Disaster Prevention and Risk Reduction Education Implementation in Special Education Schools in Indonesia: Teachers’ Challenges, Strategies, and Recommendations

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Abstract. Indonesia adopted the Comprehensive School Safety framework to increase the resilience of all its citizens to disaster. During a disaster, children with special needs and disabilities (SEND) are more likely to be abandoned. Hence, this research, targets to determine special education teachers’ disaster education plans and strategies, and the challenges they encountered in implementing Satuan Pendidikan Aman Bencana (SPAB). It was qualitative research that employed a purposive sampling technique in determining the study participants. The main participants were twenty-three (23) special education teachers and thirteen (13) school principals and community engagement officers from twelve (12) special education schools. Data gathering tools used were in-depth interviews, quick surveys, and observations. A qualitative descriptive approach was utilized in analyzing the data. The results build the evidence that amidst the country’s efforts over the past decades, children with SEND remain susceptible to disaster due to its delayed implementation in special education schools. A huge gap between the compliance of public and private special education units was identified. Implementation of locally adopted CSS was very recent. It was concluded that teachers’ competence influences mainly its implementation. Challenges were identified including the unavailability of Disaster Prevention and Risk Reduction Education (DPRRE) integrated modules, limited disability-inclusive teaching materials, and teachers’ limited training and knowledge about Disaster Risk Reduction and Management (DRRM). The findings suggest a necessity to evaluate the quality and suitability of education units’ compliance with the provisions of the SPAB program policy.

Keywords: Disaster prevention and risk reduction education, special education schools, strategy, challenges, teachers

Introduction

Countries in the Pacific region, the so-called "Ring of Fire" including Indonesia are highly exposed to various hazards such as volcanic eruptions, tsunamis, earthquakes, and floods. Loss and damages are inevitable for the citizens. Research revealed that persons with disabilities (PWDs) living in this region damage and loss due to low participation and neglect of their needs in the majority of the situations during the official disaster risk reduction and management planning (UNISDR, 2013).
In Indonesia, students’ learning process in school is disrupted because when an earthquake and tsunami occur, disasters leave huge damage to building facilities and infrastructure, including school buildings (Ministry of Education and Culture, 2015). When public service facilities are damaged, daily activity is greatly affected including the education sector (Badan Penanggulangan Bencana, 2016). The country has acknowledged PWDs as one of the most vulnerable groups in emergencies, nevertheless, recognition in local government units received attention very recently (Pertiwi et al., 2020). Inadequate knowledge in accommodating the needs of the PWDs in Indonesia during and after a disaster, and the venerable fallacy about PWDs being weak and lacking increase their vulnerability to disaster (Rahmat et al., 2020).

The higher the exposure of children with disabilities to hazards and disasters the higher the chance they become more vulnerable to suffering during emergencies. Persons with disabilities must learn about disasters and how to be safe in the event of a disaster. A person who is well trained can better protect themselves and others. Special Education sector participation in disaster prevention, preparedness, and mitigation is very minimal even though persons with disabilities in the education sector suffer severely when a disaster strikes. Additionally, implementing DRR education is taxing for special education teachers since it requires individual modification and accommodation if necessary (Torani et al., 2019).

The research found that disaster impact in Indonesia lowers school enrolment rates, and poverty excessively aggravates the effect on low-income families (Rush, 2018). To protect its citizens, the Indonesian government ratified law No. 24 of the Year 2007 on Disaster mitigation. Based on its provisions, everyone has the right to receive education and training, and to improve skills in the implementation of disaster management, both in pre- and post-disaster situations. The education sector has a crucial role in achieving the broader target of disaster risk reduction and management programs. Disaster risk reduction education can be introduced to all students through integration into school and extracurricular activities (Ministry of Education and Culture, 2015).

According to the report of the Ministry of Education and Culture (2019), 1% of the damaged educational facilities, when disasters struck the country in the past years, are special education school facilities (Disaster Resilient Education, 2019). In Indonesia, based on a 2018 survey, there are around 460,000 7-18 years old children with disabilities. It comprises about 0.8% of the country’s population (Badan Pusat Statistik, 2018). Children with disabilities are confronted with further challenges due to their functional limitations and other societal barriers. Neglect, separation from families, insufficient inclusive humanitarian response, and development programs are examples of children with disabilities’ rights violations (Schiariti, 2020).

