

# School-Based Disaster Preparedness and Response Measures: Awareness and Assessment

Nova M. Recamadas<sup>a</sup>, Rosalinda C. Tantiado<sup>b</sup>

<sup>a</sup> novarecamadas81@gmail.com, <sup>b</sup>rosalinda.tantiado@deped.gov.ph  
Southern de Oro Philippines College – Graduate School, Cagayan de Oro City, Philippines

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## Abstract

The study sought to determine the Level of Awareness in terms of preparedness, mitigation, response, and recovery and the Level of Assessment in terms of preparedness in normal times and preparedness for response measure of School-based Disaster Preparedness and Response Measure and find the significant relationship of the Levels of Awareness and Assessment of the School-based Disaster Preparedness and Response Measure among the one hundred-fourteen (114) teachers who were taken as respondents through purposive universal sampling from Balingasag Central District. The study employed descriptive correlational research design and utilized DO No. 033, s. 2021 checklist and Toyado's (2022) survey questionnaire as instruments of this study. Mean and SD were used to determine the Levels of Awareness and Assessment on School-based Disaster Preparedness and Response Measure and Pearson Product Moment Correlation Coefficient to find the significant relationship between the Levels of Awareness and Assessment. Result revealed that teachers are Highly Aware on their Level of Awareness and Highly Prepared on their Level of Assessment on the School-based Disaster Preparedness and Response Measure and there is a Significant Relationship of their Levels of Awareness and Assessment. Thus, a regular seminar or a quarterly drill is encouraged to be implemented in the school in order to sustain it.

Keywords: DRRM, awareness, assessment, preparedness, mitigation, recovery

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## 1. Introduction

Financial literacy is important because it gives individuals the advantage in carefully and properly managing their financial budget. It is one of the ways for an individual to have the financial capability to withstand from any adverse or unforeseen events. It will help dissipate financial imbalances at home or as individuals. Financial literacy is the capacity to comprehend and use a variety of financial abilities, such as budgeting and personal financial management (Zucchi, 2022).

The Philippines often experiences disasters. Disasters have terrible effects. They result in the loss of infrastructure and other services, the spread of illness and other diseases, the destruction of property and other assets, mass evictions, social upheaval, and environmental harm. The amount of pain endured by the poor in middle-income nations has been disproportionately high.

It carried out the most recent research on School-Based Disaster Risk Reduction Management in the Philippines. It determined the Disaster Risk Reduction Management capacity of the public schools in Polangui, Albay. The result of the study showed that educational institutions lacked safe learning environments, disaster management plans, and risk reduction strategies. (Abejuela et al., 2020).

However, the study of Mamon (2019), ascertained from the opinions of the Senior High School students of Las Piñas that their schools as secured, and buildings were built with resilience during the design and construction phases.

As part of the Pacific Ring of Fire, it is close to several natural disasters, such as earthquakes, tsunamis, volcanic eruptions, flooding, and droughts. The National Agency for Disaster Management reported damaged homes and schools, as well as fatalities, minor injuries, and serious injuries. Building a culture of catastrophe risk reduction and disaster awareness is crucial in the country. The important components of school-based disaster preparedness are planning, providing resources, simulating emergencies, and promoting preparedness among health policymakers. An approach to disaster preparedness based on schools has been effectively applied. The knowledge gained from this program is anticipated to increase future readiness and reduce the loss of life and property due to potentially hazardous events (Pranata et al., 2021).

With the situation, the researcher would like to conduct a study to investigate the teachers' awareness and assessment of the phases for the School-based Disaster Preparedness and Response Measures of the eleven (11) schools of her district. The school's location is near the slope, riverbanks, and irrigation which is unsafe and brings great danger to the life of the teachers, students, and residents every time there is a typhoon, flood, or earthquake.

This study is anchored on DepEd Order No. 033, s. 2021 which is known as the School-Based Disaster Preparedness and Response Measures for the Tropical Cyclone, Flooding, and Other Weather-related Disturbances and Calamities. It is discussed in this order that schools should abide by the preparation of the school before and after any disaster. Enclosure No. 2 is a checklist for school preparedness in Normal Times and Response Measures.

Furthermore, this study also anchored on Toyado's (2022) study in Catanduanes where the island province is vulnerable to all kinds of natural disasters. In his study, Toyado (2022) was able to make a checklist on schools' awareness of the DRRM based on Republic Act (RA) 10121 of 2010. Such a checklist for school DRRM phases also fits the situation of the researcher's district.

## 2. Methodology

This study used a descriptive correlational research design. It was a descriptive correlational study because it described the variables and the relationships that occur naturally between and among them. Descriptive correlational research designs are used to collect and analyze data. The goal of this design is to get a picture of the current thoughts, feelings, or behaviors in a given group of people.

