

Implementation of Disaster Mitigation Introduction through Digital Video Media for Early Childhood at Kindergarten Melati 03 Menteng, Central Jakarta

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Abstract

The occurrence of many natural disasters is caused by both natural and non-natural factors, resulting in numerous casualties, environmental damage, financial losses, and psychological impacts. The importance of understanding disaster preparedness should be instilled from an early age, especially in children. This knowledge includes disaster mitigation strategies that encompass steps to reduce risks before, during, and after disasters. Therefore, this research will examine the implementation of visual learning in early childhood, particularly at Kindergarten Melati 03 Menteng, Central Jakarta, concerning disaster mitigation. This study utilizes qualitative methods to provide factual and in-depth descriptions of the research findings. The subjects of this study are 10 kindergarten children and teachers/educators at Kindergarten Melati 03 Menteng, Central Jakarta. The research findings indicate that digital media in the form of videos can be used as a learning resource to introduce flood disaster mitigation to young children. Children gain better understanding of flood disasters and their risk factors after viewing digital video learning media. The development of flood disaster mitigation programs in the form of digital video learning media has been shown to enhance knowledge and foster early disaster responsiveness among young children. The implementation of disaster mitigation programs through video learning offers several benefits, including easy accessibility, user-friendliness, general applicability, and suitability for various settings.

Keywords: Early Childhood, Disaster Mitigation; Digital Learning

INTRODUCTION

According to the 2022 World Risk Index data, Indonesia is among the countries most vulnerable to disasters (Badan Nasional Penanggulangan Bencana, 2022). Out of 181 disaster-prone countries, Indonesia ranks 40th. In 2022, the National Disaster Management Agency (BNPB) reported 1,945 natural disasters occurring in Indonesia. The country's susceptibility to natural disasters has raised concerns among the population. The inability of communities to cope with disasters can have detrimental effects, causing significant losses for the government and damage to infrastructure such as buildings and public facilities. Economic losses include the loss of personal property, difficulty obtaining food and clothing, and disruptions in the economy. The occurrence of disasters also impacts human psychology, causing trauma and stress due to loss of property, loss of life, and depletion of resources.

Indonesia is not the only country vulnerable to natural disasters; several countries worldwide face significant disaster potential. Japan, for instance, is one such country.

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According to a BBC report (2011), children in Japan are familiar with earthquake disaster drills. For example, when the warning alarm sounds, children in schools know to take shelter, such as under desks. Disaster mitigation education in Japan is conducted in a concrete and serious manner, including fire drills, earthquake drills, and others (Khodijah, 2023).

Disaster is an event or series of events that threaten and disrupt life and livelihoods of communities, caused by natural and/or non-natural factors as well as human factors, resulting in human casualties, environmental damage, material losses, and psychological impacts (Republic of Indonesia Law Number 24 of 2007 concerning Disaster Management). Natural disasters occur due to disturbances in the balance of natural components without human intervention (Zaini & Dewi, 2017).

According to research by Tuswadi (2014), there are several factors regarding the knowledge, attitudes, and effective behaviors of children in facing natural disasters. One of the factors is ineffective teaching practices in schools, making it crucial for local governments and schools to implement strategic efforts. One way to improve this is by enhancing educators' performance in digital literacy for teaching about natural disasters and prevention, including developing their skills in creating and using various teaching media (Aini, Widayati, Rinakit, & Patria, 2022)

In addition to the role of parents, the role of educators in schools is also crucial in providing disaster mitigation learning materials. One approach is to implement visual learning, as it is considered to capture the attention of children, especially those under 10 years old. Besides grabbing their attention, it also helps them become more aware and understand what to do during disasters. The importance of introducing disaster mitigation early on is to instill a sense of readiness and a caring attitude towards oneself in facing disaster risks.

Introduction to disaster mitigation will provide knowledge to children so that they become vigilant and exhibit appropriate responses when facing disasters, and they can learn about activities that can and cannot be done after a disaster. In addition, disaster mitigation is very useful for educating children to understand the initial steps to save themselves if a disaster occurs. Early introduction to disaster mitigation can be considered to minimize psychological impacts. Various media can be used to introduce flood disaster mitigation to children. One of the media that can be used to cultivate preparedness among children in facing flood disasters is through engaging digital video learning media.