In increasing resilience toward disaster, disaster prevention, and mitigation, the (SPAB). The Minister of Education and Culture No.33 of the Year 2019, SPAB Program Implementation states that the SPAB program is conducted in pre, during, and post-disaster situations. In running the disaster risk reduction (DRR) education program, teachers and SPAB focal persons utilize various teaching media to increase teaching-learning activities. Appropriate use of teaching media in the implementation of DRR education has a huge impact on the sustainability of the SPAB program. Schools are responsible for the actualization of three main pillars of the SPAB program; safe school facility (1st pillar), disaster management in schools (2nd pillar), and disaster prevention and risk reduction education (3rd pillar) (Disaster Resilient Education, 2019).

However, the local government remains uncertain to invest in Disaster Risk Reduction (DRR) education which interrupts the progress of DRR education in the country. Schools are profoundly reliant on local government initiatives making the institutional gap even worse (Amri et al., 2022).
Main disasters from preceding years such as the 2006 Yogyakarta earthquake damaged and destroyed a total of 2,900 educational facilities (Disaster Resilient Education, 2019), and 949 of these were educational infrastructures. The Bantul area suffered enormous damage among the districts in Yogyakarta, wherein the likelihood of schooling was severely affected (BAPPENAS, 2006). During the previous eruption of Merapi, schools were reported to close because of the damage, and in other areas, school facilities were used as evacuation facilities which brought an adverse impact on education (Setiadi, 2014).

In 2006 post-earthquake, many efforts from local government agencies of the Special Region of Yogyakarta and local non-government organizations for recovery and development were recorded including contingency planning and disaster education. In the region, the local Provincial Disaster Mitigation Agency (BPBD) plays an important role to increase the resilient attitude towards disaster, aid in facilitating the needs of the schools, and capacitating the stakeholders in disaster education (Rifaldi et al., 2023). Coordination on the established disaster risk reduction forum in the region is quite effective in terms of goal clarity, organizational structure, defined roles, authority, and communication (Fitriyanto et al., 2017). Meanwhile, the disaster education plan in several special education units in the Special Region of Yogyakarta is underdeveloped due to the very recent training of the teachers in the implementation of the SPAB program (Indriasari et al., 2019).

Research revealed that several special education units in Bantul district have a moderate to high probability of suffering earthquake-related damage which increases the susceptibility of children with (SEND) to disasters. A disproportional gap in terms of disaster prevention and risk reduction education in public and private special education units’ efforts was identified (Kenari No et al., 2021; Lathief et al., 2022). In Sleman district there is limited study on the implementation of Satuan Pendidikan Aman Bencana (SPAB) in special education units. Nevertheless, the research found that in several general education units’ contexts in the district, the schools have moderate to high readiness in response to the disaster (Kurniawan et al., 2021; Kurniawan et al., 2022; Roswanto et al., 2022) but implementation effectiveness has low percentage (Wicaksono et al., 2022). Meanwhile, based on the 2020 report of the Provincial Disaster Mitigation Agency (BPBD), only three special education units from Bantul, Kulon Progo, and Sleman districts were recognized as disaster-safe schools (Kenari No et al., 2021).

Gaps were identified such as a lack of studies on the progress of the implementation of the SPAB program in the special education units are conducted in all three highly disaster-prone districts, most of the studies conducted were focused mainly in one or two school-based compliance, implementation gaps between units, disaster plans in special education units are underdeveloped. Therefore, to provide recent data, this study aims to describe and identify the current progress in special education schools of the three highly disaster-prone districts of the Special Region of Yogyakarta in terms of teachers’ strategies, challenges and recommendations.

**Methods**

This study is a qualitative research design. Using qualitative research the researchers seek to understand the perspective of the teachers based on their experience and best practices (Schonfeld & Dreyer, 2008). A qualitative method was considered more relevant to undertake this research as it allowed greater capacity to gain more depth and meaning based on an individual’s experiences of teachers in terms of the challenges, strategies, and recommendations in the implementation of the disaster prevention and risk reduction education as opposed to a quantitative approach which is more structured, broader in scale, and more numerically based.