The descriptive correlational design describes the variables and the relationships that occur naturally between and among them (Asenahabi 2019). It was quantitative research which is most often about quantifying relationships between or among variables the independent or predictor variable and the dependent or outcome variable (Mohajan 2020).

The study's variables were described using a descriptive correlational research design. Descriptive Statistics like Mean, SD, were used. In addition, the Pearson Product Moment Correlation Coefficient was used to determine if there is a significant relationship between Awareness and Assessment on School-Based Disaster Preparedness and Response Measures.

## 3. Results and Discussion

**Problem 1.** What is the level of Awareness on School-based Disaster Preparedness and Response Measure as to:

- 1.1 Preparedness;
- 1.2 Mitigation;

1.3 Response; and  
 1.4 Recovery?

**Table 1**

Overall Awareness on School-based Disaster Preparedness and response among teachers

Indicator	Mean	SD	Description	Interpretation
Preparedness	4.10	0.76	Agree	Highly Aware
Mitigation	4.15	0.69	Agree	Highly Aware
Response	4.23	0.71	Strongly Agree	Very Highly Aware
Recovery	4.05	0.69	Agree	Highly Aware
<b>Overall</b>	<b>4.13</b>	<b>0.71</b>	<b>Agree</b>	<b>Highly Aware</b>

**Note:** 1.00-1.80=Strongly Disagree; 1.81-2.60=Disagree; 2.61-3.40=Uncertain; 3.41-4.20= Agree; 4.21-5.00=Strongly Agree

Table 1 shows the Overall Awareness of School-based Disaster Preparedness and response among teachers. It has an overall Mean of 4.13 with SD = 0.71 which is described as Agree and interpreted as Highly Aware. It means that teachers are fully Aware of the occurrence of disaster and calamities. Using the evaluation tool outlined by the framework which included preparedness, response, recovery, and rehabilitation reported moderate reduction preparedness in the preparation of disaster and risk reduction plan, the organization of risk reduction group, the implementation of the disaster risk reduction measures, on ensuring the safety of DepEd school site and building, and school records in all schools. In order to reduce the danger of a school-based earthquake, efforts are made to improve school-based preparedness that involves students, staff, and residents of the neighborhood as well as several other institutions. It implies that to reduce the danger of a school-based earthquake, efforts are made to improve school-based preparedness that involves students, staff, and residents of the neighborhood as well as a number of other institutions (Gagani et al., 2019).

Moreover, the indicator, Response has the highest Mean of 4.23 with SD = 0.71 which is described as Strongly Agree and interpreted as Very Highly Aware. It means that teachers are Very Aware of the Response. It means that the major challenges associated with disaster response planning are the failure to strictly apply the law, the lack of public and staff education about disaster risks, poor urban planning, unstable security situation, citizen intervention, and endowment of equipment, tools, and infrastructure and lack of financial. When a crisis strikes, family members, friends, and neighbors handle most of the search and rescue efforts as well as the care of the hurt, the traumatized, and the homeless. It implies that to effectively manage an emergency or a disaster in the local government area, or to assist another entity in managing one, a local government must have the capacity to respond to them (Ouyang et al., 2022).

On the other hand, the indicator, Recovery has the lowest Mean of 4.05 with SD=0.69 which is described as Agree and interpreted as Highly Aware. It means that although it has the lowest Mean, teachers are Aware of the Recovery of the disaster or calamities. There may also be additional risks for survivors. They may experience greater risks as post-trauma or mental health diagnoses, and the socially and medically vulnerable. How well people responded to the disasters, in the end, serves as a barometer for the behavioral change brought about through preparedness (Abejuela et al., 2020).

Catastrophe Response emphasizes the activities that take place during the actual disaster response operations, such as needs assessment, search and rescue, relief operations, and early recovery. It implies that recovery also includes restoring housing, transportation, and public services; restarting economic activity; and fostering long-term community redevelopment and improvements. Recovery aimed at restoring or improving livelihoods, health, as well as economic, physical, social, cultural, and environmental assets, systems

and activities, of a disaster-affected community or society, aligning with the principles of sustainable development, including build back better to avoid or reduce future disaster risk (Rouhanizadeh et al., 2020).

In order to address the longer-term needs and issues that make a community vulnerable, rehabilitation and recovery play a crucial role in this preparation. In addition to giving society the chance to become more resilient and lower the likelihood of future emergencies and disasters, these processes also address the needs and issues that make communities vulnerable. Recovery typically starts while disaster response operations are still in progress. The basic objective of the disaster recovery process is to assist communities impacted by a disaster. Well-designed emergency preparedness and response plans can frequently decrease the effects of a disaster, helping not only to preserve lives and property but also to build resilience and aid in the post-disaster recovery process. The Philippine government has created disaster risk reduction and management (DRRM) policies in order to better prepare for, respond to, and recover from natural disasters as well as to be more resilient in the face of them (Iuchi et al., 2019).

