

## Disaster Education Model for Pre-School Age Children

Khaerudin <sup>1</sup>, Nur Tjahjono Suharto <sup>2</sup>

<sup>1</sup> Sekolah Tinggi Ilmu Tarbiyah Pemalang, Indonesia

<sup>2</sup> Badan Penanggulangan Bencana Daerah (BPBD) Kabupaten Klaten, Indonesia

Corresponding Author ✉ [khaerudin@stipemalang.ac.id](mailto:khaerudin@stipemalang.ac.id)

### ABSTRACT

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Disasters are classified into 3 (three) namely natural disasters, non-natural disasters and social disasters. To reduce disaster risk, it is necessary to prioritize a disaster-care attitude with disaster education from an early age in accordance with the habits of a society. This study aims to reveal and analyze the disaster education model in early childhood and at the same time to determine the effectiveness of the learning process. This research is a research library to examine the literature related to research problems by selecting, reading, studying, and reviewing relevant research. Data collection was carried out through literature surveys related to disaster education and studies related to early childhood. Data analysis was performed by editing, classification, and interpretation. Early childhood is a group that is vulnerable to disasters. It is imperative that early childhood get attention to get disaster education as early as possible. Disaster education is very important to be implemented from early age groups to adulthood. BPBD Klaten Regency through Taman Eling, Waspada, and Siaga as a model of disaster education provides disaster learning starting from early childhood

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## INTRODUCTION

Disasters that have the potential to occur in Indonesia and have an impact on society include natural disasters, non-natural disasters, and social disasters. Natural disasters range from floods, hurricanes, landslides, droughts, fires, volcanic eruptions, tsunamis, extreme waves & abrasion, flash floods, and earthquakes. Social disasters can occur ranging from ethnic, religious, social, economic, and political as well as the potential to cause conflict. Not only from natural disasters and social disasters, there are also non-natural disasters, the COVID-19 epidemic which is currently impacting the community.

Based on data from the National Disaster Management Agency in 2020, the impacts of disasters include: 1) the impact of natural disasters and 2) the impact of non-natural disasters, the Covid-19 epidemic. The impact of natural disasters in the period January 1 – May 18 2020 with details of the number of deaths as many as 178 people, the victims missing as many as 8 people, victims suffering & evacuating as many as 2,015,363, injured victims as many as 249 people. As for the impact of non-natural

disasters, the Covid-19 epidemic was 17514 people, 1,148 people died and 4,129 recovered. The impact of natural disaster damage includes 17,563 houses damaged. 3,891 houses were heavily damaged, 2,551 houses were moderately damaged, and 11,121 were lightly damaged. As for 759 damaged facilities, with details of 331 damaged educational facilities, 339 damaged worship facilities, and 32 damaged health access facilities.

As of May 18, 2020, 1,296 disasters have occurred, which are dominated by natural disasters such as floods, tornadoes, landslides, and COVID-19 as non-natural national disasters. The distribution of disasters can be seen in Figure 1.

Figure 1. Distribution of Natural Disaster Case in 2020



Source: <https://bnpb.go.id/infografis/update-bencana-indonesia-tahun-2020>

Disasters are classified into three, namely natural disasters (among others: floods, landslides, earthquakes, tsunamis, droughts, cyclones, volcanic eruptions), non-natural disasters (among others: disease outbreaks, technological failures, failed modernization), and social disasters (among others: social conflicts, wars, seizure of resources, pollution). Disasters that are categorized as natural disasters are all disasters that occur due to natural phenomena that cause environmental and material losses. Non-natural disasters are disasters caused by non-natural or human factors, while social disasters are types of disasters caused by human activities, namely all human activities involving economic and other activities and causing environmental damage. (Setyowati, 2019).