The research was conducted in the Special Region of Yogyakarta. The location was chosen due to the potential rate of a major disaster in the province since Mount Merapi,
one of the most active volcanoes in Java Island is situated in the region. It could bring higher risk in the education sector in the region thus, as a form of mitigation measure, this research aims to determine and understand the special education teachers’ challenges, strategies, and recommendations in the implementation of disaster education among children with disabilities.

In choosing the sample, the researcher used the purposive sampling method. The purposive sampling technique, also called judgment sampling, is the deliberate choice of an informant due to the qualities the informant possesses. It is a non-systematic technique that does not require fundamental theories or a set number of informants (Tongco, 2007). In this study, criteria were set to guide the purposive sampling in selecting the sample including (1) special education teachers, (2) teachers handling special class, (3) teachers trained in SPAB program, and (4) teachers with minimum involvement or background in school disaster education. Moreover, in selecting the participating schools, this study employed four criteria for inclusion including (1) located in disaster-prone areas in Special Region of Yogyakarta, (2) participated in any SPAB training, (3) implemented the SPAB program, and (4) public and private special education school.

In undertaking this study, the researcher conducted in-depth interviews among the twenty-three (23) special education teachers, six (6) school principals, and seven (7) other school staff/personnel from twelve (12) public and private special education schools around the disaster-prone districts in the Special Region of Yogyakarta. The main respondents were the special education teachers, and the data from the school principals and other school staff/personnel were used for data triangulation to ensure the validity of the data.

Lastly, the research tool used in analyzing the data is the content analysis and qualitative descriptive method. Through the content analysis method, data can be organized, meaning can be elicited from the data collected and realistic conclusions can be drawn from it.

Data from the interviews were analyzed using content analysis method and quantified using frequency table. Below is the data analysis procedure used through the content analysis method of (Bengtsson, 2016);

Stage 1 is decontextualization. The researcher familiarized with the data and read through the transcribed text to obtain a sense of the whole or learn what happened. Then, the data were broken down into smaller meaning units. Meaning units are those insights that contain what the research needs. It could be phrases, sentences, or paragraphs containing aspects related or connected to each other answering the questions set out.

Stage 2 is recontextualization. The final list of the meaning units and the original text was re-read. The meaning units are highlighted with different colors based on their relation to the questions asked in this study.

Stage 3 is categorization. The meaning units were condensed. The data were divided based on the questions asked during data gathering. Then, categories were identified. Each category was analyzed and filtered into main categories.

Stage 4 is the compilation. Each participant’s response is categorized and counted as the frequency or occurrence of the categories. After quantifying the interview data, the statistical instrument discussed beforehand was employed to determine the correlations between variables (Bengtsson, 2016).
Results and Discussion

This study describes and identified the critical challenges that teachers experience in relation to the implementation of disaster prevention and risk reduction education in the context of special education schools. The results provide evidence that the implementation status of the SPAB program in the Special Region of Yogyakarta varies between public and private special education schools. Several schools have implemented SPAB provisions in recent years, however, in relation to the prevention and risk reduction education both public and private special education schools have not reached the full completion of the provisions. The incomplete status of the implementation of disaster education in particular, thereby creates a vulnerable situation for students with SEND.

The results are divided into several sections:
1. Strategies to Integrate Disaster Education into the Curriculum

   In this section, firstly the researcher determines the strategies to be able to identify if there are changes in teachers’ strategies in integrating disaster education into the curriculum. Thus, this section is divided into two parts.

   a. Teachers’ Strategies in Providing Disaster Education for Students with SEND

   Table 1. Teachers’ Strategies in Providing Disaster Education among their Students with SEND

<table>
<thead>
<tr>
<th>Teachers’ Strategies in Providing Disaster Education among their Students with SEND</th>
<th>Private Special Education Teachers (%)</th>
<th>Public Special Education Teachers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing functional simulation activities</td>
<td>75</td>
<td>29</td>
</tr>
<tr>
<td>Ensuring the integration of disaster education into the existing curriculum</td>
<td>25</td>
<td>43</td>
</tr>
<tr>
<td>Establishing a strong partnership with DRRM Council in providing disaster education to students with SEND</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Utilizing different instructional techniques that accommodate the needs of students with SEND</td>
<td>0</td>
<td>14</td>
</tr>
</tbody>
</table>

