



Exploring Pre-service Teachers' Concept and Experience on DRRM: The Case of One TEI in the Philippines

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Abstract

The researchers aimed to explore the concept and experience of pre-service teachers in Disaster Risk Reduction Management, specifically in the Philippines, through conducting a qualitative case study. Specifically, the researchers interpreted the data through qualitative case analysis. The 79 respondents voluntarily participated in this research. The data gathered through the short answer questionnaires given after the DRRM seminar using Google Forms. The analysis of the responses revealed that the pre-service teachers were aware of Disaster Risk Reduction Management and encountered related challenges in their partner schools. Moreover, they shared their perspective on the effects of being exposed to Disaster Risk Reduction Management training and the programs and initiatives that the school should be implementing to increase the knowledge and skills of disaster-prepared teachers.

Keywords: Disaster Risk Reduction and Management, Pre-service Teachers

Introduction

Risk reduction management has emerged as a critical discipline in the face of escalating natural and human-induced hazards that threaten the safety and well-being of communities worldwide. As the frequency and intensity of disasters continue to rise, the imperative to equip the younger generation with the knowledge and skills to confront such challenges becomes increasingly evident. Integrating risk reduction management subjects into school curricula represents a proactive and essential step toward building resilient societies.

The Philippines ranked third globally in disaster risk according to the World Risk Report 2018 (World Economic Forum, 2018). In response, the Department of Education responded proactively by establishing the Disaster Risk Reduction and Management Office, aligning with the Philippine Disaster Risk Reduction Management Act of 2010 (Republic Act 10121). DepEd has seamlessly woven Disaster Risk Reduction and Management (DRRM) subjects into the Senior High School curriculum and consistently conducted training sessions and safety drills throughout the academic year. While the promotion of DRRM awareness is extensive in DepEd's foundational education, the involvement of the Commission on Higher Education in this endeavor remains constrained. It's noteworthy that, as per the National Disaster Risk Reduction and Management Council, engagement from civil society organizations and private sectors is carried out voluntarily rather than obligatory. This could potentially account for the lack of clarity surrounding DRRM awareness among college students, particularly those who are in the process of becoming future educators.

Notably, the Philippine Normal University (PNU), recognized as the "National Center of Excellence in Teacher Education" under RA 9647 (Official Gazette, Republic of the Philippines, 2008), has integrated "Disaster Risk Reduction and Management" as an elective course in their Outcomes-Based Teacher Education Curriculum, with the Faculty of Science, Technology, and Mathematics (FSTEM) overseeing the subject. The prestigious recognition



bestowed upon PNU served as a powerful catalyst, fueling the researchers' fervor and curiosity to delve into the profound impact of their integrated DRRM elective course on pre-service teachers.

That said, the study aims to investigate the perceptions and experiences of PNU pre-service teachers concerning Disaster Risk Reduction and Management (DRRM). Through this research, the researchers sought to gain a comprehensive understanding of the concepts and experiences of pre-service teachers at PNU regarding DRRM during their pre-service teaching period. Specifically, the study aimed to address questions on the 1) extent of the DRRM awareness on principles and practices of pre-service teachers in PNU-Manila, 2) the specific DRRM-related challenges encountered by the pre-service teachers during their placement in partner schools, and how did the partner schools address and prepare for such challenges, 3) the impact of DRRM training to pre-service teachers future career as educators, and 4) the possible programs and initiatives that can be designed to effectively equip pre-service teachers with the necessary skills and knowledge to be ready for DRRM-related challenges with confidence and competence.

This study holds significant potential to contribute valuable insights and foster positive changes in Disaster Risk Reduction and Management (DRRM) education for pre-service teachers at the Philippine Normal University (PNU) and beyond. The research explores the impact of DRRM training on pre-service teachers' future careers as educators, empowering them with knowledge and skills to positively influence teaching practices and instill a sense of responsibility and preparedness. Overall, this study's evidence-based insights can guide the design of effective DRRM programs, contributing to a more resilient education system that fosters a culture of safety and proactive disaster management among educators and students.

Research Aims

This research aims to enhance DRRM awareness among pre-service teachers, informing curriculum development and teaching strategies for effective integration of DRRM principles. Additionally, it seeks to improve preparedness in partner schools by identifying specific DRRM-related challenges faced by pre-service teachers, leading to the development of best practices and guidelines for enhancing disaster resilience in the education sector.

