

Utilization of SDRRM Workshop Module to Increase the Preparedness Level of Key Stage-2 Learners in Earthquake Hazard Precautions

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Abstract:-

➤ Purpose

This study investigated the effectivity of the Workshop Module in increasing the preparedness level of KS-2 pupils in disaster risk reduction and management in terms of earthquake hazard precautions.

➤ Design/ Methodology/ Approach

The study used quasi-experimental method of research. Purposively selected KS-2 student leaders from Bula Elementary School. The data was gathered using a self-made questionnaire. To treat the data, weighted mean and t-test were used.

➤ Findings

The pupils' mean score was 2.14 (Less Prepared) in the pre-test and 3.50 (Highly Prepared) in the post test. The increase of 1.36 on the pupils' mean score show that there is a certain improvement on the level of preparedness. The computed t-value (12.88) was also compared to the p-value (0.0001), a significant difference between the pre- and post-tests of the respondents.

➤ Research Limitations/Implications

It was limited on the KS-2 pupils with leadership experiences and their level of preparedness in terms of earthquake hazard precautions before and after the exposure to module. It implies that the module was beneficial in enhancing the preparedness level of the pupils in terms of earthquake hazard precautions.

➤ Originality/ Value

The habit of using the SDRRM workshop module is beneficial for enhancing students' preparedness for disaster risk reduction and management through increasing the pupils' preparedness in terms of earthquake hazard precautions.

Keywords:- SDRRM Workshop Module; Preparedness Level; Disaster Risk Reduction.

I. INTRODUCTION

In the advancement of the Department of Education (DepEd) for the right of every Filipino to learn in a harmless learning environment (DepEd, 2016), the department unceasingly pursue policies that respond to disaster risk reduction and management particularly in the incidence of earthquake.

Likewise, recognizing the role that education plays in disaster risk reduction through DO 50, s. 2011 entitled "Philippine Disaster Risk Reduction and Management (DRRM) Act of 2010" established the DepEd DRRM Core Group to provide a setting to discourse issues on DRRM and Education in Emergencies (EiE), which will moderate and diminish the effect of disasters to DepEd teaching/non-teaching personnel/staff, learners and properties.

Furthermore, in 2015, the DepEd introduced the enclosed Comprehensive Disaster Risk Reduction and Management (DRRM) in Basic Education Framework to guide DRRM efforts in the basic education sector towards resilience-building in offices and schools, and to ensure that quality education is continuously provided and prioritized even during disasters and/or emergencies. This further institutionalizes DRRM structures, systems, protocols and practices in DepEd offices and schools.

Bula Elementary School, the current station of the researchers, distinguishes the importance of making the learners prepared in terms of earthquake scenario. The researchers aim to reduce the risks among learners through the use of an adopted workshop module for School Disaster Risk Reduction and Management (SDRRM) in Earthquake Hazard Precautions. The researchers also want to determine the if there is a significant difference to the leaners preparedness before and after using the training material.

A. Research Questions

With the general purpose of determining the effectiveness of an adopted SDRRM Workshop Module in Earthquake Hazard precaution, this study aims to determine the following:

- What is the level of preparedness of KS-2 pupils of in DRRM before the utilization of SDRRM workshop module in terms of Earthquake Hazard Precautions
- What is the level of preparedness of KS-2 pupils in DRRM after the utilization of SDRRM workshop module in terms of Earthquake Hazard Precautions
- Is there significant difference in the level of preparedness of KS-2 pupils in DRRM before and after the utilization of SDRRM workshop module?

B. Hypothesis

There is no significant difference in the level of preparedness of KS-2 learners in DRRM before and after the utilization of SDRRM workshop module.

II. BRIEF REVIEW OF RELATED LITERATURE AND STUDIES

Earthquake and fire are the most common disasters encountered in the school where many lives of learners are accounted. An earthquake can be caused by a crack or rupture in Earth's tectonic plates, or when tectonic plates push against each other (Illinois Emergency Management Agency, 2017) while fire is a rapid chemical reaction in which heat and light are Evolved (Health Authority, Abu Dhabi, 2017).