Disaster management requires serious management to reduce the risks posed, so that a disaster management paradigm emerges. Disaster management identifies and prioritizes types of threats, reduces vulnerability and impacts of disaster events, where in disaster management there is disaster risk management (UNDP and Government of Indonesia, 2012). Disaster management is a term that is familiar to the general public, which is a systematic process using administrative decisions, organization, operational skills, implementation capacity, strategy, and community capacity in reducing the

impact of natural, environmental, and technological disasters (Lassa et al., 2014). Pengurangan risiko bencana merupakan bagian dari penanggulangan bencana yang merupakan upaya antisipatif, preventif, dan mitigatif sehingga dapat mengurangi dampak bencana dengan mengurangi kerentanan melalui peningkatan kapasitas masyarakat (Lassa et al., 2014). In Law Number 24 of 2014 concerning Disaster Management, the term mitigation is assumed to be an effort made to reduce disaster risk by reducing vulnerability and/or increasing the ability to face disaster threats. Disaster mitigation is part of disaster risk reduction efforts, through a series of efforts made to the community. The purpose of disaster management/disaster management is to reduce disaster risk in the community and its environment. Disaster risk reduction is an effort to minimize casualties, damage, material losses and psycho-social disorders, through efforts to reduce vulnerability and increase community capacity. These efforts are carried out through training activities, outreach and simulations or field rehearsals and room rehearsals, making it possible to anticipate the possibilities that arise when a disaster occurs.

Disasters and emergencies are a whole-of-society problem, and thus also a whole-of-government problem, and are especially a joint concern of responsible government and potentially affected communities (کوچکی, 1377). The combination of several aspects of a disaster can have a very damaging impact on a vulnerable population, causing casualties and disruption (Faturahman, 2021). As a country with various types of disasters that never stop from time to time, then this country should start disaster education in schools. (Honesti & Djali, 2012). With a relatively high level of disaster vulnerability in Indonesia, it is important that the discourse on disaster education is carried out.

Disaster education for all groups including children is a must, because children are the most vulnerable group during a disaster event, especially those who are in school at the time of the incident. During a disaster, school buildings are destroyed, reducing the life expectancy of valuable school students and teachers and disrupting the right to education as a result of the disaster (Setyowati, 2019). The importance of early disaster mitigation education can reduce the impact of a more severe disaster (Azizah dkk, 2020). It is a must if from an early age children have received disaster education to reduce the impact that occurs due to disasters.

Disaster is an extraordinary event, whether originating from nature, non-natural or social, which can come at any time (unpredictably) without being predicted at the right time. In Law Number 24 of 2007 concerning Disaster Management, it is explained that a disaster is an event or series of events that threatens, disrupts people's lives and livelihoods caused by both natural and/or non-natural factors as well as human factors, resulting in casualties, losses. property, psychological impact and more complex mental health disorders.

The level of disaster risk is not only determined by the potential for disasters, but also determined by mitigation and preparedness efforts in dealing with disasters (Herdwiyanti & Sudaryono, 2012). Some of the main factors causing the emergence of many earthquake victims are the lack of public knowledge about disasters and the lack of community preparedness in anticipating disasters. The emergence of many victims due to the earthquake disaster among the victims, mostly women and children (Yuliawati, Sos, & Pendidikan, 2008). The magnitude of the potential threat of disaster in Indonesia causes the community to become victims of a very large opportunity, especially children because children are still very vulnerable and have minimal knowledge related to disaster mitigation. (Putra & Aditya, 2014). Lack of knowledge

and understanding of children then has an impact on low preparedness in dealing with disasters so that when a disaster does occur, many children become victims. Children as the nation's hope generation need to be considered for their safety.

Disaster Risk Reduction (DRR) through disaster education can be provided through formal and non-formal education systems that aim to change mindsets, attitudes and behavior in an effort to reduce disaster risk and make disaster risk reduction efforts a community culture. (Sunarti, 2014). The increasing number of communities and the area of the affected area requires preventive efforts in the form of disaster education from an early age (Sunarhadi et al., 2018).

The importance of early disaster mitigation education can reduce the impact of a more severe disaster (Azizah dkk, 2020). Through disaster education with an interconnected integration perspective, a culture of preparedness will be formed to prepare for disasters (Khairul Rahmat & Kurniadi, 2020). Disaster education to reduce disaster risk in childhood is very important. Early introduction to disasters and the benefits of forests and ecosystems in the environment around their homes is a real medium that can be worked on and given to the younger generation in shaping preparedness behavior in dealing with disasters. (Widjanarko & Minnafiah, 2018).