Review of Related Literature

This literature review provides an overview of the concept of Disaster Risk Reduction and Management (DRRM) in basic and tertiary education. It also delves into the crucial role of teachers in DRRM implementation and the challenges they face. Furthermore, it presents valuable insights into the successful and efficient integration of DRRM in schools.

DRRM in the Basic and Tertiary Levels

After UNESCO's Decade of Education for Sustainable Development (DESD) successful conclusion from 2005 to 2014, key principles of disaster risk reduction were incorporated. In recent times, disaster education has gained considerable prominence at both school and university levels. Numerous new courses focused on risk reduction have been introduced at the bachelor, master, and doctoral levels across various regions globally (Surjan et al., 2016).

The Department of Education (DepEd), responsible for basic education, has issued memoranda and department orders to enforce international and national DRR laws. Their focus is on preparing stakeholders and the community with the necessary competencies and a proper mindset regarding Disaster Risk Reduction (Cabilao-Valencia et al., 2019). This initiative aims to empower DepEd personnel, offices, schools, and learners to ensure safety and continuous learning. As part of this approach, the educational system integrated the Disaster Readiness and Risk



Reduction course as a core subject in senior high school, emphasizing the practical application of scientific knowledge to address real-world challenges in the physical environment. The study conducted by Ronquillo (2020) titled, “Teachers’ preparedness on disaster risk reduction and management measures among public senior high schools in the Division of Batangas”, provides evidence that senior high teachers demonstrated preparedness in disaster risk reduction and management measures, particularly evident in three key areas: community risk assessment, communication systems, and capacity building.

Before the K-12 Basic Education Curriculum was approved in 2013, the elements of Disaster Risk Reduction (DRR) were integrated into both natural sciences and social sciences for Grade 7 students. In elementary and high school, DRR education was not treated as a standalone subject but rather included as a component within subjects like science and technology, as well as social studies.

Cabilao-Valencia et al. (2019) also presented in their article that the increased occurrence of disasters has led to the strengthening of DRRM. Republic Act No. 9163 (Official Gazette, Republic of the Philippines, 2001), also known as the National Service Training Program (NSTP) Act of 2001, emphasizes the need for efficient, resilient, and responsive volunteer citizens who can assist in reducing or preventing disaster risks. As per this law, all tertiary students are required to undertake NSTP as an academic subject, which includes a section dedicated to DRRM in its course outline. By participating in NSTP, students at the tertiary level gain crucial knowledge about disasters and acquire essential skills in DRRM.

In the research conducted by Gotangco et al. (2021), findings revealed the existence of 39 distinct programs related to disaster risk and resilience across 23 Higher Education Institutions (HEIs) situated in eight Asian countries. These countries encompass Bangladesh, China, Hong Kong, Indonesia, Japan, Malaysia, the Philippines, and Sri Lanka. Notably, Malaysia hosts the highest number of disaster risk and resilience-related programs, trailed by Bangladesh and Japan in terms of program prevalence.

Furthermore, Bangladesh leads in the number of HEIs offering such programs, with the Philippines and Sri Lanka following suit. Among the observed programs, approximately 67% are available at the master’s level, while 26% are offered at the doctorate level and 5% at the undergraduate level. The programs predominantly concentrate on several key areas, including disaster risk management, disaster mitigation, disaster preparedness, and hazard assessment, with an emphasis on addressing earthquake and flooding hazards.

Moreover, elective courses focusing on DRRM are being offered in Teacher Education Institutions (TEI) such as in Philippine Normal University (PNU). Cabilao-Valencia et al. (2019) mentioned in their article that the “Disaster Risk Reduction and Management” course is part of PNU’s Outcomes-Based Teacher Education Curriculum, concentrating on the theoretical rather than the solution of problems during disasters. This customized program focuses on imparting content and pedagogical knowledge in disaster management to disaster volunteers, trainers, coordinators, and teachers. The program specifically targets teachers from certain disciplines such as Physical Education, Health, and Biology.