   Based on the responses of the teachers both from public and private schools, the researcher identified four teachers’ strategies for providing disaster education among students with SEND. Based on the responses of the public special education teachers, their major strategy is ensuring the integration of disaster education into the existing curriculum (43%), increasing functional simulation activities (29%), establishing a strong partnership with DRRM Council (BPBD) in providing education for students with SEND (14%) and utilizing different instructional techniques that accommodate the needs of the students with SEND (14%).

   On the contrary, in the responses of the private special education school teachers, there are only two strategies that they employ in teaching disaster education among students with SEND. The private school teachers prioritize increasing functional simulation activities (75%), and ensuring the integration of disaster education into the existing curriculum (25%).
In Special Region of Yogyakarta, most special education teachers implement disaster education by increasing the functional simulation activities and the integration into the exiting curriculum. Data showed that teachers yearn to ensure that instructional method in implementing disaster education is suitable to the need of their students with SEND, also, many believe that experiential learning through simulation activities is one of the effective strategies in their context. It is believed that the effectiveness of these strategies is maximized when the quality of educational content and tools are accompanied by efficient teaching and learning policies and dynamic and ongoing educational disaster planning with students’ participation (Aghaei et al., 2018; Sheehy et al., 2022).

Research showed that there are various methods and strategies in disaster education, and there is no better than the other strategy to educate the vulnerable people (Torani et al., 2019). Teachers have different backgrounds in knowledge and strategies; thus, it is crucial that teachers be taught of different materials or strategies in disaster education in order to reach the desired level of disaster preparedness in an emergency (Chondekar et al., 2018).

b. Changes in Teachers’ Strategy in Providing disaster Education among the students with SEND

Table 2. Changes in the Teachers' Strategy in Providing Disaster Education among the students with SEND

<table>
<thead>
<tr>
<th>Changes in the Teachers' Strategy in Providing Disaster Education among the students with SEND</th>
<th>Private Special Education Teachers (%)</th>
<th>Public Special Education Teachers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensuring the suitability of the instructional method (student-focused)</td>
<td>50</td>
<td>57</td>
</tr>
<tr>
<td>No Changes in the Existing Strategy</td>
<td>38</td>
<td>43</td>
</tr>
<tr>
<td>Including instructional method evaluation to ensure its effectiveness</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Targeting behavioral change among the students with SEND</td>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>

The participants were asked if there are changes in their current strategy to ensure students with SEND increase their knowledge about disaster through an integrated curriculum. Based on their responses, there are three points that are more likely improvements not changes in the strategy. But, the responses from public and private special education teachers vary. Public teachers based on the data above have mentioned only one improvement in their strategy which is ensuring the suitability of the instructional method, making it more student-focused (57%). Other public teachers said that there is no change in the existing strategy (43%).

Furthermore, private special education school teachers’ main strategy is similar to the public special education teacher, ensuring the suitability of the instructional method leading to more student-focused learning (50%). Other improvements in their strategies according to the private school teachers are to include evaluation of the instructional method to ensure its effectiveness (6%) and targeting behavioral change among the students with SEND (6%). The remaining 38% of the private special education teachers said that there are no changes in their existing strategy.

The improvements in the teachers’ strategies could be associated with the recent trainings that they received early 2023. In general, teachers’ training provides room to evaluate their current strategy based on the existing guidelines and needs of the students in the context (Chao et al., 2017).
2. Challenges/Issues in the Implementation of DPRRE

In this study, challenges are deemed in terms of (1) the teaching and learning process, (2) teaching resources and materials, and (3) their own understanding/knowledge of DRRM.

a. Teaching and Learning Process

Table 3. Challenges of Teachers in Terms of Teaching and Learning Process in Providing Disaster Education among the Students with SEND