Disaster prevention is a moral obligation. It is necessary to integrate the concept of disaster safety in all aspects of life, for the purpose of disaster reduction. Disaster awareness is a cultural heritage, so every individual must be aware of disasters and develop an attitude of disaster care, which is instilled in early childhood (Setyowati, 2019). People's views on disasters are different for each community in an area. The emergence of views about disasters is influenced by local community beliefs, customs or the history of the community in a place (Honesti & Djali, 2012).

The importance of providing mitigation education for early childhood in early childhood education units in the formal education pathway which organizes educational programs for children aged 4 (four) to 6 (six) years based on Government Regulation of the Republic of Indonesia Number 66 of 2010 which is called Kindergarten -Kanak (Nuraeni, Mujiburrahman, & Hariawan, 2020). It is important in reducing disaster risk in the community that it is necessary to prioritize an attitude of disaster care with disaster education from an early age in accordance with the habits of a society.

Based on several potential disasters that exist, disaster education is very necessary. According to the classification there are three kinds of disasters. Natural disasters, non-natural disasters, and social disasters. The writing of this article is more focused on natural disaster education. This disaster education is intended to make all components of society aware that they live in disaster-prone areas, and that because of this, awareness is needed to increase awareness and capacity in disaster management. Important learning, one of which is for students, especially young children who have good memory and tend to imitate what is taught. This is the main capital, because by learning about disaster at an early age, children will always remember how to deal with natural disasters until they enter adolescence and adulthood.

## **METHOD**

This research is a library research that seeks to examine the literature related to research problems by selecting, reading, reviewing, and reviewing research relevant to the title of this research. Data was collected through a literature survey related to disasters, disaster education, and early childhood. Data analysis is done by editing, classifying, and interpreting

The steps in analyzing data from previous research: (1) The description stage is all the data obtained related to the problem. Then do the description stage. In this study the data collected in the form of research titles, abstracts, sentences, paragraphs, and other quotes that reflect the ideas, ideas, and concepts conveyed by the authors through their research; (2) The classification stage is the data that has been described and then grouped into each of these parts according to the problems that have been determined. For example, disaster theory, types of disasters, the benefits of disaster education, early childhood, and early childhood disaster education models; (3) The analysis phase is the data that has been classified according to each group analyzed according to its structure and then analyzed again with a descriptive analytical and critical approach; (4) The data interpretation stage is an effort to interpret and understand the results of data analysis; (5) The evaluation stage is data that has been analyzed and interpreted before drawing conclusions to be examined and re-evaluated to obtain reliable research results; (6) The final conclusion contains important points and suggestions.

## **RESULT AND DISCUSSION**

### **1. Disaster Education**

Disaster education is essentially one aspect of environmental life. The conception of disaster education is an educational process about human relations with nature and the built environment, including the management of human relations with natural dynamics, pollution, allocation of natural resource depletion, nature conservation, transportation, and urban and rural planning technology (Khairul Rahmat & Kurniadi, 2020). Disaster education teaches us to understand the relationship between humans and nature or the surrounding environment, natural dynamics, pollution, allocation of natural resource depletion, nature conservation, transportation and technology.

Disaster education is one of the direct efforts in reducing disaster risk. The hope, when a disaster occurs, can minimize the number of victims. Disaster education is also expected to prepare the Indonesian generation to have the resilience to restore life for the better in the post-disaster period (Sunarhadi et al., 2018). In an effort to reduce disaster risk, disaster education is prepared for a resilient generation after a disaster.

Disaster education has a general purpose to provide an overview and reference in the learning process for disaster preparedness. Through education, students are expected to be able to think and act quickly, precisely, and accurately when facing disasters. Empathy towards disaster victims can also be built so that students can help others appropriately and carefully (Desfandi, 2014). Disaster education provides an overview and reference for the learning process for disaster preparedness, it is hoped that students will be able to think and act quickly, precisely, and accurately. Students are expected to have empathy for victims and help others.

