mitigation education in the future.

Methods

This study was conducted in elementary schools in areas prone to the eruption of Mount Merapi. These disaster-prepared schools must educate their students about disaster mitigation education. The data was collected through a survey to obtain an overview of the implementation of disaster mitigation education carried out in these schools. A total of 66 elementary schools spread across 3

districts in Sleman, Yogyakarta, Indonesia, are prone to Mount Merapi eruption, 42 of which filled out questionnaires. The questionnaire was given to participants online. The head of UPT in each district was interviewed to obtain data on the number and the distribution of schools declared to have implemented disaster mitigation education.

A cross-sectional survey design was used to achieve the research objectives. This design was chosen because it can describe attitudes, opinions, and practices at certain times and determine the need for educational services related to school programs (Cresswell, 2012). In more detail, this study explores the distribution map of elementary schools that have implemented disaster mitigation education, finds out its implementation, and obtains data on supporting and inhibiting factors to program implementation to get an overview of the school needs for better disaster mitigation education in the future. The survey instrument consisted of closed- and open-ended questionnaires given online. The instrument items were adapted from disaster preparedness indicators by the Indonesian Consortium for Disaster Education (Consortium For Disaster Education (CDE)., 2011). Before using the instrument to retrieve research data, it was first consulted to experts for an assessment and review. Professional judgment was carried out to meet content and construct validity. The instrument was structured to answer the predetermined research questions. The reliability of the instrument was assured by giving the instrument to the subjects of the non-target group. Data on the distribution of elementary schools that carry out disaster mitigation education and an overview of the material provided are analyzed using percentages. Descriptive statistics in the form of frequency, percentage, and average scores were used to analyze the survey data.

Results and Discussions

This study aims to obtain an overview of the number of elementary schools in areas prone to the eruption of Mount Merapi that carry out disaster mitigation education and to find out its processes, the impact, and the supporting and

inhibiting factors to its implementation. This data is the basis for fulfilling the needs and implementing future disaster mitigation education programs.

Map of elementary schools implemented disaster mitigation education in areas prone to Mount Merapi eruption

The number of elementary schools that have implemented disaster mitigation education based on the results of a survey on 42 (64%) elementary schools (SD) in the Mount Merapi area shows that 40.5% of them had implemented disaster education while the rest had not.

Schools that do not implement disaster mitigation education have a higher percentage (59.5%) (Fig. 1), presumably because disaster mitigation education is not included in the school curriculum. In addition, the school preparedness factor is also thought to determine the implementation of disaster education.

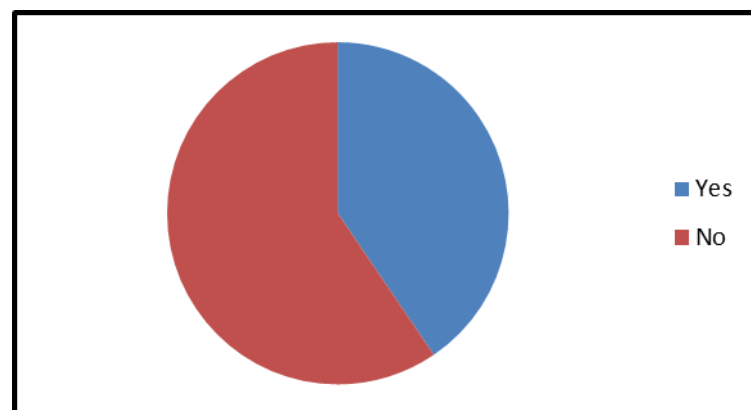


Figure 1. Percentage of disaster education implementation in elementary schools

Only schools that claim to have implemented disaster mitigation education fill out the questionnaire. The results describe disaster mitigation education carried out by the school. It was found that (1) disaster mitigation education is carried out by incorporating the material into subjects at school; (2) the material provided to elementary school students is an understanding of standard operational procedures (SOP) stated by 64.3%; 61.9 % of the schools provided training in

disaster evacuation simulations, and 69% provided project assignments with details of 7.7% of the schools assigned their students to make flood alarms, and the rest were asked to make posters with disaster themes. The simulations and assignments of students to make flood alarms and posters are expected to give students knowledge about how to respond to disasters. According to (Levac, J.J., et al, 2011), anticipatory attitude will be embedded in someone who has adequate knowledge and motivation for resources. Tuladhar et al. (2015) also stated that formal education is more effective for disaster mitigation education.

The implementation of disaster mitigation education in elementary schools in areas prone to Mount Merapi eruption

The data focus on the implementation of disaster mitigation education in elementary schools in

areas prone to the eruption of Merapi. The instrument was developed by school indicators to declare disaster preparedness formulated by the Indonesian Consortium for Disaster Education (Consortium For Disaster Education (CDE)., 2011). However, this study did not collect data related to school disaster preparedness, especially in terms of infrastructure. There are 4 components explored, namely attitude and behavior, school policy, preparedness planning, and source mobilization.

a. Attitudes, Actions, and School Policies
 These two components explore the availability of knowledge about hazards, various possible efforts to reduce disaster risk in schools, and the availability of socialization on disaster risk reduction and Disaster Preparedness Schools (SSB), as well as school policies. The survey results are presented in Table 1 below.

Table 1. Attitudes, Actions, and Policies of Disaster Preparedness School

Component	Statements	% Yes	Remark
Attitudes and Actions	The school curriculum includes knowledge about hazards and plans student activities to make observations on disaster knowledge	69%	8% of schools plan project-based learning while the other 61% make posters
	The curriculum includes material on various possible efforts to reduce disaster risk in schools	41%	Disaster education is integrated into the social studies subject about how to deal with disasters. The school conducted training on how to deal with disasters, but the frequency and the process are not explained. Disaster education is integrated into character education in schools
	Schools conduct socialization about disaster risk reduction for Disaster Preparedness	48%	Socialization to students is carried out through integration in subjects at school. Socialization to teachers and other school members is carried out through lectures
School Policy	Schools make policies, agreements, and/or regulations that support disaster risk reduction efforts	69%	In making policies, 65% of schools stated that they involved parents

The integration of disaster education into character education in schools has been

implemented in several countries around the world and has succeeded in reducing disaster risk.

