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The Importance of Elementary Teacher Understanding: A Study of Perceptions of Disaster Education Models in Indonesia

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ABSTRACT

This research is motivated by the need for efforts to teach disaster principles to elementary school students so that a scientific foundation is needed regarding disaster education models for elementary school students. This qualitative descriptive research describes elementary school teachers' perceptions of the disaster education model for elementary school students. The sampling technique uses a purposive sampling technique. Data was obtained through questionnaires and interviews with 30 elementary school teachers from different schools. The data analysis technique uses data reduction, presentation, and conclusion. The data validity process is carried out using triangulation techniques. The research results show that the teacher's perception of aspects of the teaching material is in the poor category, the teacher's perception of the learning interaction aspect is in the poor category, the teacher's perception of elements of the learning environment is in the poor class, and the teacher's perception of the learning model aspect is in the poor category. This result shows that teachers need a better perception of the disaster education process for elementary school students. The findings of this research can be used as a basis for developing appropriate disaster education processes for elementary school students.

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1. Introduction

Natural disasters refer to extreme and unexpected natural events that can cause severe damage, human suffering, and economic losses (Anita et al., 2022; Sakurai et al., 2018). The consequences of these natural disasters can include loss of human life, damage to infrastructure, loss of livelihoods, loss of property, and various severe social and economic impacts (Arwin, Kiswanto Kenedi, Anita, & Handrianto, 2022; Noviana et al., 2021). This natural disaster affects adults and children, including elementary school students (Arwin et al., 2022). Natural disasters can significantly impact elementary school students, both physically and psychologically. Physically, natural disasters such as earthquakes, floods, or tsunamis can damage school facilities and disrupt the teaching and learning process (Anita et al., 2022; Arwin et al., 2023). Students may lose textbooks, stationery, and other learning resources. Furthermore, some students may experience injury or even the loss of a family member, significantly impacting their physical health and well-being.

Psychologically, the impact of natural disasters can cause trauma to students, affecting their concentration, learning motivation, and academic achievement (Atmojo, 2021; Suarmika et al., 2022). Anxiety and fear that a disaster will happen again can disturb students' psychology and make it difficult for them to focus on lessons. Therefore, schools and parents need to provide emotional and psychological support to students after natural disasters, as well as ensure that the learning process can take place in a way that is appropriate and conducive to student recovery. Therefore, it is essential to provide disaster education to students at this level so that they can understand risks, learn how to respond appropriately to disasters, and become more independent in dealing with emergencies. In this way, students can play a significant role in reducing disaster risks in their communities.

One significant effort to increase students' awareness and knowledge of natural disasters is to develop disaster education in elementary schools (Juhadi et al., 2021). Disaster education in elementary schools is an educational process that aims to provide students with knowledge, skills, and awareness regarding the risks of natural disasters, how to respond correctly when a disaster occurs, and how they can contribute to mitigation

and recovery efforts in disaster situations (Avcı, 2022). Disaster education includes conveying information about various types of disasters, how to recognize early warnings, safety measures, and the role of individuals in disaster preparation and management.

The benefits of learning about disasters in elementary schools are significant. Students will have more profound knowledge about disaster risks and how to overcome them. They will be more aware of emergencies and know how to respond appropriately, which can save lives and reduce injuries in disaster situations (Suarmika et al., 2022). Disaster education helps increase student independence. They will be better prepared and able to act rationally and effectively in emergencies, even if they do not have immediate access to help from adults. Students who understand the importance of disaster mitigation and preparedness can contribute to efforts to protect their communities. Students can actively contribute to disaster mitigation and management efforts, such as assisting in educating others, designing family emergency plans, and participating in disaster drills. Finally, learning about disasters in elementary schools helps create a culture of sustainable preparedness in society. This condition can reduce the risk of future disasters and ensure that future generations are better prepared to deal with emergencies. Therefore, disaster education provides significant benefits in protecting lives and property and building a society that is more responsive to disasters, so disaster education must be developed optimally for elementary school students.