The Role of Teachers in DRRM Implementation and the Challenges They Encounter

Teachers play a critical role, especially in disaster education within the classroom. Chondekar (2019) presented that human resources are vital in educational planning, and teachers hold a significant position in this regard. The author emphasized that the regular evaluation of their knowledge and skills is essential. Teacher training encompasses various types: 1) Pre-service training, which provides general expertise within short or long teaching periods, 2) Training at the beginning of service to acquaint teachers with their environment and facilities, and

3) In-service training, of utmost importance, offering a combination of teachings to familiarize teachers with new and updated knowledge and information.

Research by Ronquillo (2020) showed that teachers diligently conducted mandatory simultaneous drills every quarter. This commitment was evident in the overall readiness of teachers, as they actively engaged in capacity building, signifying their preparedness. The readiness was attributed to the various activities, training sessions, and mock drills that teachers conducted with their students. Combining this with the comprehensive study by Najafi et al. (2017) on Disaster Preparedness Behaviors (DPB) which were examined using the Theory of Planned Behavior (TPB) as the framework, it became evident that teachers play a crucial role in disaster preparedness as their commitment and engagement in regular drills and training contribute significantly to the preparedness and the safety of their students.

In the study of Kawasaki et al. (2022), it is found that encouraging teachers to enhance their imagination about disasters could potentially involve their preparedness and reduce their concerns, which might lead to a diminished sense of crisis, fostering greater stability among teachers. It was highlighted in the study that there is a significant correlation between disaster prevention awareness and the level of concern regarding disaster preparation readiness, which holds practical relevance. To promote teacher stability, it is strongly recommended to prioritize disaster preparedness education.

Conceptual Framework

The impact of pre-service teachers' preparedness, readiness, and training on DRRM is affected by their concepts and experiences. Their concepts of DRRM are bounded by the level of their awareness while their experiences were developed by the DRRM-related challenges and DRRM strategies that they encountered with their partner schools. Exploring the concepts and experiences of pre-service teachers on DRRM can open opportunities to enhance their level of awareness and develop DRRM strategies to reduce the DRRM-related challenges that they may encounter as future teachers.

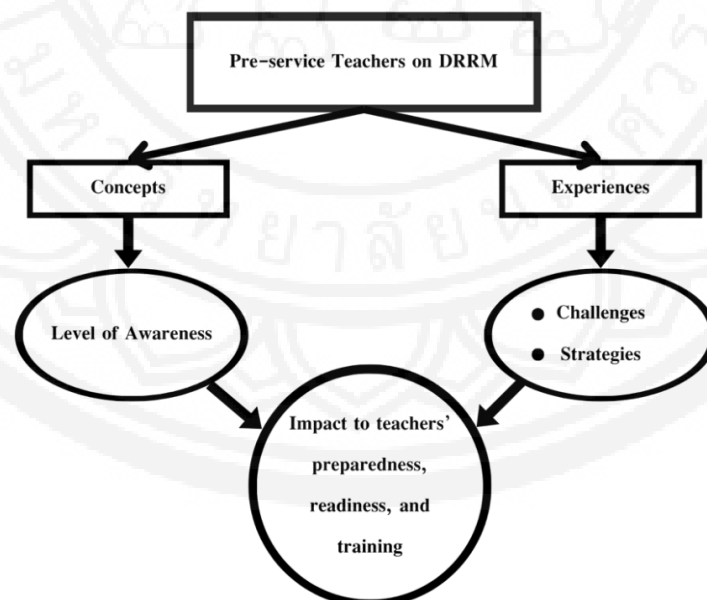


Figure 1 Conceptual Framework for Exploring the Concepts and Experiences of Pre-service Teachers on DRRM.



Methods and Materials

The researchers decided to conduct this research in a qualitative research method, focused on the case of one TEI, to answer the questions formulated on this topic.

Sampling Procedure

The researchers took the opportunity to conduct a research study along with the seminar conducted by the PNU-ITL. Convenience sampling was applied to gather respondents in this research. This is in connection with the idea of the researchers that pre-service teachers who handled children from lower primary education might experience the most DRRM-related challenges in schools and can be good respondents in this study.

Respondents

The questionnaires were given particularly to the pre-service teachers under the Bachelor of Early Childhood Education in PNU-Manila as they were the only audience of this seminar. They were composed of 79 pre-service teachers, wherein 78 of them were female and only 1 of them was a male. Their age group was in the range of 22 to 24 years old. They handled lower primary levels, particularly from Kinder to Grade 3. Each of the respondents handled a grade level with 1 to 4 sections, with an overall range of 21 to 100 students per pre-service teacher.