This can be seen from the application of disaster knowledge to learning and community activities in Cambodia and the creation of positive attitudes towards disaster risk reduction (United Nations Development Programme (UNDP), 2015). Adiyoso & Kanegae (Bandura, 2004) also stated that the adoption of curriculum-based disaster issues for students could effectively reduce disaster risk, increase the level of risk perception, and individual and school preparedness.

b. Preparedness Planning

This component explores plans related to the availability of SSB implementation assessment documents and activity plan documents through open-ended questionnaires. The results of the study show that 69% of schools have implemented disaster mitigation education and developed a disaster management activity plan based on the results of training from the government through BPPD and independent training. Disaster mitigation education is carried out through integration with school subjects. However, the school does not yet have the SSB implementation assessment document. Disaster mitigation education is carried out through integration with appropriate subjects, namely the material that discusses the relationship between humans and their environment, both the environment of people who live permanently in disaster areas and the physical environment (disaster-prone areas).

Learning activities carried out by integrating disaster preparedness material in the curriculum will have an impact on the attitudes and behavior of the learning community/students with the hope that disaster preparedness will be instilled in students. Attitudes will be embedded in someone if they have adequate knowledge, motivation, and resources (Levac, J.J., Toal-Sullivan, D., & O’Sullivan, 2011). Caughey (McCaughey, J.W., Mundir, I., Daly, P., Mahdi, S., & Patt, 2017) adds that disaster mitigation education for the community is important because it can reduce risks, increase disaster knowledge, the level of risk perception, individual and school preparedness.

c. Source Mobilization

This component aims to explore the number and types of post-disaster equipment, supplies, and necessities that schools have. The survey results show that disaster mitigation education activity is in the form of disaster simulations. The school already has the equipment for these needs. The school does not have other equipment. The form of cooperation with BPBD is training for teachers in understanding disaster mitigation. The results of the closed-ended questionnaire are as follows.

Table 2. Disaster Education Implementation in Elementary Schools

Disaster Education Implementation	% Yes
The school conducts disaster SOP training.	82
The school conducts disaster simulations.	82
The school has guidelines for implementing disaster mitigation that are prepared using a participatory approach.	59
The school provides disaster education.	82
The school organizes learning about disasters supported by adequate facilities and infrastructure.	35
The teacher implements learning that integrates disaster mitigation.	71
The teaching material used in learning contains disaster mitigation education.	71
The teacher gives assignments related to disaster mitigation education.	65
Parents are involved in the disaster mitigation learning process.	59
The learning process involves relevant institutions outside the school.	82
This form of learning evaluation has integrated thinking processes related to disaster mitigation.	60

Learning does not explicitly integrate disaster education. Schools rarely conduct disaster simulations. Supporting facilities and infrastructure in learning about disasters are still low and need to be improved to reduce disaster risk. Disaster simulation activities are carried out to train students to be skilled to evacuate themselves with the hope that it can reduce disaster victims. The school also organizes

disaster education and its learning process by involving relevant institutions outside the school following the circular letter of the Minister of Education (Kemendiknas) No. 70a/MPN/SE/2010 regarding disaster education policies in schools. The content of the policy is the obligation of local governments to adopt and develop schools based on disaster education programs that meet their local needs and characteristics. However, it is still based on general guidelines from central government policies in terms of disaster management.

The Impact of Disaster Mitigation Education on Elementary Students, Supporting and Inhibiting Factors

Disaster mitigation education is carried out by schools based on the results of training obtained by teachers through BPPD and external parties such as lecturers through community service and research activities. The disaster training material that teachers have received based on the survey results is about preventive actions against disasters, personal safety, self-protection in an earthquake, procedures for dealing with disasters and practical steps to be taken to anticipate a disaster, first aid for disaster victims, disaster simulations, kinds of disasters, and establishing evacuation routes and locations. This prepares schools, especially teachers, in providing disaster mitigation education. The impact on students is they master the evacuation skills in disaster. In addition, most respondents stated that students could make disaster management posters.

The supporting factors for the implementation of disaster mitigation education programs in elementary schools in areas prone to Mount Merapi eruption are the training that schools receive on disaster mitigation and geographic

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conditions that support various activities that can present real conditions, while the inhibiting factors include a lack of facilities for disaster mitigation training, inadequate disaster simulation tools such as first aid kits and medical equipment (stretchers, ropes, and sticks), and the focus of supporting curricula and learning tools on the topic of disaster evacuation and understanding of disasters mostly with lecture method.

Conclusion

Disaster education has been applied in the curriculum of elementary schools in areas prone to the eruption of Mount Merapi. 40.5% of schools have implemented disaster education. The suitability of the implementation with the standards set is represented by an average of 45-70%. The implementation of disaster education programs in these schools focuses on how to evacuate oneself through simulations. The problem faced during the implementation of this program is the lack of facilities and infrastructure including the disaster education curriculum and its supporting tools. But, in addition, the potential integration of disaster education in elementary schools is very good, considering the location of schools that are directly located in disaster-prone areas. So, students can directly apply the knowledge gained in school. The expected end goal of disaster education in this elementary school is that students are not only required to know and understand the causes of disasters or environmental damage, but also required to have attitudes and skills for self-rescue in order to minimize fatalities.

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