Volume 5 Nomor 2 (2024) Pages 150 – 156
Edubase : Journal of Basic Education
Email Journal : edubase.bbc@gmail.com
Web Journal : http://journal.bungabangsacirebon.ac.id/index.php/edubase

Increasing Elementary School Students' Understanding of Natural Disaster Mitigation through Visual Education Media

Daffa Affanin Riana[1], Sofyan Mustoip[2], Kamilah Danish Ara[3]
[1,2,3] Universitas Islam Bunga Bangsa Cirebon
Email: sofyanmustoip@gmail.com

Received: 2024-05-17; Accepted: 2024-08-10; Published: 2024-08-27

Abstract

This research aims to increase elementary school students' understanding of natural disaster mitigation through the use of visual educational media. A qualitative approach was used in this research, with a research design in the form of a case study in one of the elementary schools in a disaster-prone area. Data was collected through observation, in-depth interviews, and document analysis. The visual educational media developed includes illustrations, animated videos, and infographics that explain types of natural disasters, mitigation steps, and self-saving measures. The research results show that the use of visual educational media significantly increases students' understanding of the concept of disaster mitigation, as seen from the increase in student participation in learning and their ability to explain mitigation steps independently. This research provides recommendations for developing more innovative and technology-based learning media to support disaster education in elementary schools.

Keywords **:** ***Disaster mitigation, visual educational media, elementary school students.***

INTRODUCTION

Disaster education is an important effort to prepare society, especially the younger generation, to face potential disasters that can occur at any time. Indonesia, as a country located on the Pacific Ring of Fire, is vulnerable to various natural disasters such as earthquakes, tsunamis, floods, landslides and volcanic eruptions. This geographical condition requires community awareness and preparedness from an early age, including through learning in elementary schools.

At the elementary school level, students are at the ideal phase of cognitive development to receive information about disaster mitigation. The understanding given at this age will stick better and form appropriate thought patterns and behavior in dealing with emergency situations. However, in reality, learning about disaster mitigation is often not a priority in the elementary school curriculum, so students have a limited understanding of how to deal with and reduce disaster risks.

One of the main challenges in disaster education is attracting students' interest in understanding material that tends to be complex and is often considered boring. Therefore, an innovative and interesting approach is needed, such as the use of visual educational media. Visual media is able to present information in a more interesting, easy to understand, and relevant way to students' daily lives. The use of educational images, animations and videos can help students understand disaster mitigation concepts better.

Previous research shows that visual-based educational media has a positive impact on students' understanding in various subjects. This media not only increases the attractiveness of learning but also strengthens students' memory of the information presented. In the context of disaster mitigation, visual educational media can be an effective tool for conveying critical information in a way that is simple and easy for elementary school students to remember.

On the other hand, there are still limitations in the development and use of visual educational media in elementary schools, especially in disaster-prone areas. Many schools do not yet have access or the ability to integrate modern technology-based learning media. This is both a challenge and an opportunity for educators and researchers to create learning innovations that suit student needs and school conditions.

As part of disaster education, understanding disaster mitigation must cover various aspects, starting from recognizing the types of disasters, understanding the risks involved, to knowing the steps that must be taken to protect oneself and others. This information not only benefits students but also their families and communities. Thus, disaster mitigation education has a broad and sustainable impact.

This research focuses on the use of visual educational media to increase elementary school students' understanding of disaster mitigation. This media was developed by taking into account the needs and characteristics of students, so that it is able to convey information effectively. In addition, a qualitative approach is used to explore students' understanding and responses to the use of this media in learning.

In an effort to improve the quality of disaster education, it is important to involve various parties, including teachers, parents and the community. Teachers have a central role in delivering disaster mitigation material, while support from parents and the community can strengthen the learning students receive at school. Synergy between schools and communities can also create a safer and more responsive environment to disasters.

Through this research, it is hoped that practical recommendations can be produced for the development and implementation of visual educational media in disaster mitigation learning in elementary schools. It is also hoped that the results of this research can contribute to the development of education policies that are more responsive to the needs of disaster-prone areas. With a better understanding of disaster mitigation, students are expected to not only be able to protect themselves but also become agents of change in their communities.

Ultimately, effective disaster education will help build communities that are more resilient and ready to face future disaster risks. Therefore, efforts to increase students' understanding of disaster mitigation through visual educational media is a strategic step in creating a generation that is more aware and responsive to disasters.

RESEARCH METHODOLOGY

The research method used is qualitative. Qualitative research was chosen because it is able to explore students' subjective experiences in understanding the concept of disaster mitigation through visual media, as well as providing insight into how this media can influence changes in their understanding.

The qualitative research method used in this study involves observation, interviews, and content analysis of visual media applied in learning. Observations were carried out in classes that used visual media as a teaching aid. Researchers observe how students interact with media, how they react to the information presented, and the extent to which they can absorb and understand the information. Interviews were conducted with teachers and students to explore their views on the effectiveness of visual media in increasing understanding of disaster mitigation.