However, based on a literature review conducted by researchers, it was found that disaster education for elementary school students currently needs to be improved. Several studies identify a lack of active and innovative learning models (Juhadi et al., 2021). This fact indicates that the way students learn about disaster mitigation may be less exciting and creative, making the learning process seem dull and less effective. Another problem is inadequate integration into the school curriculum. Apart from that, the integration of disaster mitigation into the elementary school curriculum still needs to be improved (Atmojo et al., 2023; Putra et al., 2021). As a result, disaster risk reduction material has not been fully integrated, so students need additional study time. Other findings indicate the need to increase the frequency of simulations and disaster response exercises for elementary school students (Atmojo, 2021). This shows the importance of direct experience for students in dealing with disaster situations. Based on these facts, disaster education for elementary school students has yet to be implemented optimally, so if this is not addressed, it will impact elementary school students' understanding of disasters.

In this case, the teacher is responsible for teaching students the concept of disaster. Teachers have an essential role in teaching students about the disaster process. Therefore, to respond to the results of the literature review, it is necessary to know the views of elementary school teachers regarding the disaster education process carried out so far. This research aims to confirm the problems teachers face in implementing disaster education.

Thus, these various facts show that the implementation of disaster education in elementary schools could have been more optimal, which has the potential to hinder students' understanding of disasters. Research conducted by (Christina et al., 2022) studied elementary and middle school teachers' perceptions of the areas where they teach in Africa; the research results stated that teachers felt unsafe teaching in these areas. Research conducted (Wang & Tsai, 2022) examines the factors influencing elementary and middle school teachers' behavioural intentions towards school disaster preparedness based on the theory of planned behaviour. Research findings indicate that attitudes, subjective norms, and perceived behavioural control play an essential role in influencing the extent of teacher involvement in school disaster preparedness behaviour following the Theory of Planned Behavior (TPB). Research conducted by (Dasci Sonmez & Gokmenoglu, 2023) examined teachers' disaster preparedness beliefs. Research data shows that teachers' beliefs related to preparation, especially in terms of benefits, vulnerabilities, barriers, and levels of self-efficacy, tend to be high. However, their confidence in cues to action and dimensions of perceived seriousness tend to be lower and moderate. From previous research, existing research is only limited to teacher preparedness in facing disasters. No research has examined the current disaster education process, especially disaster education for elementary school students.

Based on this, this research aims to describe elementary school teachers' perceptions of disaster education models for elementary school students. This research is necessary because teachers, as critical agents in student learning, play a central role. This research provides an opportunity to gain in-depth insight into teachers' perspectives on the various learning methods available. This research helps identify the advantages and disadvantages of existing learning models and provides direction for developing more innovative models. Furthermore, this research provides a comprehensive picture of the condition of disaster education at the elementary school level. The findings from this research will reveal the extent to which current learning models have succeeded in integrating disaster risk reduction concepts and assess teachers' responses to them. The findings of this research will reveal the extent to which current learning models are successful in integrating the concept of disaster risk reduction and assess teachers' responses to it. Finally, the results of this research

contribute to the design of more innovative and effective learning models for elementary school students. By better understanding teachers' needs and expectations, we can develop learning methods that better meet students' needs in understanding disaster risk.

2. Method

This study is descriptive qualitative research (Anisa et al., 2021; Purwasih & Elshap, 2021). The data obtained was analyzed as descriptions that reflect teachers' perceptions of disaster teaching materials, disaster education interactions, and the learning environment in the context of disaster education. This descriptive qualitative research method was used because this research aimed to gain an in-depth understanding of how teachers in Indonesia perceive the disaster education model. This approach allows for a detailed analysis of teachers' perceptions, experiences, and attitudes, considering the complexity of Indonesia's geographical, social, and cultural context. Through interviews, observations, and document analysis, this research reveals nuances in the reception and implementation of disaster education, providing valuable insights for developing teaching strategies that are more effective and relevant to the specific needs of elementary schools in Indonesia.

The research location is in Banda Aceh City with research subjects being elementary school teachers selected using Purposive Sampling techniques, totaling 40 people. Data was collected through questionnaires and interviews. The questionnaire was made in the form of a questionnaire using a 5-point Likert scale uploaded through the Google Form platform and uploaded via the Google Form platform. Next, interviews were conducted with several selected respondents to deepen the data collected through questionnaires and the interview process.