Ethics

The researchers conducted the data gathering with consent from the respondents, considering that they will be participants of this research. They voluntarily participated in this study. Before the collection of data, they were informed about the confidentiality of the procedure in accordance with the Data Privacy Act of 2012 (Republic Act No. 10173) (National Privacy Commission, Republic of the Philippines, 2011). The respondents did not receive any monetary compensation or token, in one way or another, for participating in this research. Their names were not collected, and the data will solely be used in this study.

Data Gathering Procedure

The Institute of Teaching and Learning (ITL) of the Philippine Normal University-Manila conducted an onsite seminar on DRRM awareness and preparedness. The participants signed up for the seminar on DRRM. The researchers collected the data and secured the data for confidentiality. They used the Google Forms to gather short answer response from the 79 respondents.

Sampling Tool

The questionnaire was given via Google Forms after the seminar to ensure their full understanding of the concepts and purpose of this study. The questionnaire is divided into three parts: 1) consent on using the respondent's data, 2) the demographic profile of the respondents, and 3) the questionnaire which includes the six short answer questions which aims to answer the research objectives.

Data Analysis Procedure

The data gathered by the researchers were analyzed through coding mechanisms, specifically qualitative case analysis, to come up with the themes that would answer the problem in this research. The researchers prepared 6 questions to address the problems formulated in this research, however, only 5 questions were retained by the researchers in addressing the problems in this research. The fourth question was removed by the researchers as its content was for the evaluative purpose of the DRRM seminar conducted by the PNU-ITL, Manila, and had no part in answering the problems formulated in this research. The setup was in structured questions and the researchers cannot execute question interventions as the mode of questionnaire distribution was through Google Forms.



After narrowing the codes down to selective codes, multiple investigator triangulation was conducted to increase the validity and reliability of the findings. Investigators with varied expertise verified the themes presented by the researchers. The study produced 5 open codes as the retained questions were 5. The same number of axial codes were produced as the number of axial codes was dependent on the number of open codes.

Results

Upon qualitative case analysis, the researcher presents the results in this section through table and narrative.

Table 1 Self-perceived Level of Awareness on DRRM

Theme	Axial Codes	Open Codes
Intentional Engagement and Responsibility	Intention to be well-aware due to the expectation of future responsibility.	Well-aware, as expected of future teachers.
Awareness Fostered through Experience and Information	Aware due to experience and information on DRRM.	Aware due to DRRM experiences and information dissemination by the school.
Recognition of the Need for Continuous Learning	Aware but needs improvement.	Aware with little knowledge of DRRM but willing to learn.
Limited Awareness Due to Schools' Program Gap	Not aware due to lack of programs and initiatives from the partner school.	Not aware due to lack of support from the partner school.

As Table 1 shows, the respondents' level of perception seemed to describe four basic themes. The first theme focused on intentional engagement and responsibility. Future teachers should manifest skills and knowledge on DRRM as one of the roles of an effective teacher is to be DRRM-ready. The second theme described the awareness fostered through experience and information. There were schools that gave DRRM programs and seminars to prepare students for DRRM-related challenges. Also, there were respondents who experienced DRRM-related challenges first-hand. This was the reason why they gained it through experience. The third theme is the recognition of the need for continuous learning. There were respondents who were aware, but they were seeking more DRRM programs to supplement their current level of awareness to be fully confident with the DRRM skills and knowledge. The fourth theme is limited awareness due to the school's program gap. There were respondents who classified themselves as not aware due to the lack of initiative and programs from the partner school to prepare them for their role as a teacher.

Table 2 DRRM-Related Challenges Encountered in Partner Schools

Theme	Axial Codes	Open Codes
Natural Disaster Challenges	Hindrances in schools due to calamities.	Typhoons and flooding that caused inaccessible classrooms.
Challenges in the Preparation and Management of Emergency Routines	Emergency routines management.	Mobilization of students to the open field and planning the procedure in evacuation and safety.
Control and Prevention of the Spread of Infectious Diseases	Management of health issues in schools due to infectious diseases.	Following health and safety protocols amidst the spread of viruses in schools.
Human Errors in DRRM Planning	Mistakes in emergency planning and management of school in preparation for disasters.	Poor floor plan management for emergencies and improper emergency procedures caused by the limited knowledge of the facilitator.