Meanwhie, Manalo (2020) on his study states that planning and preparedness is a shared responsibility, and working together toward a common goal can assist in identifying needs and gaps in disaster education and preparedness. Preparedness drills and other forms of capacity building must be done to improve awareness of the student towards DRRM (Toyado, 2022).

In the meantime, educating and making people aware of risks and vulnerabilities of disasters are ways to ensure the sustainable empowerment of communities. It has been acknowledged also that education takes on a pivotal role to reduce disasters and achieve human security in the attempt to achieve sustainable development. Thus, education is a process for effective disaster reduction. Further, schools have an important role in knowledge development for building community resilience and for continuously providing disaster education (Asharose *et al.*, 2015).

Various means to support the implementation of disaster risk reduction program include the utilization of educational tools such as printed materials (booklets, leaflets, textbooks, handbooks/guidebooks, and posters) and non-printed materials (activities, games, and practices). These tools for disaster risk reduction can be used for the welfare of communities. However, it is important that the type of DRR tool must fit the needs of the target users. So, while implementing the tool, it can be altered to adapt to the particular context. When altering an educational tool, the target audience, their cultural background, the vulnerabilities they face, and the major resources available should be the essential factors in deciding the modifications needed (Asharose *et al.*, 2015).

The researchers, used an adopted workshop module as an educational tool to train the learners' preparedness on the SDRRM of Key Stage 2.

Asharose *et al.* (2015) mentioned on his study, "Awareness Workshop as an Effective Tool and Approach for Education in Disaster Risk Reduction: A Case Study from Tamil Nadu, India" utilized awareness workshop as a means for education in DRR. The main objective was to develop an educational tool for the coastal community to enhance their knowledge about disasters, and how it can be undertaken. Generating awareness among the selected target group, the said tool is designed not as a self-learning type of tool but as a training material that can be used by any NGO or any awareness-

A. Synthesis

The Philippines is one of the most disaster-prone countries in the world because it is located between two major tectonic plates and within the Pacific Typhoon Belt. Specifically, earthquake is one of those disasters that can strike anytime and anywhere. As describe, an earthquake can be caused by a crack or rupture in Earth's tectonic plates, or when tectonic plates push against each other.

There is a need for the intensification in identifying needs and gaps in disaster education and preparedness among learners. In connection to this, preparedness drills and other forms of capacity building is encouraged to improve awareness and preparedness of the student towards DRRM in terms of earthquake hazards and safety precautions.

As mentioned above, the use of various tools like printed and non-printed materials can lessen the risk and improved the preparedness and knowledge of the learners upon its utilization. That is why researchers used a printed material to utilize the intervention. Varieties of intervention and strategies was also mentioned above to lessen the risk and to improve the learners' preparedness in terms of DRRM.

B. Conceptual Framework

The framework illustrates the SDRRM workshop module as a means to increase the preparedness level of KS-2 learners of Bula Elementary School in earthquake hazard precautions. The level of preparedness of KS-2 learners of our station before and after the utilization of the workshop module in terms of earthquake hazard precaution is input of the study. While the significant difference in the level of preparedness of KS-2 learners of BES in DRRM before and after the utilization of SDRRM workshop module was analyzed. The SDRRM in Earthquake Hazard Precautions workshop module served as the output.

C. Conceptual Paradigm

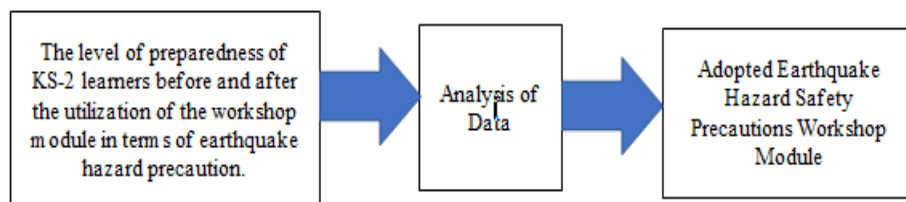


Fig 1. Input-Process-Output (IPO) The Use of SDRRM Earthquake Hazard Precautions Workshop Module to Increase the Preparedness Level of Key Stage-2 Learners in Earthquake Hazard Precautions

D. Scope And Limitations

This research was conducted to determine the effectivity of an adopted SDRRM workshop module as a means to increase the preparedness level of the respondents. It required the participation 50 KS-2 student-leaders of Bula Elementary School. A self-devised survey questionnaire was employed to measure the level of their preparedness in DRRM in terms of earthquake hazard precautions before and after the utilization of the adopted SDRRM workshop module.