This research instrument has undergone a validation process to ensure its validity and reliability. This measuring tool covers three main aspects, namely teaching materials, learning interactions, and learning environment, and is divided into eight indicators with thirteen questions on the questionnaire. Before use, the measuring instrument has undergone a validation stage by a validator. Once validated and considered valid, the measuring instrument is tested to ensure its validity and reliability. The data collection process was carried out by sending the respondents a questionnaire link created via Google Forms. After the data collection process is complete, the collected data will be analyzed.

The data analysis approach in this research follows the guidelines outlined by (Miles & Huberman, 1994). This approach involves several stages: data reduction, display, and conclusion. Next, a data verification process was also carried out by comparing the data results obtained through questionnaires with the data from interviews, following the triangulation principle.

3. Results and Discussion

3.1. Result

3.1.1. Teachers' perceptions of aspects of teaching materials in disaster education

The following are the survey results of teachers' perceptions of disaster teaching materials, sorted based on gender, period of teaching experience, and level of education.

Table 1. Trends in teacher perceptions of teaching material aspects

	Grouping						
Category	Gender		Length of Teaching			Education units	
	Man	Woman	0-10 Years	11-20 Years	21-30 Years	Bachelor	Master
Completely disagree	0%	0%	0%	0%	0%	0%	0%
Disagree	0%	67.5%	0%	0%	0%	0%	0%
Not completely agree	67.5%	32.5%	72.5%	77.5%	70.0%	97.5%	2.5%
Agree	32.5%	0%	27.5%	22.5%	30.0%	2.5%	97.5%
Completely agree	0%	0%	0%	0%	0%	0%	0%

Source: Researcher Data Analysis

The data in Table 1 show the approval of male teachers to the completeness of teaching material aspects in the Hate Learning Model for SD students. A total of 32.5% agreed, and 67.5% disagreed utterly. Meanwhile, 32.5% of female teachers did not completely agree, while 67.5% disagreed. Thus, the perceptions of male and female teachers tend to show general disagreement with the quality of the teaching materials provided during

disaster education. Of the years of teaching, teachers with a teaching range of 0-10 years stated that 27.5% agreed and 72.5% not ultimately agreed; teachers with a range of 11-20 years stated that 22.55 agreed and 77.5% did not wholly agree, while teachers with a teaching range of 21-30 years, 30% agreed and 70% not wholly agreed. Regarding the educational aspect, 2.5% of undergraduate teachers agreed, and 97.5% did not wholly agree, while 97.5% of teachers with master's qualifications agreed and 2.5% did not completely agree. From these results, there is a tendency for teachers' perceptions to state that they disagree with the current disaster teaching materials.

This result aligns with the conclusions of the interviews that many disaster teaching materials for elementary school students are not appropriate for this situation due to various factors. One of the main factors is the difficulty level of the material, which is often too technical or complex for elementary school-age children. In addition, the material is only sometimes suitable for the cognitive and emotional development of students at the elementary school level. If the material presented is too scary or scary, this can hurt students' psychological well-being. Teachers also identified that a less interactive learning approach could make disaster material less effective. Children at elementary school tend to learn best through hands-on experiences, games, and activities that allow them to be actively involved.

Another problem is the lack of integration of disaster material into the elementary school curriculum, which may reduce teachers' motivation to teach it. Teachers also noted limited resources, including a need for appropriate teaching materials and training for teachers in teaching disasters. In addition, the lack of parental involvement in children's disaster education can affect their understanding. Teachers emphasized the importance of having examples of positive behaviour from teachers and school staff. Disaster material that needs to encourage student participation in decision-making and planning mitigation actions sufficiently is also a problem. Student involvement in planning disaster strategies is essential in helping them understand and respond to disasters. Therefore, elementary school teachers encourage disaster teaching materials to be adapted to students' needs and developmental stages to achieve better effectiveness.