Problem 2. What is the level of Assessment on School-Based Disaster Preparedness and Response as to:

- 1.1 Preparedness in Normal Times; and
- 1.2 Preparedness for Response Measures?

**Table 2**

Overall Assessment of School-based Disaster Preparedness and Response

Table 2 shows the Overall Assessment of School-based Disaster Preparedness and Response among teachers. It has an overall Mean of 4.11 with SD=0.80 which is described as Agree and interpreted as Highly

Indicator	Mean	SD	Description	Interpretation
1. Preparedness in Normal Times	4.21	0.77	Strongly Agree	Very Highly Prepared
2.Preparedness for Response Measure	4.00	0.83	Agree	Highly Prepared
<b>Overall Mean</b>	<b>4.11</b>	<b>0.80</b>	<b>Agree</b>	<b>Highly Prepared</b>

Prepared. It means that teachers are Prepared on what to do before, during and after the occurrence of calamities or disasters. It implies that establishing educational policy in connection with disaster preparedness and putting that into effect at schools at the national, regional, district, and local levels are necessary to address comprehensive school safety. Three pillars represent the overall goals: safe learning environments, school emergency readiness, and training in disaster risk reduction and resilience (Shah et al., 2020). It implies that the promotion of thorough and efficient school safety measures is the declared goal of the plan's parts labeled Safety Education in Schools, Safety Management in Schools, and Promotion of Practical School Safety Measures. Disaster management education for teachers and students has been prioritized, and disaster preparedness at schools has been strengthened nationally (Kawasaki et al., 2020).

Moreover, the indicator, Preparedness in Normal Times has the highest Mean of 4.21 with an SD = 0.77 which is described as Strongly Agree and interpreted as Very Highly Prepared. It means that teachers are Very highly prepared of Preparedness in Normal Times. It implies that Disaster risk reduction preparedness is one of the programs that the Department of Education is promoting (Ner et al., 2022). Using the evaluation tool outlined by the framework which included preparedness, response, recovery, and rehabilitation reported moderate reduction preparedness in the preparation of disaster and risk reduction plan, the organization of risk reduction group, the implementation of the disaster risk reduction measures, on ensuring the safety of DepEd school site and building, and school records in all schools. In order to reduce the danger of a school-based earthquake, efforts are made to improve school-based preparedness that involves students, staff, and residents of the neighborhood as well as several other institutions (Gagani et al., 2019).

On the other hand, the indicator, Preparedness for Response Measure has the lowest Mean of 4.00 with an SD=0.80 which is described as Agree and interpreted as Highly Prepared. It means that teachers are aware of Preparedness for Response Measure. It implies that even if teachers are prepared for the response measure the major challenges associated with disaster response planning are the failure to strictly apply the law, the lack of public and staff education about disaster risks, poor urban planning, unstable security situation, citizen intervention, and endowment of equipment, tools, and infrastructure and lack of financial. When a crisis strikes, family members, friends, and neighbors handle most of the search and rescue efforts as well as the care of the hurt, the traumatized, and the homeless. Depending on the disaster's location, the degree of physical damage to transportation and communications, and the ability of official organizations to respond, it can take many hours or even days for professional emergency teams to arrive (Mamon 2019).

**Problem 3.** Is there a significant relationship between the level of Awareness and Assessment on School-Based Disaster Preparedness and Response Measure?

**Table 9**

Relationship of School-based Disaster Preparedness and Response Awareness and Assessment

Table 9 presents the significant relationship between the Awareness and Assessment of School-based

School-based Disaster Preparedness and Response		r value	P value	Remarks	Decision	Interpretation
<b>Awareness</b>	<b>Assessment</b>					
<b>Preparedness</b>	*Preparedness in Normal Times	0.59	0.03	Moderate uphill positive correlation	Reject Null Hypothesis	Significant Relationship
<b>Mitigation</b>	*Preparedness for Response Measures	0.65	0.02	Moderate uphill positive correlation	Reject Null Hypothesis	Significant Relationship
<b>Response</b>		0.69	0.04	Moderate uphill positive correlation	Reject Null Hypothesis	Significant Relationship
<b>Recovery</b>		0.63	0.01	Moderate uphill positive correlation	Reject Null Hypothesis	Significant Relationship
<b>Overall Mean</b>		<b>0.64</b>	<b>0.025</b>	<b>Moderate positive correlation</b>	<b>Reject Null Hypothesis</b>	<b>Significant Relationship</b>