Implementation of disaster education in early childhood education institutions as an effort to provide knowledge and understanding from an early age on disaster preparedness learning. Through disaster education, students are expected to be able to think and act quickly and appropriately in dealing with disasters (Mujiburrahman, Nuraeni, & Hariawan, 2020). Early childhood education institutions need to implement disaster education to provide knowledge and understanding so that they are able to think and act quickly and accurately on disasters.

Given the threat of natural disasters that can occur anytime and anywhere, children need to be given knowledge and training to be prepared for natural disasters. They also need to be prepared to know how they react when a disaster occurs and

what to do after a disaster. By introducing about disasters, various risks and how to respond to them, children will be better prepared (Rahiem & Widiastuti, 2020).

It is important to implement disaster education in early childhood institutions. Early childhood is expected to receive disaster education as an effort to provide knowledge and understanding in dealing with disasters. Disaster education in early childhood seeks to prepare the Indonesian generation to reduce disaster risk. With disaster education, children will always be prepared for disasters, so they have empathy for victims and help others quickly, precisely, and accurately.

#### **a. Disaster**

The definition of disaster tends to reflect characteristics such as: 1) disruption to normal life patterns. Such disturbances are usually severe and may also be sudden, unexpected, and widespread, 2) Human impacts such as loss of life, injury, hardship, and harm to health, 3) effects on social structures such as destruction or breakdown of government systems, buildings, communications, and essential services, and 4) community needs such as shelter, food, clothing, medical assistance, and social care.

The definition of disaster according to Carter (1991) is an event, natural or man-made, sudden or progressive, causing such a devastating impact that the affected or affected community must respond with extraordinary actions. (Carter, 2008). According to Dewi Liesnoor Setyawati (2019), a disaster is a natural event that has a major impact on the human population. Disaster is an ecological, social, material and other damage, and occurs by abnormal activities of nature and human behavior and causes harm, both material and physical, or loss of life. (Setyawati, 2019).

Disaster is defined as an extreme negative consequence as an outcome and at the same time showing the impact generated by the interaction between natural events and social systems (Sp & Pengantar, 2016). Disaster is an event or series of events that threaten and disrupt people's lives and livelihoods caused by natural and or non-natural factors (Putra & Aditya, 2014). The types of disaster are earthquake, volcanic eruption, tsunami, tropical cyclone (typhoon, hurricane), flood, landslide, bushfire (or wildfire), drought, epidemic, major accident, and civil unrest (Carter, 2008). Types of natural disasters such as earthquakes, volcanic eruptions, tsunamis, tropical hurricanes, floods, landslides, forest fires, and droughts. Meanwhile, factors from non-natural disasters include disease outbreaks, major accidents, and civil unrest.

Disaster is a series of events caused by natural factors or non-natural factors that have an impact on a society in the form of losses, both material and physical, or casualties. Natural disasters include earthquakes, volcanic eruptions, tsunamis, tropical cyclones, floods, landslides, forest fires, and droughts. Non-natural disasters include disease outbreaks, major accidents, and riots.

#### **b. Various of Disaster**

##### *1) Natural Disaster*

Natural disasters are events caused by natural hazards that cannot be overcome by local capacity and seriously affect the social and economic development of a region. Natural disasters are traditionally viewed as situations that pose various challenges and problems, especially of a humanitarian nature (IASC, 2006).