<table>
<thead>
<tr>
<th>Challenges of Teachers in Terms of Teaching and Learning Process in Providing Disaster Education among the Students with SEND</th>
<th>Private Special Education Teachers (%)</th>
<th>Public Special Education Teachers(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inappropriate Instructional Materials and Complexity of Modification of Instruction Specific to Each Student with SEND</td>
<td>38</td>
<td>0</td>
</tr>
<tr>
<td>Minimal Comprehension and Learning Capability of students with SEND</td>
<td>31</td>
<td>71</td>
</tr>
<tr>
<td>Limited Physical Capability of the students with SEND</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Communication Gap between Teachers and Students with SEND</td>
<td>0</td>
<td>29</td>
</tr>
<tr>
<td>Inadequate Facilities Supporting the Learning Instruction</td>
<td>13</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 3 presents the challenges or problems encountered by special education teachers from public and private schools. As shown in the fourth column, public special education teachers have identified only two main concerns in terms of the implementation of disaster prevention and risk reduction education among students with SEND. The majority of the public teachers (71%) stated that their main concern is the minimal comprehension and learning capability of the students with SEND. However, this is a common issue that special education teachers have encountered in their respective schools. It can be concluded that several teachers viewed this as the main issue due to their professional background. Several teachers from public schools that participated in this research are not degree holder of Special Education, the statement below support this idea.

“There’s a lot of problems, since I am not graduate of Special Education, so, here I learn from scratch.” (Ada banyak. Kebetulan karena saya bukan lulusan PLB, jadi disini saya belajar dari nol.- Pak Imadudin, 29).

The second concern of public special education school teachers is the communication gap between teachers and students with SEND. However, the teachers only mentioned the communication gap with deaf students. They discussed how difficult to contextualize disaster prevention and risk reduction among deaf students. It can be concluded that teachers’ difficulty is related to the minimal impact of disaster education due to the lack of facilities that must be in place to support their communication. Based on the researcher’s observation only a few schools have lights for warning systems, and even if lights are available, it was not functioning or are positioned improperly. The majority of the students of one of the public schools are deaf students and they had issues with the warning system. Furthermore, the private special education teachers have identified four issues in terms of the teaching and learning process in providing disaster education among students with SEND. The majority of private school teachers (38%) stated that instructional
materials are inappropriate to the students with SEND and modification of the instructional materials is complex.

Several of them (31%) also mentioned that the main challenge in the implementation of disaster education is the minimal comprehension and learning capability of students with SEND. In addition, a few of the private school teachers (14%) said that physical limitations for students with SEND and inadequate facilities supporting the learning instruction are other challenges that they face in implementing disaster education.

The data above showed that public and private special education teachers have varying challenges in implementing disaster education. In retrospect, the teacher’s main challenges that emerged was the inappropriateness of DPRRE-integrated teaching materials related to the needs of students with SEND, and the complexity of the modification process. In this regard, with the challenging roles of special education teachers, increasing their competence is essential to enhance the effectiveness of their strategies (Kuyini et al., 2016).

In addition, teachers perceived the minimal comprehension and learning capacity of students with SEND as the main issue. This contradicts the view of Rawls (1999) about the lottery birth, expressing that it was morally unacceptable to restrain the opportunity for an individual due to his or her acquired disadvantage at birth (Devecchi et al., 2013; Rawls, 1999). Thus, the researcher believes that teachers’ perceptions remain negative toward the students with SEND which is separate concern.

b. Teaching Resources and Materials

<table>
<thead>
<tr>
<th>Challenges of Teachers in Terms of Teaching Resources and Materials in Providing Disaster Education among the Students with SEND</th>
<th>Private Special Education Teachers (%)</th>
<th>Public Special Education Teachers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unavailability of disaster education Integrated Module for Students with SEND</td>
<td>31</td>
<td>14</td>
</tr>
<tr>
<td>Inadequate Knowledge of Special Education Teachers in Developing Teaching Materials Related to disaster education</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Limited Disability-Inclusive Teaching Resources and Materials</td>
<td>56</td>
<td>57</td>
</tr>
<tr>
<td>No Problems Encountered</td>
<td>0</td>
<td>29</td>
</tr>
</tbody>
</table>

As shown in the table above, public special education school teachers have mentioned two main challenges they encountered in terms of disaster education teaching resources and material for their students with SEND. The majority of them (57%) stated that disability-inclusive disaster education teaching resources and materials and 29% of them said that they have encountered no problem in terms of teaching resources and materials. The other 14% of the public teachers believed that what challenged them is the unavailability of the disaster education integrated module for students with SEND.