Digital video learning media features animated images accompanied by sound and a storyline performed by characters within the video. Interventions using video learning to convey disaster information encourage children to provide feedback and enhance their interaction skills. The use of video learning has been shown to stimulate verbal communication more effectively and demonstrate positive outcomes in enhancing children's social-emotional support (Fukkink & Tavecchio, 2010). Introducing flood disaster mitigation through digital video learning media also facilitates parents and educators in delivering disaster-related materials to children. Video learning serves as a tool to articulate and reflect thoughts, thereby aiding in mutual understanding and development (Cherrington & Loveridge, 2014). Engaging video learning captivates children's interest and enhances their comprehension of flood disaster mitigation content within the video.

Therefore, we conducted research that will examine the implementation of visual learning in early childhood, particularly at Kindergarten Melati 03 Menteng, concerning natural disaster mitigation. By focusing on early childhood as the object of study, several relevant aspects are considered in researching the implementation of visual learning at Kindergarten Melati 03 Menteng, Central Jakarta. Firstly, visual learning methods are a key focus. This study explores various visual learning methods such as using images, videos, or engaging animations related to disaster mitigation, as well as incorporating games and other visual media to enhance learning material comprehension. Secondly, skill development is addressed. By developing skills, educators can observe how cognitive, language, motor, and social development may influence young children in the environment of Kindergarten Melati 03 Menteng, Central Jakarta. Thirdly, the role of teachers or facilitators is examined in how they support effective learning through visual teaching methods. Lastly, the study includes the use of technology. If Kindergarten Melati 03 Menteng, Central Jakarta employs technology in its educational activities, the research scope may encompass the implementation procedures involved in using visual technology such as educational apps and learning software.

METHOD

This research employs a descriptive qualitative research method to examine the core issues regarding disaster mitigation using digital video learning media. This method was chosen to thoroughly explore the role of digital video learning media in introducing disaster

mitigation to children. The subjects of this study are 10 children aged 5-6 years and 2 teachers/educators at kindergarten Melati 03 Menteng, Central Jakarta. The first teacher, identified by the initials TY, is female, 30 years old. The second teacher, ASK, is also female and 27 years old. Data collection techniques include observation, interviews, and documentation. The researcher proceeded through several stages: first, preparation involved researching children's initial understanding of flood disasters. Second, the implementation phase included gathering information, conducting interviews, observations, and documentation using digital video learning media to introduce natural disaster mitigation to children. The third stage involved further data gathering through interviews, observations, and documentation to refine the research analysis on children's understanding of disaster mitigation using digital video learning media.

RESULTS AND DISCUSSION

Indonesia's susceptibility to disasters highlights the importance of disaster mitigation knowledge not only for adults but also for children. Unfortunately, attention and initiatives to reduce disaster risks among preschool-aged children are still insufficient and overlooked (Proulx & Aboud, 2019). Yet, considering the heightened risks children face, the effects of disasters can be more severe. Consequences such as environmental trauma, loss of parents, witnessing the death of loved ones, fear of recurring disasters, all contribute to children's heightened vulnerability when affected by disasters (Mohamed, et al., 2017). Parents, who spend more time with their children, should train them on how to handle disasters or at least provide information about disasters. Introducing disaster mitigation to children can be done through discussions, teaching them to always be grateful and patient in the face of adversity, and preparing educational materials related to disaster mitigation. This introduction also fosters a strong bond between parents and children, contributing to their well-being (Khambali, Inten, Mulyani, Lichandra, & Tiwi, 2021).