According to Hermon (2015), natural disasters are disasters that occur due to disruption of the balance of natural components without human intervention (Hermon, 2015: 1). *The types of disaster are earthquake, volcanic eruption, tsunami, tropical cyclone (typhoon, hurricane), flood, landslide, bushfire (or wildfire), drought, epidemic, major accident, and civil unrest (Carter, 2008).*

The number of fatalities in each natural disaster is generally caused by people's ignorance of how to act when a disaster occurs. It is time for people to have knowledge about geological processes. These geological processes are actually ordinary natural processes whose cycles of occurrence vary from several years to several hundred and even several million years. Due to the presence of humans, these geological processes often end up developing into ecological disasters. Signs of ecological disasters that occur around the community's environment, usually because the management of plantations/forests and industries belonging to the local community creates a symbiotic mutualism with the surrounding ecosystem. Communities generally depend on local wisdom for their livelihoods due to the absence of other options for survival. Damage to government functions to comply with deregulation causes damage to ecosystem functions. At one point, the failure of these ecosystems will result in a number of catastrophic floods, landslides, new pests, malaria, animal-human conflicts, and earthquakes. Ecological disasters that occur cumulatively and simultaneously in various places will occur in a sustainable manner and Indonesia is at a critical point.

## *2) Non-Natural Disasters Epidemic Covid-19*

The COVID-19 pandemic affects all activities of human life from sports activities, offices, even to transcendental relationships for all religious adherents in the world, including the field of education (Hewi & Asnawati, 2020; Basir, et al., 2021; Fatahillah, 2022). The non-natural disaster of the Covid-19 outbreak that has hit all parts of the world today, including Indonesia is one of the non-natural disasters of a pandemic outbreak that has a fairly broad impact and affects all aspects of people's lives or in other words has a fairly broad global impact (Rosihan & Utomo, 2020).

The COVID-19 pandemic is classified as a non-natural disaster, namely disasters caused by non-natural events or series of events, including technological failures, failed modernization, epidemics, and disease outbreaks (Ferandi, 2020). Covid 19 is a variant of the virus that causes illness that starts from mediocre to acute indications (Rosihan & Utomo, 2020).

*The covid-19 disaster event has special characteristics where the non-natural disaster has a disaster emergency status as well as a recovery stage* (Faturahman, 2021). Non-natural disasters such as the Covid-19 pandemic have a disaster emergency status as well as a recovery stage. The spread of Covid-19 and the enactment of PSBB have had a very broad impact on various aspects of people's lives, including health, economy, socio-culture, legal politics, and including education, from higher education to education at the lowest level, namely early childhood education (Islamy, M. R. F., et al., 2022; Rohita, 2020; Septanta, et al., 2022; Muslimin, et al., 2021; Rahimah, et al., 2020). Community-based non-natural disaster mitigation during the Covid-19 pandemic can be carried out by implementing health protocols that are strictly supervised by the village government/village apparatus with a health perspective. Prevention of Covid-19 can also be prevented by implementing Clean and Healthy Lifestyle (PHBS), being active in Healthy Living Community Movement (GERMAS), as well as the use of traditional medicinal plants that can be used as health ingredients to increase body immunity in the midst of the Covid-19 pandemic (Salman, Hilmi, & Gumilar, 2021).

Disaster mitigation education for the COVID-19 outbreak for PAUD children is a must, because children are the most vulnerable group during a pandemic disaster (Agus Yudiawan, 2020). Early childhood is a group that is vulnerable to the Covid-19 outbreak. It is a must for early childhood to get attention to get disaster education as early as possible. Disaster education is very important to be implemented from the early age group to adulthood.



**c. Benefit of Disaster Management**

We should prepare children for natural disasters from an early age. The intensity and impact of natural disasters in Indonesia can be minimized with science and also by preparing every citizen, from young to old, about natural disasters (Rahiem & Widiastuti, 2020). Disaster education requires children to always be ready and alert to face disasters so as to minimize victims from the impact of natural disasters.

*Providing children with empowering and relevant education on natural hazards and preparedness in a child-friendly school environment may reduce their vulnerability to disasters. It can also contribute to sustainable development for their communities* (Kerri Proulx, Frances Aboud, 2019). Engaging children with relevant empowerment and education about natural hazards and preparedness in a child-friendly school environment can reduce disaster risk vulnerability.

Learning from experiences about major natural disasters and various hazards that exist in Indonesia, it is deemed necessary to teach children about Disaster Preparedness in schools and how to save themselves when disasters threaten and avoid accidents that need not occur in everyday life. (Yuliawati et al., 2008). *Disaster education can be provided in any on-going subjects and school activities* (Shiwaku & Shaw, 2008). Disaster education can be provided in various subjects and ongoing school activities. Key points of disaster education so that students can get the intention and take action for disaster reduction. To implement the proposed education in schools, cooperation from schools and government, and awareness-raising of teachers is needed.