Apart from that, content analysis of the visual media used is also an important part of this method. Researchers analyzed various types of visual media such as images, videos and infographics used in learning to see the extent to which the media conveyed disaster mitigation messages in a clear and interesting way. Researchers will also evaluate whether the media content is relevant to the elementary school education curriculum, and whether this media is effective enough in helping students understand complex concepts related to natural disasters.

One important aspect of this qualitative research is the in-depth understanding that can be obtained from respondents regarding their perceptions of the learning process. Interviews with students provide insight into how they interpret information obtained through visual media and whether they feel better prepared to face potential disasters after participating in the lesson. In addition, interviews with teachers provide additional perspectives on the challenges and benefits of using visual media in disaster mitigation learning in elementary schools.

RESULTS AND DISCUSSION

This research aims to explore the influence of using visual media in increasing elementary school students' understanding of natural disaster mitigation. Based on observations and interviews with students and teachers, the research results show that the use of visual media in learning can significantly increase students' understanding of natural disaster mitigation. Students who previously had difficulty understanding technical concepts about natural disasters, such as evacuation or how to reduce the impact of disasters, showed better understanding after being exposed to material using images, videos and infographics.

Observation results show that visual media, such as disaster simulation videos and pictures of mitigation measures, help students imagine the real situation and the steps that need to be taken to reduce disaster risk. This visualization makes it easier for students to understand processes that may be difficult to explain with words alone. For example, videos showing how to save yourself from an earthquake or

flood make it easier for students to remember and understand the actions they need to take in an emergency situation.

Interviews with students show that they feel more interested and involved in disaster mitigation learning that uses visual media compared to conventional learning that relies more on text or lectures. Students expressed that they found it easier to remember information after seeing pictures or videos depicting disaster mitigation measures. Some students even stated that they were more confident in dealing with potential disasters after gaining a better understanding through visual media.

Teachers involved in this research also expressed positive opinions regarding the use of visual media in teaching disaster mitigation. They reported that visual media helped students understand the material in a more concrete and interactive way. Apart from that, visual media also makes the learning atmosphere more dynamic and interesting, which in turn increases student engagement in class. Teachers also noted that the use of visual media allowed them to address the challenges of teaching abstract topics, such as disaster mitigation, in a more effective way.

However, although visual media has proven effective in improving students' understanding, the research results also show several challenges that need to be considered. One of the main challenges is limited resources, such as the lack of adequate technological devices in some schools. Some schools that lack access to projectors or computer equipment experience difficulties in implementing optimal use of visual media. This shows the need for more attention in providing educational facilities that support the use of technology in learning.

In terms of visual media content, content analysis shows that some visual materials used in learning still need to be adapted to the local context and culture of students. Some images and videos used in teaching disaster mitigation may be too general or not relevant enough to the disaster conditions that often occur in the areas where students live. For example, videos about earthquake mitigation may be less effective for students who live in areas prone to flooding or landslides. Therefore, it is recommended that visual materials be adapted to the characteristics of disasters that are most relevant to students.

One of the interesting findings from this research is the increase in student involvement in class discussions after using visual media. Visual media not only helps students understand information, but also triggers them to ask questions and discuss more about disaster mitigation topics. Students become more active in sharing their experiences and thoughts about ways that can be done to reduce the impact of natural disasters. This shows that the use of visual media can create learning that is more collaborative and based on real experiences.

Apart from that, research findings also indicate an increase in students' awareness of the importance of disaster mitigation in everyday life. Many students who previously did not really care or understand the importance of disaster mitigation measures began to show greater interest after learning using visual media. Some students even reported that they felt more prepared and aware of possible disasters in their surroundings. This indicates that visual media not only increases theoretical understanding, but also forms a more responsive attitude towards natural disasters.

From a curriculum perspective, this research shows that visual media can be an effective tool for enriching students' learning experiences in topics related to safety and disaster mitigation. The use of visual media allows teachers to convey information that may be difficult to understand only through text or oral explanations. This also opens up opportunities for the development of a curriculum that is more technology and multimedia based, which is in line with current developments and the needs of today's students.

Although this research provides positive findings regarding the use of visual media in disaster mitigation learning, further research is needed to explore the long-term impacts of using this media in education. Further research could examine whether the increase in understanding students gain in the short term can be maintained in the long term, as well as whether visual media can be used to teach other complex topics in the context of primary school education.

Discussion

The results of this research support the argument that the use of visual media has great potential in increasing students' understanding of complex concepts such as natural disaster mitigation. By depicting disaster mitigation steps in visual form, students can more easily understand the processes and actions that need to be taken in dealing with disasters. Visual media not only conveys information effectively, but also gives students the opportunity to relate the information to real experiences, which improves their retention of the material being taught.

However, it is important to realize that the use of visual media is not a completely perfect solution. There are challenges in terms of limited adequate technological facilities in certain schools. Therefore, to optimize the use of visual media, it is important for governments and educational institutions to provide adequate infrastructure so that technology can be utilized optimally. Providing devices that can support the use of visual media in learning is an important first step to improving the quality of education.