Meanwhile, private special education teachers’ responses can be categorized into three ideas namely limited disability-inclusive teaching resources and materials (56%), unavailability of disaster education integrated modules for students with SEND (31%), and lastly, inadequate knowledge of special education teachers in developing teaching materials related to disaster education (13%).
Technically, abundant data and online resources about disaster prevention and risk reduction can be searched. Whereas, not all online resources available are evidence-based. Social media is evolving as the main source of information in this age. The researcher argues that the challenge of having limited disability-inclusive teaching materials about DRRM lies in teachers limited access to evidence-based disability-inclusive teaching resources and broad scope of disaster education covering various disciplines (Kitagawa, 2021). Thus, making it vital for school management to comply the provisions under SPAB, to determine which key elements of disaster risk reduction must be prioritized. Also, previous research heeds the need to be cautious with the associated risks regarding the dissemination of false or erroneous information (Alexander, 2014). In addition, an intriguing concern emerged about the conflicting disaster response knowledge gained by the teachers from various resource speakers. It can be associated with the lack of standardized disaster guidelines and curricula in the country (Suroso et al., 2022).

c. Teachers’ Knowledge about Disaster Prevention and Risk Reduction Education

Table 5. Challenges of Teachers about their Knowledge in Disaster Prevention and Risk Reduction Education

<table>
<thead>
<tr>
<th>Challenges of Teachers about their Knowledge in Disaster Prevention and Risk Reduction Education</th>
<th>Private Special Education Teachers (%)</th>
<th>Public Special Education Teachers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Different Levels of Teachers’ Knowledge of Disaster Education</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>Limited Teachers’ Perspective in terms of Disaster Mitigation</td>
<td>44</td>
<td>29</td>
</tr>
<tr>
<td>Limited Opportunities in Collaboration with other Institutions to Increase Teachers’ Knowledge and Capacity</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Conflicting Disaster Mitigation Perspectives and Knowledge Gained from Various Resource Speakers</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Limited Training for Teachers to Increase the Knowledge and Application</td>
<td>18</td>
<td>29</td>
</tr>
<tr>
<td>No Problems Experienced</td>
<td>0</td>
<td>28</td>
</tr>
</tbody>
</table>

In the table above it can be seen that public special education teachers have determined three problems or challenges in terms of their knowledge of disaster education including limited training for teachers to increase their knowledge and capacity (29%), limited teachers’ perspective in disaster mitigation (29%) and conflicting disaster mitigation understanding and knowledge from various resource speakers (14%). Below are several statements from the teachers that implied the above challenges.

“Difference in perspective, there are several resource speakers that have different views and perceptions, for instance in one situation A said that during an earthquake we have to turn off the electricity and we cannot use an electric warning system, however, B believes otherwise.” -Ibu Anita, 33

“The training from BPBD (DRRM Council) was limited to only five (5) teachers, all teachers should receive training and it must be regular basis annually.” -Pak Aminudin, 35.

“The problem is my knowledge in disaster mitigation and response for students with SEND which is needed because for non-disabled persons it is difficult how much more for children with SEND.” -Pak Irfan, 34.
But, 28% of the public teachers encountered no problem in terms of their knowledge of disaster education.

On the contrary, the responses of private special education school teachers implied four (4) ideas about the challenges or problems of teachers in terms of their knowledge of disaster education. The majority of them (44%) implied in their statement that they have limited perspectives on disaster mitigation.

“Lack of knowledge on ways to respond when disaster strikes.” -Ibu Ummi, 37.

The other three are different levels of teachers’ knowledge (25%), limited teachers’ training (18%), and limited opportunities for collaboration with other institutions (13%).

“There should be disaster assembly (forum) which involved special education schools in its locality for communication regarding the disaster.” -Pak Suyitno, 22.

“The problem is my way to teach is different from other teachers, so, the student must really understand. In our school we have never held official training ourselves.” -Ibu Sri, 55.