Education or knowledge plays an important role in society. Disaster events are only momentary and come suddenly, so that human memory is limited in terms of transmitting knowledge from one generation to another. Efforts are needed to promote and socialize a culture of disaster prevention and awareness (Setyowati, 2019). This disaster education has a general purpose to provide an overview and reference in the learning process for disaster preparedness. Through education, students are expected to be able to think and act quickly, precisely, and accurately when facing disasters. Empathy towards disaster victims can also be built so that students can help others appropriately and carefully (Desfandi, 2014).

Disaster education can improve disaster preparedness and reduce vulnerability to disasters. So education in schools is very important to increase students' awareness of the disaster risks that exist in schools and encourage preparedness actions. This implementation is still based on the lecture method and has not formed students who play an active role in learning. The implementation of disaster education can increase knowledge about disaster risk in schools, but do not know the actions taken during disasters to reduce the impact of disasters (Khairul Rahmat & Kurniadi, 2020).

The educational function of the Covid-19 outbreak disaster mitigation for early childhood is expected to increase awareness, knowledge, attitudes, skills and participation in emerging pandemic disasters. The stages of disaster mitigation of the COVID-19 outbreak in schools include 3 important stages. First, the preparation stage, which includes (1) forming a representative of the school's disaster management committee; (2) the existence of school policies, agreements and/or regulations. Second, the planning stage, includes; (1) conduct a study on risks, hazards, vulnerabilities and resources; (2) reduce risk; (3) skills in responding and providing disaster equipment; (4) education continuity plan. Third, the sustainability stage, includes (1) monitoring; and (2) updates. Disaster mitigation in schools is important as an effort to prepare school resources to be ready to face disasters (Agus Yudiawan, 2020).



## **2. Early Childhood Disaster Education**

Disaster education takes various forms, starting from community-based disaster management, disaster education towards disaster-aware communities, as well as community local wisdom in dealing with disasters. (Khairul Rahmat & Kurniadi, 2020). There are various forms of disaster education, from community-based, disaster-aware and local wisdom-based communities. The character of social care is one of the characters that needs to be applied to early childhood children (Safitri, Mustadi, & Retnawati, 2021). The early childhood is expected to always grow and develop with the character of social care in the environment where they live, one of which is in the case of disasters.

Character education can foster social awareness in the community (Amirrudin, Harun, Yasid, Roiqoh, & Rohana, 2021). It is important for us to always teach children the importance of social awareness in various ways, such as teaching about the dangers of natural or non-natural disasters to be implemented in their interactions. There are 5 (five) models of disaster education in Klaten Regency. Each model develops based on the needs and availability of school resources or community groups that focus on sustainability, namely the school extra-curricular model, as well as models that focus on mass involvement as a government program. (Sunarhadi et al., 2018). Disaster education models include 1) Disaster Preparedness School, 2) Disaster Mitigation Extra-Curricular, 3) Cheerful, Peaceful, and Disaster Preparedness School (CERDAS), (4) River "School", and (5) Disaster Learning Outbound.

Characteristics of disaster education in Maiko before the establishment of the course were: 1) curriculum development by teachers and students through a process of co-learning; and 2) focus on the actual field exercises, and not only just on classroom experiences (Shiwaku & Shaw, 2008). Some of the characteristics of disaster education include curriculum development, focus on actual field practice, and not only on classroom experience.

One model of disaster education for early childhood has been carried out by the Klaten Regency Regional Disaster Management Agency (BPBD) since 2015. The education model is a learning vehicle to introduce disaster that is packaged in the form of a park, namely Eling, Waspada and Siaga Parks (Taman Eling, Waspada and Siaga (Taman Eling, Waspada and Siaga). EWS). EWS Park which is organized by the Regional Disaster Management Agency of Klaten Regency, aims to provide ordinary disaster learning starting as early as possible, since children enter PAUD and children from grades 1 to 4 elementary school. Disaster learning parks/vehicles for early childhood were established with the aim of providing an overview of existing disasters and their mitigation from an early age. Where Klaten is a disaster-prone area with potential threats such as earthquakes, the eruption of Mount Merapi, floods, landslides, fires and hurricanes.