III. METHODOLOGY

A. Research Design

Using a quasi-experimental method of research, the study determined the effectiveness of an adopted SDRRM workshop module as a mean to increase the preparedness level of KS-2 learners of Bula Elementary School in DRRM in terms of earthquake hazard precautions.

B. Participants

The study was conducted at Bula Elementary School involving KS-2 learners, a set of 55 student leaders were selected purposively.

C. Sampling

In the selection of the respondents, the researcher purposively chose the student leaders of each section, with a total of 55 pupils. From this group of respondents, a self-devised survey questionnaire was used to collect data necessary in determining the level of their preparedness.

D. Data Gathering Procedure

In the collection of data, the researcher determined the level of preparedness of the KS-2 learners in pre-test using a survey questionnaire. Then, the SDRRM workshop module was utilized in the experimentation to test its effectiveness as a mean to increase the preparedness level in terms earthquake hazard precautions.

To do the experimentation, selected KS-2 learners was gathered for the implementation of the SDRRM workshop. The SDRRM workshop module was used as a training material during the experimentation for 8 consecutive weeks

from beginning to end of 3rd Quarter School Year 2022-2023, after class, for 30 minutes. The SDRRM workshop module contains relevant information on DRRM which include earthquake hazard precautions.

Basic terms and information related to earthquake are also included in the adopted workshop module. Tips and reminders for teachers to guide the pupils in the occurrence of earthquake is also added to the content of the workshop module. Furthermore, it contains individual and group activities to further enhance the knowledge and preparedness of the respondents. After completing the implementation of the SDRRM workshop module, the level of preparedness of the KS-2 learners was again tested using the same set of survey questionnaire.

E. Data Analysis

To determine the level of preparedness of KS-2 learners in DRRM in terms of earthquake hazard precautions the researchers use a survey questionnaire, Weighted Mean (WM) was employed.

Using the continuum scale below, the results gathered through survey questionnaire was verbally described:

3.26 – 4.00 = Highly Prepared

2.51 – 3.25 = Prepared

1.76 – 2.50 = Less Prepared

1.00 – 1.75 = Not Prepared

On the other hand, to test if there is a significant difference between the before and after survey results t-test was used.

IV. RESULTS AND DISCUSSION

The researcher made a table to comprehensively present the findings/results to each objective.

This part presents the result of the study based on the gathered data. The researcher made a table to comprehensively illustrate the results.

Table 1. Level of Preparedness of KS-2 Pupils Before the Utilization of SDRRM Workshop Module in Terms of Earthquake Hazard Precautions.

Preparedness Indicator on Earthquake Hazard Precaution	WM	Verbal Equivalence
1. I am prepared of the safety precautions in preparation for an earthquake.	2.15	Less Prepared
2. I have prepared go bag when earthquake comes.	2.58	Prepared
3. I know the safety precautions/safety actions during the occurrence of earthquake.	2.47	Less Prepared
4. I know the things to do after the occurrence of earthquake.	1.96	Less Prepared
5. I know the location of evacuation area to go after the earthquake.	1.96	Less Prepared
6. I am familiar with the alternative route going to evacuation area.	1.96	Less Prepared
7. I know the hazardous place to avoid after an earthquake.	2.35	Less Prepared
8. I know the right person to call after the earthquake.	2.11	Less Prepared
9. I know the safety precautions in different earthquake intensity level.	2.11	Less Prepared
10. I have the knowledge to administer first aid in case of an earthquake disaster.	1.75	Not Prepared
AVERAGE	2.14	Less Prepared

The table shows the Average Weighted Mean (AWM) of 2.13 (less prepared) before the utilization of SDRRM workshop module. Indicator number 2 got the highest weighted mean (2.58) and was the only indicator marked as prepared. The respondent displayed a level of less prepared on the indicator number 1 and indicators 3 to 9, and not prepared on indicator number 10 before the utilization of the intervention. This implies that the pupils needed intervention and the school must intensify the utilization of the workshop module to enhance the preparedness level in terms of earthquake hazard precautions.