3. Most Effective Recommendations

Table 6 presents the most effective recommendations that special education teachers believe will impact and guide the Disaster Prevention and Risk Reduction Education (Third Pillar) Implementation.

<table>
<thead>
<tr>
<th>Recommendations of Special Education Teachers</th>
<th>Public and Private Special Education Teachers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve the quality of Disaster Risk Reduction and Management (DRRM) Facilities</td>
<td>13</td>
</tr>
<tr>
<td>Provision of Disaster Education Integrated Disability-Inclusive Curriculum</td>
<td>48</td>
</tr>
<tr>
<td>Ensuring the continuous inter-agency collaboration for DRRM support</td>
<td>13</td>
</tr>
<tr>
<td>Increase Government Support for DRRM Facilities</td>
<td>9</td>
</tr>
<tr>
<td>Provision of Regular Teachers’ Training on DRRM</td>
<td>22</td>
</tr>
</tbody>
</table>

As shown above, five recommendations emerged from the responses of the special education teachers which they believe to be most effective, and impactful and will guide the implementation of disaster prevention and risk reduction education (third pillar).

The provision of disaster education integrated disability-inclusive curriculum (48%) ranked first among the five recommendations. Then it is followed by the provision of regular teachers training in disaster risk reduction and management (22%), improving the quality of DRRM facilities (13%), ensuring the continuous inter-agency collaboration for DRRM support (13%) and lastly, increasing government support on providing DRRM facilities in special education schools.

Disaster education implementation success is associated with the teachers’ competencies as it requires the teachers to be more innovative to guarantee that students with SEND increase their knowledge about disaster response and develop the necessary skills to keep themselves safe in an event of a disaster (Sarah et al., 2022). The findings of this study also determine the challenges that teachers in special education schools faced during the previous implementation of disaster education. It suggests that the complexity of modification and accommodation of instructional materials is the primary challenge that
most teachers encountered. However, several of the teachers have identified that difficulties experienced were due to the minimal comprehension and learning capability of students with SEND which is in fact a challenge for all special education schools (Columbus et al., 2017). These provided empirical evidence that teachers need continuous enrichment to increase their competencies and enhance their mastery of disaster education. As recommended by the teachers, training on DRRM should be prioritized to ensure the success of disaster education.

According to a previous study, they found that compliance of the school that participated in their study related to the provisions on safe school facilities or first pillar is not according to the national standard (Andini & Widowati, 2021). The result of the current study differs since it investigates disaster prevention and risk reduction education (third pillar) but with reference to the first and second pillars. Also, it focused on the implementation in special education schools which have diverse contexts compared to the setting of the previous study. Results indicate that most of the special education schools pursued the completion of the provisions stated in the Disaster Safety Education Unit, however, between public and private special education schools a gap remains as challenge. Most public special education schools are nearly completing the provisions in terms of school safety (1st pillar) and school disaster management (2nd pillar) while private special education schools need more effort to comply with all the provisions to ensure the safety of children with SEND in the education unit. Institutional gaps between private and public educational units could cause a delay in upscaling disability-inclusive disaster education in the country. Disaster experts discussed that schools are heavily dependent on local government initiatives (Amri et.al., 2022). Based on one of the previous studies, the implementation of school disaster management or the second pillar in a regular school in West Nusa Tenggara, the school implemented the school disaster management without reference to the stated provisions on the existing policies (Ariani, 2021). In comparison to the current study, it was found that special education schools refer to the provisions, however, both public and private education sectors have not completely complied with all the provisions and are currently in the process.

The progress of compliance with the general provisions of DESU/SPAB has a great influence on the success of implementing the DPRRE (third pillar). Hence, DPRRE implementation in special education schools is not meeting all the standard provisions especially the contextualization of disaster key messages in their own local context and settings. Also, in the private sector, the perception gap in terms of integration of DPRRE into the curriculum between school principals and special education teachers was identified. Yet, the most complied provision under the third pillar is disaster simulation, which was conducted in most of the special education schools.