Based on 2015 data, the number of visitors who have enjoyed learning at EWS Park is 6,062 (six thousand sixty two) people. In fact, the BNPB statement said that EWS Park was the first in Indonesia in terms of early childhood disaster learning in Indonesia. The high interest of teachers and PAUD students to come to EWS Park because disaster materials using the outdoor method are still rare and this is the first time in Klaten. In fact, several PAUD from Gunungkidul and Sukoharjo regencies also came to visit.

The learning model in this vehicle is to introduce several types of disasters that are dominant in Klaten Regency, namely earthquakes, Mount Merapi eruptions, floods, hurricanes, landslides and fires. BPBD prepares facilitators with special briefing on

disaster learning for early childhood. BPBD Klaten prepared several vehicles for students to get to know disasters and their mitigation. This vehicle is also equipped with an audio-visual room to present an animated disaster film. Visualization of disasters in the form of animation will provide a deeper memory effect for early childhood students/early children so that these memory recordings will be carried over into their lives. The selection of learning materials is carried out with the validation of early childhood education experts so that they are expected to be on target and with the right media. This is important so that the message in the film is age-appropriate and the ability to capture the message of disaster in the film.

Figure 2. Disaster Education and Mitigation Rides



Merapi Volcano Rides



Audio Visual Room

Earthquake House Rides

Source: Badan Penanggulangan Bencana Daerah Kabupaten Klaten

Disaster education aims to develop a disaster response attitude. With various materials, students are invited to understand the magnitude of the potential for

disasters in Indonesia. It describes the potential disasters of each region and the possible time of occurrence. Students are also taught how to save themselves and others when a disaster occurs. In addition, material on mental readiness to survive in disaster conditions is also provided.

Types of disasters are natural disasters, non-natural disasters of Covid 19 pandemic, and social disasters. Anticipation and handling of disasters is our responsibility, not only the responsibility of the government, humanitarian institutions, disaster management bodies, volunteers, and professionals. Increasing responsibility, participation, anticipatory ability and disaster management can be achieved, one of which is through disaster education. Disaster education does not mean that the risk of disaster impacts can be reduced so that it does not have an impact at all. The objectives and expectations to be achieved through disaster education is disaster risk reduction in school.

Several models of disaster education and mitigation such as Disaster Preparedness Schools, Extra -Curricular Disaster Mitigation, Smart Schools, River Schools, and Disaster Learning Outbound (Sunarhadi et al., 2018). Each model develop based on the needs and availability of school or community group which are focusing on sustainability, namely the extra -curricular model of the school, as well as the focus model on mass involvement as a government program; Picture reading books (Rahiem & Widiastuti, 2020). Learning book for mitigation of natural disasters for early childhood should be have a good quality, interesting, inspiring and can prepare children for swird and resilient in disaster.

Learning Tools based on SETS Vision (Rusilowati & Binadja, 2012). Learning tools developed are feasible to be given to students, and can increase students' understanding of recognizing and has a good response in disasters; Disaster Education Integration Strategy through newspapers, real object media, and LKS image media (Septikasari & Ayriza, 2018). Disaster education integration strategies that are carried out can increase students' knowledge and skills in dealing with disasters that will be transferred to the family, so would be maximizing community resilience in disasters; Socialization and health education (Salman et al., 2021). Increasing knowledge will have an impact on the behavior especially behavior that can prevent disease, and increasing endurance in the Covid-19 pandemic period carried out by, from and for the community itself as an effort to mitigate non-natural disaster by community base.