Table 2 (Cont.)

Theme	Axial Codes	Open Codes
Safety Equipment and Facilities Constraints	Absence of safety equipment and facilities due to limited emergency funds.	Safety materials and facilities were insufficient or not available in the schools due to the lack of budget for emergency preparation.
No DRRM-Challenges Encountered Due to Well-prepared Schools	No DRRM-related challenges happened in the school due to the careful planning and management of the school heads.	Good planning of emergency routines and enough supply of safety equipment were observed in the partner schools.

Table 2 focused on the DRRM-related challenges encountered by the pre-service teachers in their partner schools and seemed to develop six themes. The first theme discussed the challenges due to natural disasters like flooding that might cause classrooms to submerge in water. With this, it will be inaccessible for a moment. The second theme showed challenges in the preparation and management of emergency routines. It is challenging to mobilize children during evacuation. Moreover, teaching them proper routines during earthquakes will take time. Proper planning is advisable to make the students ready for the emergency. The third theme focused on the control and prevention of the spread of infectious diseases in schools. Disseminating and following health and safety protocols are a few of the challenges included in this theme. The fourth theme discussed human errors in DRRM planning. There are plans that were overlooked by the management like floor plans and safety equipment that are not in students' reach in case of emergency. The fifth theme is the safety equipment and facilities constraint. Due to the lack of budget to provide such materials, the safety of the students was at stake. The last theme seemed to reveal that there are schools that are prepared for such disasters due to proper DRRM planning and allocation.

Table 3 Strategies of Partner Schools in Addressing DRRM-related Challenges

Theme	Axial Codes	Open Codes
Involvement of All Stakeholders in the Seminar/Workshop on DRRM.	Conducting DRRM-related seminars/workshops for stakeholders.	Raising DRRM awareness and conducting emergency drills for the students, teachers, and their families.
Propagation of the Health and Safety Protocols	Informing stakeholders about the protocols to prevent and manage DRRM-related challenges.	Conducting orientation and drills to learners about the health and safety precautions before and during an emergency.
Allocation for Safety Equipment and Facilities	Funding the equipment and facilities needed during an emergency.	Supplying first aid kits, Go bags, and other safety equipment and facilities for disaster preparation.
Subject Integration of DRRM	Integrating DRRM awareness and skills into the lessons in the classroom.	Practicing and teaching the safety procedures during emergencies to students to ensure holistic education for students.

As Table 3 shows, the strategies of partner schools in addressing DRRM-related challenges seemed to describe four themes. The first theme described the involvement of all stakeholders in DRRM training as it is essential for everyone to be ready and accountable for one's safety in times of emergency. The second theme shows the dissemination of health and safety protocols to prevent further harm to the stakeholders. Making announcements and orientation can contribute to the success of the second theme. The third theme focused on providing allocation

for safety equipment and facilities like hard hats, first aid kits, fire extinguishers, and evacuation centers. The fourth theme discussed the integration of DRRM knowledge and skills to develop the readiness of students in disasters.

Table 4 Impact of DRRM Training on the In-service Teachers

Theme	Axial Codes	Open Codes
DRRM-ready Teacher	Involvement in the DRRM planning.	Participate in the prevention and management of disaster-related challenges in schools.
Understanding of the Role of a Teacher as a Safety Officer	Characterization of the teacher in providing safety to students.	Understanding of the importance of DRRM training to teachers in handling students during an emergency.
Integration of DRRM to the Subject Matter	Connecting DRRM knowledge and skills to lessons.	Teaching students the DRRM knowledge and skills.

Table 4 reveals three themes on the possible impact of DRRM training on in-service teachers. The first theme described the possibility of the teacher to participate in the management and reduction of disaster risk-related issues. The school and its stakeholders would benefit from this if the teachers were disaster ready. In connection, the second theme showed the understanding of the role of the teacher as the safety officer in schools. It encompasses the maintenance of students' safety and the school premises. Lastly, the third theme focused on the possibility of integrating disaster risk reduction management into future lessons to ensure the readiness of the students and school for disasters.