3.1.2. Teacher perceptions of aspects of learning interaction in disaster education

The following are the survey results of teachers' perceptions of disaster education interactions, sorted based on gender, period of teaching experience, and level of education.

Table 2. Trends in teacher perceptions of learning interaction aspect

Category	Grouping						
	Gender		Length of Teaching			Education units	
	Man	Woman	0-10 Years	11-20 Years	21-30 Years	Bachelor	Master
Completely disagree	0%	0%	0%	0%	0%	0%	0%
Disagree	0%	57.5%	0%	0%	0%	0%	0%
Not completely agree	62.5%	42.5%	67.5%	72.5%	67.5%	92.5%	100%
Agree	37.5%	0%	32.5%	27.5%	32.5%	7.5%	0%
Completely agree	0%	0%	0%	0%	0%	0%	0%

Source: Researcher Data Analysis

The data in Table 2 shows that 37.5% of male teachers agree, and 62.5% do not entirely agree regarding aspects of learning interactions in the disaster education model for elementary school students. Meanwhile, 42.5% of female teachers did not completely agree, while 57.5% disagreed. Thus, the perceptions of male and female teachers tend to show general disapproval of the learning interactions carried out during disaster education. From the length of time, teachers with a teaching range of 0-10 years stated that 32.5% agreed and 67.5% not ultimately agreed; teachers with a range of 11-20 years stated that 27.5% agreed and 72.5% not ultimately agreed, while teachers with a teaching range of 21-30 years said 32.5% agreed and 67.5% not wholly agreed. Interesting findings are obtained from teacher education qualifications. Teachers with postgraduate education did not agree (0%), and all disagreed (100%) with existing learning interactions. In contrast, teachers with S1 education showed agreement (7.5%), and a majority disagreed (92.5%). Based on these findings, teachers are generally dissatisfied with the learning interactions applied in abomination learning.

This result is in line with the results of the interviews conducted. Teachers in elementary schools revealed that learning interactions in the context of disaster education for elementary school students were only

sometimes optimal, and several factors could cause this. One of these factors is that the level of interaction in learning needs to be increased to motivate students. A passive learning approach that does not involve students actively can reduce students' enthusiasm for understanding disaster material. More levels of interactivity can reduce the attractiveness of learning. The importance of variation in teaching methods is also emphasized as a factor influencing the inappropriateness of learning interactions. Disaster material taught using monotonous and less varied methods can lose students' interest. Students in elementary school tend to be more responsive to variations in teaching methods, such as through games, group discussions, and simulations.

Additionally, environmental factors, such as large class sizes or limited facilities, may limit the ability to create compelling interactions. Conditions that are less supportive in the learning environment, such as classes that are too full, can hinder the teacher's ability to interact optimally with each student. Furthermore, the lack of teacher training in implementing interactive and innovative learning methods can also be a factor that influences inappropriate learning interactions. Teachers who do not receive adequate training may rely on traditional teaching approaches, which may lack the necessary interactivity. To increase appropriate learning interactions in the context of disaster education in elementary schools, it is essential to identify and overcome these obstacles. In this way, students can better understand and respond better to disaster issues.

3.1.3. Teacher perceptions of aspects of the learning environment in disaster education

The following are the survey results of teachers' perceptions of the disaster education environment, sorted based on gender, period of teaching experience, and level of education.

Table 3. Trends in teacher perceptions of aspects of the learning environment

Category	Grouping						
	Gender		Length of Teaching			Education units	
	Man	Woman	0-10 Years	11-20 Years	21-30 Years	Bachelor	Master
Completely disagree	0%	0%	0%	0%	0%	0%	0%
Disagree	0%	70.0%	0%	0%	0%	0%	0%
Not completely agree	87.5%	30.0%	65.0%	77.5%	67.5%	65.0%	100%
Agree	12.5%	0%	35.0%	22.5%	32.5%	35.0%	0%
Completely agree	0%	0%	0%	0%	0%	0%	0%