Disaster Preparedness and Response Measure. The table took Pearson's Correlation analysis at the level of the Independent Variable by looking at the r values of the variables; preparedness, mitigation, response, and recovery the test revealed a moderate uphill positive correlation for all 4 independent variables. Also, in computing their p values holding the dependent variable constant at a time. As can be gleaned from the same table, the awareness of the school with  $p < 0.05$  is significant. Preparedness (p value = 0.03), mitigation (p value = 0.02), response (p value = 0.04) and recovery (p value = 0.01) of the school has a significant effect on preparedness in normal times and preparedness for response measures. This means that teachers level of Awareness on School-based Disaster Preparedness and Response Measure is associated with the level of Assessment on School-Based Disaster Preparedness and Response. Since teachers are aware of the necessary preparation, mitigation, response and recovery, their level of assessment in the DepEd Order 031, s. 2021

checklist is high. This implies that whatever calamity that may occur in the district where this study was conducted, the teachers, the learners and the school in general are prepared and they all know what to do before, during and after a calamity may occur. In summary, the correlation analysis yielded that the hypothesis test was rejected. Taking it in the coefficient level, the independent variable school-based disaster preparedness and response, is a good preparedness in normal times and preparedness for response measures with a p value far lesser than 0.05. With the following findings, a positive linear relationship exists between the variables.

#### 4. Conclusions and Recommendations

Considering the above-cited findings, the following are drawn from the study.

1. The level of Awareness on School-Based Disaster Preparedness and Response among Teachers. The teachers are Highly Aware. Teachers are fully Aware of the occurrence of disaster and calamities. Using the evaluation tool outlined by the framework which included preparedness, response, recovery, and rehabilitation reported moderate reduction preparedness in the preparation of disaster and risk reduction plan, the organization of risk reduction group, the implementation of the disaster risk reduction measures, on ensuring the safety of DepEd school site and building, and school records in all schools. To reduce the danger of a school-based earthquake, efforts are made to improve school-based Awareness that involves students, staff, and residents of the neighborhood as well as a number of other institutions. It reduces the danger of a school-based earthquake, efforts are made to improve school-based preparedness that involves students, staff, and residents of the neighborhood and other institutions.

2. The level of Assessment on School-Based Disaster Preparedness and Response among Teachers in terms of Preparedness in Normal Times and Response Measures is Highly Prepared. The teachers are Prepared on what to do before, during, and after the occurrence of calamities or disasters. It implies that establishing educational policy in connection with disaster preparedness and putting that into effect at schools at the national, regional, district, and local levels are necessary to address comprehensive school safety. Three pillars represent the overall goals: safe learning environments, school emergency readiness, and training in disaster risk reduction and resilience. The promotion of thorough and efficient school safety measures is the declared goal of the plan's parts labeled Safety Education in Schools, Safety Management in Schools, and Promotion of Practical School Safety Measures. Disaster management education for teachers and students has been prioritized, and disaster preparedness at schools has been strengthened nationally.

3. The coefficient level of Awareness and Assessment of School-Based Disaster Preparedness and Response is significant. If teachers are aware, it means that they are also prepared before, during, and after the occurrence of a calamity.

For recommendations:

1. Recovery is a long process; it does not happen overnight. A government agency may check the mental health/ mental capacity of a survivor is a must, like those who need counseling to all survivors is also important. The government may provide necessities like food, water, and shelter and may restore basic services and facilities for the functioning of a community, or a society affected by the disaster. This is necessary so that a survivor from a certain place may go back to its basic function and do the most important thing. Everyone may take the first step to move to recovery.

2. The government may prioritize and give enough allocation and budget for Disaster Response Organizations (DROs) for their advanced equipment in technology such as communication and coordination to respond immediately to the survivors, those that are affected greatly by calamity, and those that need help and assistance immediately. With the advanced use of technology, loss of lives may be prevented. The government may pass a law mandating compulsory training, seminars, and workshops for students, teachers,



and parents so that everyone could respond immediately and help those in need in times of emergency and save lives.

3. The school and province may be included will have the preparedness in new normal time and during disaster response if they are fully aware of what to do. If they are aware for preparation, mitigation, response, and recovery. The school headed by the School DRRM coordinator may invite the Provincial DRRM to deliver symposia for awareness and preparation to lessen casualties whenever a disaster may occur.

4. It is essential to conduct Awareness and Assessment to all teachers, parents', and students about Disaster Preparedness. The Local Government Unit and teachers may collaborate to hold training, seminars, and workshops on Awareness of Disaster Preparedness. This will provide comprehensive learning, and understanding on what to do before, during and after the occurrence of disaster or calamities to lessen the damage and loss of lives.

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