Table 5 DRRM Training Preferences of Pre-service Teachers

Theme	Axial Codes	Open Codes
Administering Basic First Aid Treatment and Basic Life Support	Basic first aid and life-saving skills for children.	Lifesaving skills and procedures for children during emergency.
Safe Space Seminar	Intentional injuries prevention.	Anti-kidnapping and abduction, bullying, and mental health.
Environmental Health Seminar/Workshop	Environmental protection seminar.	Taking care of the environment to reduce disaster-related challenges.
Search and Rescue Operations Training	Search and Rescue procedures and protocols.	Searching for missing and rescuing trapped children due to disasters and accidents.
Survival Skills During Disaster and Accident Seminar/Workshop	Survival skills and preparedness in disasters and accident.	Calamities and accident preparedness with survival skills.

As Table 5 shows, the training preferences of pre-service teachers to prepare for them in their future careers seemed to construct five themes. The first theme focused on administering basic first aid and basic life support. This would help lessen or prevent further injury or danger to the casualty brought by the disaster or accident. The second theme showed a safe space seminar wherein prevention of intentional injuries like kidnapping and abduction, mental health issues, bullying, and abuse will be discussed. The third theme aimed to develop awareness of environmental health to prevent DRRM-related challenges like flooding. The fourth theme focused on the importance of being engaged in search and rescue operations specifically during trapped situations caused by earthquake and fire emergencies. Lastly, the fifth theme seemed to describe survival skills and awareness during calamities and accidents.



Discussion

The study's findings provide important light on pre-service teachers' self-perceived levels of Disaster Risk Reduction and Management (DRRM) awareness as well as on the difficulties they encounter in partner schools and the approaches these institutions take to deal with DRRM-related problems. The report also describes pre-service teachers' inclinations about DRRM training subjects.

The results answered the aims of this study. The first aim was about enhancing DRRM awareness among pre-service teachers, informing curriculum development and teaching strategies for effective integration of DRRM principles. The research yields crucial insights into pre-service teachers' self-perceived understanding of DRRM, revealing distinctive themes that underscore intentional engagement and accountability, knowledge acquisition through experience and education, recognition of the imperative for ongoing learning, and constrained awareness stemming from program gaps. These findings are instrumental in not only advancing DRRM education but also in shaping curriculum design and guiding teaching methodologies, ensuring that prospective educators are adequately equipped to fulfill their roles in disaster management.

Furthermore, the study uncovers a spectrum of DRRM-related challenges faced by pre-service teachers in partner schools, ranging from issues with emergency protocols to the management of infectious diseases. This wealth of information is indispensable in preparing pre-service teachers to effectively address the diverse array of DRRM challenges they may encounter in their future roles. It provides valuable guidance for curriculum development and instructional strategies, ultimately enhancing the readiness of pre-service teachers to navigate the complexities of disaster risk reduction and management in their professional capacities.

In the study of Dela Cruz and Ormilla (2022), the Alfonso Lista District, School Division of Ifugao, Philippines integrated the DRRM program into their curriculum, established school based DRRM, and implemented safe school facilities. This helped the district to be DRRM-ready. In addition, Project DINA, or Disaster Information for Nationwide Awareness Project aimed to disseminate information on DRRM to the public. It is part of the National Disaster Risk Reduction and Management Council's (NDRRMC) project to make Filipinos aware of DRRM (Fonbuena, 2013; United Nations, n.d.).

The public school teachers in Cebu, Philippines integrated DRRM into their lessons in collaboration with the Japan International Cooperation Agency (2021) to create manuals on operations and response, including the DRRM model to promote disaster education. The in-service teachers and students in Cebu were trained on DRRM practices under the project Promotion of School Disaster Risk Reduction and Management which Japan's Hyogo Prefecture Board of Education also developed. Moreover, they will fully understand their role as safety officers in schools once they are exposed to these trainings. With this, they can contribute to the preparation and management of risks brought by disasters to secure the safety and welfare of students. PNU can help by providing free and sponsored DRRM training, in collaboration with the government, to the in-service teachers focusing on elevating DRRM awareness and preparedness.