*Curriculum development and focus on the actual field exercises* (Shiwaku & Shaw, 2008). Significant importance for school-teachers or education departments, while designing the curriculum for disaster education; Accommodate local wisdom (Desfandi, 2014). The patterns and variety of natural disasters faced are also different because each region has different characteristics. Thus, the disaster curriculum must accommodate existing local wisdom, as an effort to provide appropriate education to deal with and handle disasters; Disaster education integrated with the values of the Alquran (Khairul Rahmat & Kurniadi, 2020). Through disaster education with the perspective of interconnection integration, the culture of readiness will be formed to prepare for disasters. This effort is expected to support efforts to reduce disaster risk for junior high school students

Various kinds of disaster mitigation and models of disaster education implementation are very diverse and varied such as intelligent schools, river schools, outbound learning, picture books, learning tools with SETS vision, newspapers, real object media, and media LKS pictures, socialization of health education, curriculum development and focus on the actual physical exercises, accommodate local wisdom,

and integrated the values of the Alquran. Disaster education models are implemented by the government or by the community. Disaster models and mitigation are very varied so that the community can carry it out according to their needs

Early childhood is vulnerable to disasters. Disaster education needs to be learned from an early age to provide knowledge and insight about disasters, natural disaster, non -natural disasters, and social disasters. Taman Eling, Waspada and Siaga (EWS) held by the Klaten Regency Regional Disaster Management Agency, aims to provide natural disaster learning since early childhood education

The impact or contribution of this finding in disaster education for early childhood in Klaten Regency, are 1). There is a school interest, in this case the teachers to provide disaster learning in their respective schools using the learning methods carried out in Taman Eling, Waspada and Siaga (Taman Ews), 2). There is an effort to make disaster learning methods in schools using models such as volcanoes, floods, earthquakes, landslides using areas/land around the school, 3). There is an initiation for the preparation of disaster learning modules for PAUD students throughout Klaten Regency As a supporting document or the same Disaster Learning Guide/with the same standards for all PAUD in Klaten Regency, 4). Initiation of Making Other Areas in Klaten Regency with the concept of Taman EWS where this area will be used for early childhood disaster learning for the western region of Klaten Regency, which is near the Poitan River, Jagalan Village, Karangnongko District.

The disaster education model for early childhood has been carried out by the Regional Disaster Management Agency (BPBD) in the form of a place for learning disasters that is a park, namely Taman EWS. The high interest of teachers and PAUD students to visit Taman EWS, because disaster learning which doing by outdoor method are still rare and become the first in Klaten. Students who visit Taman EWS are introduced several disasters that often occur in the surrounding their environment and are also learned how to rescue during a disaster. The students are also equipped with survival learning to survive in disaster conditions. Disaster education needs to be introduced not only to adults but it is very necessary for children as early as possible to equip mental readiness in disaster and also how to save in disaster.

This research has not revealed much of the disaster education model in early childhood as a whole, there is still much that needs to be revealed to get to know more about the disaster education model in terms of material, curriculum, and policies. Further discussions need to be a disaster education model not only in children aged but the disaster education model can be applied to all ages. In providing understanding to the community for disaster management through disaster education with local wisdom.

Further research is expected to be a comparison of this study, especially regarding the early childhood disaster education model to enrich references in addition to the need for improvement of learning methods based on local wisdom in each region in Indonesia, so that a variety of disaster learning models will be found for early childhood based on Character of each region.

## **CONCLUSION**

Several disasters often occur in Indonesia, such as natural disasters, non-natural disasters, and social disasters. Lack of knowledge and understanding of children has an impact on low preparedness in dealing with disasters so that when a disaster does occur, many children become victims. There is a need for disaster education for early childhood to provide an overview and reference in the learning process for disaster

preparedness. One model of disaster education at EWS Park at BPBD Klaten Regency which is packaged in a playground. Early childhood is taught how to save themselves and others when a disaster occurs. In addition, material on mental readiness to survive in disaster conditions is also provided.

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#### **AUTHOR CONTRIBUTION STATEMENT**

One of the efforts to increase community capacity in disaster management is through education. Disaster education needs to be taught to early childhood is expected to be able to provide solutions in reducing the risk of disasters that occur.

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