Introducing fire disaster mitigation to children can be done in an engaging manner so that they can acquire and apply disaster preparedness from an early age. This introduction can be conveyed to children through digital video learning media. Animated educational videos about fire disasters enable children to actively participate and understand the factors influencing fire disasters. The role of video learning in introducing fire disaster mitigation to young children offers several advantages when implemented by teachers or parents. Teachers should be able to create their own instructional videos tailored to their students'

characteristics (Taib & Mahmud, 2021). The use of video learning has been proven to stimulate verbal communication more effectively and demonstrate positive outcomes in enhancing children's social-emotional support (Fukkink & Tavecchio, 2010). Video learning serves as an effective medium for facilitating the transfer of knowledge to children.

The use of digital video-based learning media is preferred by children, resulting in improved learning outcomes and understanding after using video learning. The utilization of video learning offers several advantages because video content generally conveys educational messages. Animated videos, as audio-visual media featuring animated images and movement elements, can capture the attention and motivation of young children in learning (Maranatha & Putri, 2022). Introducing fire disaster mitigation is easier for children to understand when the media used includes engaging and easily comprehensible animated elements. Children find it easier to absorb knowledge about disasters and receive useful messages when they are in disaster situations. Video learning is also an effective method for developing children's logical thinking skills (Mardhian Ningrum et al., 2021). Developing disaster mitigation programs through video learning can be presented in ways that are easily understood by children and integrated with the development aspects of early childhood. This aligns with research by Mardhian Ningrum et al. (2021), which states that the use of video learning media positively influences learning motivation in 5-6-year-old children. Furthermore, computer-based video learning makes children feel happy and interested, thereby enhancing their developmental aspects. The findings of this research contribute to understanding the importance of developing video learning in early childhood education.

Animated videos are a medium that facilitates children to understand situations they have not encountered or experienced before, and helps them develop children's emotional intelligence including empathy (Maranatha & Putri, 2022). Children will practice taking care of their environment, understanding the factors causing disasters, and participating in environmental conservation from an early age. Introduction to disaster mitigation should be provided to every citizen, including children, not only to introduce what fire disasters are but also more broadly to educate on what to do when fire disasters occur (Euis Kurniati, 2020). Developing learning media in the form of animated videos can also be used to introduce discipline to young children (The Development of Animation Video-Based Learning Media for Introducing Discipline to Children Aged 4-5 Years, 2021).

The data shows that: 1) children learn about what and how natural disasters occur, 2) learning about natural disaster mitigation is included in the disaster mitigation theme in the first semester program; 3) children are prepared to face and respond to natural disasters; 4) learning is conducted through a combination of practices, material explanations, and visits.

Picture 1. First Semester Program of Kindergarten Melati 03 Menteng, Central Jakarta

NO	BULAN	TOPIK	MINGGU 1	MINGGU 2	MINGGU 3	MINGGU 4	MINGGU 5
1	Juli	Sekolah Asyik	X	X	Ayo Berkeseluruhan	Dikerja Sama	X
2	Agustus	Indonesiaiku	Aku Anak PHS	M4, Negeraku Ya	M5, Kebinekaan 'P'	M6, Pahlawan 'C'	P7, Menyajikan Kemandirian
3	September	Mitigasi Bencana	W3, Saat Kehakatan 'B'	W9, Saat Baile 'F'	W10, Saat Cempa Bumi 'T'	X	X
4	Oktober	Alam Semesta	M11, Ruang Angkasa 'G'	M12, Bulan 'H'	M13, Bintang 'I'	M14, Matahari 'J'	X
5	November	Apa Saja di Sekitarku	M15, Sekolaku 'K'	M16, Keluargaku 'L'	M17, Guruku 'M'	M18, Perpustakaan 'N'	X
6	Desember	Kesenian Lokal	Wayang	X	X	X	X

Source: Principal of kindergarten Melati 03 Menteng, Central Jakarta, 2024

Children Learn About What and How Natural Disasters Occur

The teacher explains what natural disasters are, the consequences of natural disasters, the types of natural disasters, how disasters occur, and how to prevent natural disasters. The teacher's explanation about natural disasters helps young children learn about them. This is in accordance with the statement from the interview, Miss ASK, as follows.