Source: Researcher Data Analysis

The data in Table 3 shows that 12.5% of male teachers agree, and 87.5% do not entirely agree regarding aspects of the learning environment in the disaster education model for elementary school students. Meanwhile, 30.0% of female teachers did not completely agree, while 70.0% disagreed. Thus, the perceptions of male and female teachers tend to show general disapproval of the learning environment implemented during disaster education. Of the years of teaching, teachers with a teaching range of 0-10 years stated that 35.0% agreed and 65.0% not ultimately agreed; teachers with a range of 11-20 years stated that 22.5% agreed and 77.5% not ultimately agreed, while teachers with a teaching range of 21-30 years said 32.5% agreed and 67.5% not wholly agreed. Looking at the educational aspect, 35% of undergraduate teachers agreed, 65.0% did not wholly agree, 0% of teachers with master's qualifications agreed, and 100% did not completely agree. From these results, there is a tendency for teachers' perceptions to state that they disagree with the current form of the disaster education environment.

This result is in line with the results of interviews conducted by researchers. Elementary school teachers stated that the disaster studies learning environment was unsuitable for several reasons. They point out that the physical facilities used for disaster education may need to be improved. Small classrooms, lack of facilities, or absence of necessary equipment can hinder the effectiveness of the learning process. When students do not have adequate access to necessary equipment or facilities, they may face difficulties following the learning material. In addition, teachers highlight the lack of support from the school environment and parents as a factor that makes the learning environment inappropriate. If schools do not give enough priority to disaster education, such as not devoting enough time to this subject, students may not take this material seriously. In addition, when parents are not actively involved in supporting disaster education at home, this can reduce the impact of the learning provided at school.

Teachers also highlighted that the need for well-integrated curriculum development could be another factor that makes the learning environment less suitable. If disaster material is not aligned effectively with the elementary school curriculum, students may not be able to see clear connections between disaster education and other subjects they study. As a result, they may feel that disaster education is an isolated addition to the elementary curriculum. In addition, teachers stated that the lack of training and support for teachers in teaching disaster material could also affect the learning environment. Teachers who feel confident or need to be sufficiently prepared to deliver disaster material may need help creating an effective learning environment. Therefore, it is essential to pay attention to and improve the learning environment's conditions to meet the needs of disaster education in elementary schools. The lack of training and support for teachers in teaching hate materials can affect the learning environment. Teachers who feel less confident or not ready to deliver hateful materials may need help to create an effective learning environment. This condition includes improving physical facilities, more robust support from schools and parents, developing an integrated curriculum, and training teachers to be more competent in delivering disaster material.

So overall, from the aspects of teaching materials, learning interactions, and the learning environment, teachers have a perception that they tend to disagree with these components in the disaster education process in elementary schools.

3.2. Discussion

The research findings state that elementary school teachers need better perceptions of the disaster education process for elementary school students. The results of previous research support these findings—research conducted (Erdur-Baker, 2015) studied teacher assessments of disaster education objectives. The results of this research reveal that there is not a single disaster education objective that is considered a goal that is truly clear, measurable, and achievable by teachers. As a result, a more detailed, measurable, and entirely achievable goal is expected to improve the effectiveness of hatred learning that covers all areas of learning, such as cognitive, emotional, and psychomotor. This result aims to improve the quality of disaster education, which covers all learning domains, such as cognitive, affective, and psychomotor aspects. The limitation of this research is that it only examines the aspect of disaster education objectives, which, in general, is that the objectives of disaster education are still unclear.

Research conducted by (Tuswadi & Hayashi, 2014) examined disaster prevention education in elementary schools in the Mount Merapi area, which focused on student views and teacher performance. The results of the research indicate that although students in the schools that are research subjects have received lessons about natural disasters and how to prevent them for many years, either through an integrated approach or an isolated approach, they still face challenges related to knowledge, attitudes and effective behavior towards natural disasters. This problem may arise because more effective disaster prevention teaching is needed. After all, the current approach relies on textbooks and pictures as teaching tools. In addition, these findings also highlight that teachers' knowledge and skills related to disaster prevention teaching need to be improved, and this is related to the need for more training received by teachers. From the research results, the aspects studied are the learning methods used in the disaster education process.