In connection, the second aim about improving preparedness in partner schools by identifying specific DRRM-related challenges faced by pre-service teachers that will lead to the development of best practices and guidelines for enhancing disaster resilience in the education sector was also answered in this study. According to this study, DRRM-related challenges like natural disaster challenges, preparation and management of emergency routines, control and prevention of infectious diseases, human errors in administering emergency plans, and lack of safety equipment and facilities are the common encounters of the pre-service teachers in their partner schools. Due to



the geographical situation of the Philippines, typhoons, floods, and earthquakes are the common disasters encountered by Filipinos (The World Bank, 2023). The data reveals that partner schools employ multifaceted approaches in handling DRRM-related concerns. This includes active participation of all stakeholders in DRRM training, dissemination of comprehensive health and safety guidelines, dedicated allocation of resources for safety equipment, and seamless integration of DRRM knowledge into the curriculum. These strategic measures are pivotal not only in augmenting the DRRM awareness of pre-service teachers but also in providing invaluable guidance for curriculum design and instructional strategies, ensuring future educators are well-prepared to navigate emergency situations.

Moreover, this study delves into the impact of DRRM training on in-service teachers, shedding light on their potential role in disaster risk reduction and management, as well as their comprehensive understanding of their responsibilities as safety officers. Additionally, the study underscores the seamless integration of DRRM principles into their teaching methodologies. These insights are of paramount importance in shaping curriculum development and refining instructional methods to guarantee that pre-service teachers are suitably equipped to handle emergency scenarios.

Specifically, the research highlights key areas of focus for pre-service teachers' training preferences, which encompass survival skills, safe space seminars, basic first aid, environmental health awareness, and search and rescue operations. These preferences not only serve as a blueprint for effectively integrating DRRM principles into the education of future teachers but also offer invaluable insights for curriculum development and instructional strategies. As a result, pre-service teachers are better equipped to respond to emergencies within their professional capacities.

The results of this study conform to the study of Escobar (2021) which states the top five DRRM-related challenges encountered by the school head and in-service teachers in their schools. Two of those challenges are the lack of DRRM training for teachers and the lack of participation from the parents in DRRM-related activities. Preparing the pre-service teachers with DRRM training and the participation of the stakeholders to DRRM-related activities will be beneficial to the development goals of the community.

Conclusions and Suggestions

Conclusions

Based on the study's findings, it is evident that most pre-service teachers at the Philippine Normal University Manila possess a basic level of awareness of DRRM knowledge and skills, with only a small number who are well aware of the understanding of DRRM, as they believe it is their responsibility as future educators to fully equip themselves with the necessary skills needed for DRRM. During their placement in partner schools, these pre-service teachers encountered various natural disasters and hazards, observing how the partner schools addressed such situations through stakeholder involvement in planning, safety information dissemination, and budget allocation for DRRM equipment and facilities. Exposure to DRRM training would enable pre-service teachers to integrate DRRM skills and knowledge into their future lessons, fostering a safe and healthy school environment. Recognizing the importance of practical skills in addition to knowledge, the pre-service teachers emphasized the need for DRRM training to effectively prepare for disaster-related risks. The impact of DRRM training is likely to be more significant if provided before deployment to partner schools. They suggested training in various areas such as basic life support, first aid, intentional injury prevention, environmental protection, search and rescue, and



survival skills, which they believe would mold teachers to be more DRRM-ready and contribute to creating a DRRM-prepared school environment.

Suggestions

To enhance Disaster Risk Reduction and Management (DRRM) in the curriculum, PNU should review and update its educational programs to seamlessly integrate DRRM principles and skills across various subjects, with a focus on practical application in educational settings. This can be achieved by implementing practical training sessions and simulation exercises for pre-service teachers to gain hands-on experience in responding to DRRM-related challenges like fire emergencies, natural disasters, and health risks. Moreover, fostering partnerships between Teacher Education Institutes (TEIs) and local communities will expose pre-service teachers to real-life DRRM situations and engage them in community based DRRM initiatives.

To ensure effective teaching of DRRM concepts, faculty development should be prioritized with regular training and workshops for teachers to enhance their knowledge and teaching skills in this domain. Additionally, advocating for increased budget allocation to support DRRM training and providing partner schools with necessary resources, such as emergency equipment and facilities maintenance, will strengthen DRRM implementation.

For continuous improvement, a longitudinal assessment mechanism should be established to monitor the effectiveness of DRRM training on the graduates' readiness to handle DRRM-related challenges in their future careers as educators. Lastly, conducting further research on DRRM awareness among pre-service teachers in different TEIs will contribute to a better understanding of the current state and inform future strategies to promote DRRM education effectively.

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