Whereas, private and public special education school teachers encountered difficulty in integrating DPRRE into the existing curriculum based on the teachers’ perspective. Several of them integrated the DPRRE into the intra-curricular activities with very limited resources. Likewise, the teachers perceived that a disaster educational plan that works in the context of special education schools is intensive integration of disaster education in extracurricular and the provision of more practical training among students with SEND. In teaching students with SEND, minimizing the distance between the practice context and the application context is significant (Silberman, 2007). However, many disasters are not predictable, also, application in the context of disaster is what we hope not to happen. Yet, hazards and threats are around us, thus, practice or disaster simulation should be continuous and anticipation should increase (Tanaka et al., 2010; Watkins & Bazerman, 2003).

This study revealed teachers’ perceptions remain negative toward the students with SEND. Also, the Individuals with Disability Education Act (IDEA) stated that learning can
be more effective when teachers have high expectations and ensure students with SEND access to the curriculum to the maximum extent possible (Mcgrew & Evans, 2004).

Furthermore, the research found out the main challenges of special education teachers in the implementation of DPRRE in reference to teaching materials and resources are the unavailability of DPRRE-integrated modules for students with SEND and limited disability-inclusive teaching resources and materials. On the other hand, limited perspectives in disaster mitigation, and limited training about disaster risk reduction and management (DRRM) are identified as the primary challenges of teachers in regard to their knowledge and understanding of DRRM.

Furthermore, in contrast to the purpose of the previous studies of Indiasari & Kusuma (2019) and Taqi & Setyowati (2022) that analyzed the compliance, readiness, and preparedness of the special school in disaster management, the current study purposefully explores and determine the current implementation progress of disaster education in terms of compliance, and special education teachers’ challenges in the implementation of disaster education to give them the opportunity to be heard. Challenges identified in the previous studies were broad in scope and focus on funding issues (Pahleviannur & Hafida, 2022), whereas, the current study identified a very specific challenge encountered by teachers in terms of disaster education.

In the previous research it was identified that in terms of disaster education in general, there is an absence of a platform for teachers to share their experiences. Therefore, through this research special education teachers were provided an opportunity to be heard. It was found out that teachers believe that the provision of disaster education integrated disability-inclusive curriculum would be impactful, and the quality of DRRM facilities appropriate for the need of the students with SEND must be improved accordingly. These are the two main recommendations from the perspective of special education teachers. Others are ensuring the continuous inter-agency collaboration for DRRM support, increasing government support in establishing disability-appropriate DRRM facilities, and provision of regular teachers’ training on DRRM.

Several potential limitations of this research were determined. The researcher is an international student; thus, she might hold biased views due to her cultural background or perspectives on the topic investigated. In addition, the data gathered was in the researcher’s third language. However, throughout the data gathering process, three native speakers, with backgrounds in special education, were employed to conduct the in-depth interview with research participants, yet, remains the possibility of misinterpretation. Moreover, the research was conducted in the Special Region of Yogyakarta only, whereas, Indonesia is known for its diverse culture. When conducted in a different location, cultural and ethnic biases could influence and bring sensible variation in the final results.

**Conclusion**

Inclusive disaster education is a progressive goal worldwide. However, in Indonesia, the implementation of disaster education among children with SEND is limited. It also faces huge gaps in compliance between the private and public units. Special education teachers remain challenged to ensure the safety of their students with SEND due to several challenges in compliance with the provision of the SPAB program. Despite the efforts from education units, persisting challenges in implementing DPRRE remain. Teachers perceived the limitations and incapability of the students with SEND, the inappropriateness of DPRRE-integrated teaching materials, and the complexity of modification are the primary challenges. These essentially could be linked to the special education teachers’ competence. Nevertheless, efforts from the teachers were identified throughout the past years. The most common strategy that teachers utilized was the simulation in the form of experiential learning. Given the challenging role of the special education teachers in the
Special Region of Yogyakarta, and with the persisting challenges in the implementation of DPRRE, the success of the implementation of DPRRE would be slow and ineffective, if challenges are not addressed promptly. By considering the inputs from the participants, providing a DPRRE-integrated standard curriculum, ensuring the quality and suitability of DRRM facilities in education units, regular and strong inter-agency collaboration, increasing government support for the implementation of SPAB, and regular provision of teachers’ training on DRRM, the implementation of DPRRE would be effective and success is possible.

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