From two previous research findings related to teacher perceptions, it was stated that the goals of disaster education still needed to be clarified, and the learning methods used were still not in line with the researchers' findings. Both studies depict a similar situation regarding a need for more clarity in the objectives of disaster education and the inappropriateness of the learning methods used. Regarding the teaching material aspect, there needs to be more clarity in formulating learning objectives, indicating that the disaster teaching material presented to elementary school students needs clear, measurable objectives and covers all necessary aspects, including cognitive, affective, and psychomotor aspects. On the other hand, research highlighting the problems of learning interactions shows that the learning methods used in disaster education may need to be revised or according to students' needs. This condition concludes a need for more interactive elements, variety, and student involvement in the learning process. In other words, there needs to be a better understanding of the teaching material delivered and the learning methods applied in the context of disaster education in elementary schools.

Apart from having similarities, this research also found new findings regarding teachers' perceptions of disaster education models in elementary schools, as seen from teaching materials, learning interactions, and aspects of the learning environment. Teachers tend to disagree with the disaster teaching materials currently used. One of the reasons why elementary school teachers state that disaster teaching materials are inappropriate is the level of difficulty, which is often too technical or complex for students at the elementary school level. This material is not aligned with children's cognitive and emotional development at that level. When the

material is too scary or scary, this can hurt students' psychological well-being. Ideally, disaster teaching materials presented to elementary school students should be designed considering the student's cognitive and emotional development (Noviana et al., 2021). The material must be designed to be easy for children to understand, not too technical, and not cause excessive fear. More than that, the learning approach should be more interactive and involve students actively in the learning process (Nurfalah et al., 2021a; Sakurai et al., 2018). This condition can include games, simulations, roles, and activities that allow students to participate in understanding actively and responding to disaster issues. In this way, teaching materials can be adapted to better suit the developmental needs of students at the elementary school level and be more effective in providing an understanding of disaster risks and the actions that must be taken.

Other research results related to disaster teaching materials indicate that the problem is related to the need for more integration of disaster materials into the elementary school curriculum. This lack of integration can reduce teacher motivation to teach it. In addition, there are limited resources, including a need for more relevant teaching materials and training for teachers in teaching disasters. Lack of parental involvement in children's disaster education can also impact their understanding. Elementary school students are at different stages of cognitive and emotional development, where generally, they are still developing abstract and critical thinking skills. Material that is too technical or complex may be difficult for them to understand because it only partially suits their level of understanding and analytical skills. In disaster education, material that is too technical can include scientific jargon, complicated concepts, or details that require a deep understanding of specific sciences that have not been taught or cannot be understood by students at that age. As a result, students may feel confused, frustrated, or even afraid, which not only hinders the learning process but can also cause unnecessary anxiety. Teachers emphasize the importance of providing examples of positive behaviour about disasters. Ideally, disaster teaching materials should be integrated effectively into the elementary school curriculum (Sujarwo et al., 2018; Winarni & Purwandari, 2018). This integration can be achieved by designing a curriculum that incorporates disaster education as an inseparable part. Educational resources, such as textbooks and learning materials, should be available and appropriate to the needs of students at the elementary school level. Teachers must also receive adequate training in delivering disaster material, including interactive and innovative learning methods (Şeyihoğlu et al., 2021; Shiwaku, 2014).

It is also essential to involve parents in children's disaster education (Harada et al., 2023; Kawasaki et al., 2020). They can be given information and support to support children's understanding of disaster risks. Teachers also need to provide examples of positive behaviour related to disasters. Disaster teaching materials should be designed in such a way as to encourage student participation in planning and decision-making related to disaster strategies (Asrizal et al., 2023). This concept will help students be more actively involved in understanding and responding to disasters. With these steps, disaster education in elementary schools can become more effective and appropriate to students' needs and developmental stages.