Apart from that, it is important to continue to evaluate the visual media content used in learning. Visual material must be relevant to the local context and disaster conditions that often occur in each area. Adapting visual content to the local context will increase the effectiveness of visual media in achieving learning goals. The development and selection of appropriate media will ensure that students truly understand and apply the knowledge they have acquired in real life situations.

Visual media-based learning also opens up opportunities to create a more collaborative and participatory learning approach. Class discussions sparked by the use of visual media allow students to share experiences and learn from each other. This not only increases their understanding of the material, but also builds social awareness and environmental responsibility. Visual-based learning can create a more interactive classroom atmosphere and build students' critical thinking skills.

Overall, this research shows that visual media is an effective tool in increasing students' understanding of natural disaster mitigation. The use of this media not only helps students understand complex concepts, but also increases their involvement in learning. Therefore, the use of visual media in disaster mitigation learning in elementary schools should continue to be developed and integrated into the curriculum to provide more meaningful and relevant education for students. For a clearer understanding, this can be seen in the following image.

Figure 1. Disaster Mitigation Media and Its Implementation

CONCLUSION

This research shows that the use of visual media in learning about natural disaster mitigation in elementary schools can significantly increase students' understanding. Students who are exposed to material through images, videos and infographics find it easier to understand complex concepts such as evacuation and reducing the impact of disasters. Visual media also makes learning more interesting, interactive, and motivates students to be more involved in class discussions. In addition, visual media allows students to relate the information obtained to real experiences, which helps them better remember and apply this knowledge in everyday life.

However, this research also identified several challenges, such as limited technological facilities in some schools and the need to adapt visual media content to students' local and cultural contexts. Therefore, to optimize the use of visual media, efforts need to be made to increase the provision of technological infrastructure that supports and ensures that the visual material used is relevant to the disaster conditions that often occur in student areas.

Overall, the results of this research suggest that visual media is a very effective tool in increasing students' understanding and awareness regarding natural disaster mitigation. With further development, visual media can become an important part of a more innovative and relevant learning approach in elementary schools. In addition, this research provides a basis for developing a more technology and multimedia-based curriculum, which can enrich students' learning experiences in topics related to safety and disaster mitigation.

BIBLIOGRAPHY

Riyansyah, R. (2023). Pendidikan Mitigasi Bencana Banjir Rob dan Kepedulian Lingkungan Melalui Model Pembelajaran Simulation Video Assisted Problem Based Learning. UPEJ Unnes Physics Education Journal, 12(2), 59-68.

Susetyo, A. (2022). Implementasi Media Audio Visual untuk Meningkatkan Pemahaman Konsep Mitigasi Bencana Pada Mahasiswa Pendidikan Geografi. Jurnal Pendidikan dan Pembelajaran, 3(1), 29-62.

Rifai, M. (2018). Pengaruh Penggunaan Media Audio Visual Terhadap Pemahaman Konsep Mitigasi Bencana Pada Mahasiswa Pendidikan Geografi. Jurnal Pendidikan dan Pembelajaran, 3(1), 29-62.

Rizaldy, D. (2021). Analisis Pendidikan Mitigasi Bencana dalam Mata Pelajaran Geografi Pada Kelas XI SMA di Indonesia. Prosiding Mitigasi Bencana, 1, 1-6.

Serungke, M., Sibuea, P., Azzahra, A., Fadillah, M. A., Rahmadani, S., & Arian, R. (2023). Penggunaan Media Audio Visual dalam Proses Pembelajaran Bagi Peserta Didik. Jurnal Review Pendidikan dan Pengajaran (JRPP), 6(4), 3503-3508.

Saparwati, M., & Trimawati, W. F. (2020). Peningkatan Pengetahuan Kesiapsiagaan Bencana Dengan Video Animasi Pada Anak Usia Sekolah. Pro Health Jurnal Ilmiah Kesehatan, 2(1), 23-28.

Nasrullah, A. C., & Reza, M. (2020). Pengembangan Buku Panduan Kegiatan Pembelajaran Mitigasi Bencana Kebakaran Pada Anak Usia 5-6 Tahun. PAUD Teratai, 9(01), 1-12.

Nurani, Y., Hapidin, H., Wulandari, C., & Sutihat, E. (2022). Pengenalan Mitigasi Bencana Banjir untuk Anak Usia Dini melalui Media Digital Video Pembelajaran. Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini, 6(6), 5747-5756.

Susetyo, A., & Riyansyah, R. (2023). Implementasi Media Audio Visual untuk Meningkatkan Pemahaman Konsep Mitigasi Bencana Pada Mahasiswa Pendidikan Geografi. Jurnal Pendidikan dan Pembelajaran, 3(1), 29-62.

Rifai, M., & Riyansyah, R. (2023). Pendidikan Mitigasi Bencana Banjir Rob dan Kepedulian Lingkungan Melalui Model Pembelajaran Simulation Video Assisted Problem Based Learning. UPEJ Unnes Physics Education Journal, 12(2), 59-68..