Table 2. Level of Preparedness of KS-2 Pupils After the Utilization of SDRRM Workshop Module in Terms of Earthquake Hazard Precautions.

Preparedness Indicator on Earthquake Hazard Precaution	WM	Verbal Equivalence
1. I am prepared of the safety precautions in preparation for an earthquake.	3.31	Highly Prepared
2. I have prepared go bag when earthquake comes.	3.58	Highly Prepared
3. I know the safety precautions/safety actions during the occurrence of earthquake.	3.47	Highly Prepared
4. I know the things to do after the occurrence of earthquake.	3.40	Highly Prepared
5. I know the location of evacuation area to go after the earthquake.	3.96	Highly Prepared
6. I am familiar with the alternative route going to evacuation area.	3.60	Highly Prepared
7. I know the hazardous place to avoid after an earthquake.	3.35	Highly Prepared
8. I know the right person to call after the earthquake.	3.47	Highly Prepared
9. I know the safety precautions in different earthquake intensity level.	3.47	Highly Prepared
10. I have the knowledge to administer first aid in case of an earthquake disaster.	3.40	Highly Prepared
AVERAGE	3.50	Highly Prepared

The table shows an Average Weighted Mean (AWM) of 3.50 (highly prepared) respectively on the preparedness level of KS-2 in DRRM in terms of earthquake safety actions after the utilization of SDRRM workshop module. This implies that there is a certain increase in the level of preparedness of the respondents in terms of earthquake hazard precautions from less prepared to highly prepared after the utilization of SDRRM workshop module.

The result agrees with Toyado (2022) that preparedness drills and other forms of capacity building must be done to improve awareness of the student towards DRRM.

Likewise, Asharose *et al.* (2015) stated that the use of educational tool which include printed or non-printed materials can be used as a means to enhance one's knowledge and preparedness regarding DRRM.

Table 3. Result between the Level of Preparedness of KS-2 Pupils Before and After the Utilization of SDRRM Workshop Module in Terms of Earthquake Hazard Precautions.

	Mean	Mean Difference	t_c	p-value	Decision in H_o	Interpretation
Before	2.14	1.36	12.88	0.0001	Reject	Significant
After	3.50					

Table 3 illustrates that the mean pre-test score and mean post-test score in the preparedness level of KS-2 pupils in DRRM in terms of earthquake hazard precautions before and after the utilization of SDRRM workshop module, 2.14 and 3.50 respectively. With a mean difference of 1.36. The computed t-value is 12.88 while the p-value is 0.000. Since

the p-value is less than 0.05 level of significant, the decision is to reject the null hypothesis. This implies that the use of SDRRM workshop module is an effective means to increase the level of preparedness of KS-2 pupils in DRRM in terms of earthquake hazard precautions.

V. CONCLUSIONS

- The KS-2 pupils are less prepared in disaster risk reduction and management in terms of earthquake hazard precautions before the utilization of SDRRM workshop module.
- The KS-2 pupils are highly prepared in disaster risk reduction and management in terms of earthquake hazard precautions after the utilization of SDRRM workshop module.
- There is significant difference in the level of preparedness of KS-2 pupils in disaster risk reduction and management in terms of earthquake hazard precaution before and after the utilization of SDRRM workshop module.

RECOMMENDATIONS

Based on the findings of the study and conclusions drawn, the following are hereby recommended:

- Intensify the implementation of SDRRM related activities in order for the pupils have retention.
- Plan and organize more SRDDM related activities inside the school premises.
- Participate more in SDRRM related activities conducted by LGUs.

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