"Then we also gave assignments such as drawing and pasting pictures of fire stations on the board, explaining the causes of fires, mitigation. And the children mentioned in the video what I explained earlier. We didn't give anything difficult because we adjusted it to the children, so there was no coercion." (Miss ASK)

Picture 2&3. Fire Disaster Recognition Self-Task



Source: Principal of Kindergarten Melati 03 Menteng, Central Jakarta, 2024

Another explanation from Miss ASK is that her students were given an example of a hot flame, so they wouldn't play with fire that could cause fires.

"For example, like I give the children candles, and they feel that it's hot, we train them to light candles but not to play with them. (This makes the children understand) that hot flames are not for playing, what causes it if we play with it, so the children already understand all of that" (Miss ASK)

Learning about natural disaster mitigation is included in the disaster mitigation theme in First Semester.

The learning of natural disaster mitigation that has been carried out by educators at the school is part of the disaster mitigation theme. Teachers conceptualize the disaster mitigation learning materials that will be used in the learning theme.

"All (Kindergarten) do it, because it is already included in our curriculum, because we do have an independent curriculum but we from the institution already have learning modules like what should be given to children" (Miss TY)

Educators declare that the learning materials in disaster mitigation are available every year in the first semester with a different theme.

"There is always one every semester because there is indeed a government program. The themes vary, not only fires but also earthquakes, floods, and all of them include simulations." (Miss TY)

Children Prepared to Face and Respond to Natural Disasters

Natural disasters such as earthquakes, volcanoes, tsunamis, and floods are very common in Indonesia. Especially for educators, events like these are unavoidable and often unseen by many people. In the world of education, teachers act as parents to their students at school, thus they must be capable of keeping their students safe and protected.

"We went to the fire station, where they explained the equipment and how to handle it, and truly understood that this is what firefighters do besides extinguishing fires. They have other tasks like catching bees. They were provided with clothing and tools so that children know. Kindergarten children should not only be informed about this clothing but also directly about these items." (Miss TY)

Picture 4. Visit to Fire Department



Source: Principal of Kindergarten Melati 03 Menteng, Central Jakarta, 2024

Based on the documentation conducted by the researchers, students at Kindergarten Melati 03 Menteng, Central Jakarta, have also conducted simulations related to earthquake disaster mitigation by running out of buildings and hiding under tables during earthquakes.

Learning is conducted through a combination of practices, explanations of material, and visits.

The implementation of natural disaster mitigation learning can be carried out through various methods or learning activities such as simulations, practices, lectures, visits, and others. Educators and school principals often invite children to learn outside or visit several disaster-related places.

"For fires, we took the children to a disaster response center, where they were shown how to deal with disasters" (Miss ASK).

Educators also use YouTube videos as a media for children to learn about disasters.

"I also provide videos, videos about children recognizing fires and so on" (Miss ASK)

The visual learning applied in disaster mitigation materials helps children to be more creative and innovative in expressing their ideas. They also learn to think outside the box and find new ways to solve problems. Certainly, this will greatly contribute to the cognitive development and creativity of children in the future.

CONCLUSION

Based on the research findings, analysis, interviews, and observations conducted, the discussion results provide answers to the formulated problems that have been analyzed. Kindergarten Melati 03 Menteng, Central Jakarta has implemented disaster mitigation learning in the children's educational program. Disaster mitigation learning usually employs a combination of lectures and practical exercises. Kindergarten Melati 03 Menteng, Central

Jakarta has added the method of visits, allowing children to see and experience the atmosphere during disasters. According to interviews with relevant parties at kindergarten Melati 03 Menteng, Central Jakarta, through disaster mitigation learning, children find it easier to understand and prepare themselves when disasters occur.

The implementation of natural disaster mitigation learning requires various media, especially for young children, because through these media, children can more easily grasp what needs to be done if a disaster occurs. Fundamentally, media also serves as a medium for conveying information. Media should not be provided arbitrarily if the actual learning objectives are not clearly communicated or considered inappropriate. Disaster mitigation learning at kindergarten Melati 03 Menteng, Central Jakarta utilizes various media such as books, sirens, directional symbols, trash bins, plants, worksheets, and YouTube videos.

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