Another new finding in this research is the teacher's perception of the learning interaction aspect. The findings indicate that teachers' perceptions tend to disagree with the current form of disaster education interaction. The problem regarding interaction in disaster education in elementary schools is that the current level of interaction needs to be improved to motivate students. A passive learning approach that does not encourage students' active participation makes them less enthusiastic about understanding disaster material. Apart from that, this also reduces the attractiveness of learning, considering that students respond more positively to interactive learning methods involving them actively. The expected approach to learning disasters in elementary schools is to increase the level of interaction to involve students more actively (Nurfalah et al., 2021). This condition can be achieved by applying more interactive learning methods like games, group discussions, simulations, and problem-based projects. These methods allow students to participate actively, work together, and deepen their understanding of disaster issues in more depth. With a more interactive learning approach, students will be more motivated and involved in understanding disasters, ultimately increasing their understanding of disaster risks and the actions that must be taken (Diah et al., n.d.; Kariadi et al., 2020). Other obstacles found were related to the learning environment in elementary schools. Environmental factors, such as large class sizes or limited facilities, can hinder the creation of effective interactions. Conditions that are less supportive in the learning environment, such as classes that are too full, can prevent teachers from interacting optimally with each student in the disaster education process. Apart from that, a lack of training for teachers in implementing interactive and innovative learning methods can also be a factor that influences discrepancies in learning interactions. Teachers who do not receive adequate training may rely on traditional teaching methods that may be less likely to support the required level of interactivity. It is essential to identify and overcome these obstacles to increase appropriate learning interactions in the context of disaster education in elementary schools. These efforts include improving physical facilities that support a better level of interactivity, developing a curriculum that emphasizes more interactive learning

methods, and providing training to teachers to apply these learning methods (Shah et al., 2021). In addition, more efficient classroom management and, where possible, reducing class sizes can help create an environment that better supports interaction in the learning process. With these efforts, students can more effectively understand and respond to disaster issues.

New findings in this research can be seen from teachers' perceptions of aspects of the disaster education environment. The learning environment for disaster education in elementary schools faces several issues that need to be improved. Teachers noted several reasons why this learning environment was deemed unsuitable. One problem is related to physical facilities, such as narrow classrooms, lack of facilities, or equipment needed to teach disaster material. These limitations can hinder the effectiveness of the learning process, and students may need help following the course material if there is adequate access to the required equipment and facilities. Apart from that, the lack of support from the school environment and parents is also a concern. If schools do not give enough priority to disaster education, for example, by not devoting enough time to this subject, students may not take this material seriously.

Moreover, if parents are not actively involved in supporting disaster education at home, this can reduce the impact of the learning provided at school. Improvement measures to create a suitable learning environment include increasing the physical facilities and equipment needed for disaster education in elementary schools. In addition, it is essential to prioritize disaster education by integrating it into existing curricula (Atmojo et al., 2023). These conditions include providing sufficient time for disaster subjects. Parents also need to be invited to actively support disaster education at home by providing information and support to their children (Novia et al. et al., 2021; Zunariyah et al., 2018). With these efforts, the learning environment can become more appropriate and supportive of students' understanding of disaster risks and the actions that must be taken.

One problem teachers emphasize is the need for well-integrated curriculum development. When disaster material is not integrated effectively into the elementary school curriculum, students may need help seeing clear connections between disaster education and other subjects they study. As a result, students may think disaster education is separate and unrelated to the elementary curriculum. The elementary school curriculum should be well designed by integrating disaster material effectively and coordinating with other subjects. This condition will help students more clearly see the relationship between disaster education and other aspects of the curriculum so they do not consider them separate things (Sujata, S, 2010). Through these actions, the disaster education environment in elementary schools can be improved and better support students' understanding of disaster risks and the actions that need to be taken.

This fact is the scientific reason that elementary school teachers tend to disagree with the disaster education process in elementary schools. This tendency to disagree is seen in teaching materials, learning interaction, and learning environments in disaster education.

4. Conclusion

Overall, it is stated that elementary school teachers tend to have a perspective that does not support disaster education in elementary schools, and this view is reflected in aspects such as teaching materials, learning interactions, and the learning environment currently used. This research recommends efforts to develop appropriate disaster education for elementary school students by paying attention to aspects of teaching material that are easy to understand and contextual, learning interactions involving the environment, and a learning environment that supports disaster education facilities.

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