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MESSAGE FROM THE EDITOR-IN-CHIEF

A Commitment to Excellence

Dear Readers,

Greetings and welcome to the third edition of Philcad Academician Publishing. I am delighted and excited to introduce this latest collection of works, which highlights the outstanding research and perspectives from our dynamic academic community.

We are dedicated to creating a platform that encourages scholarly dialogue and creativity, and this dedication remains strong and unchanged. This issue highlights the wide range of viewpoints and innovative concepts that contribute to the progress of education and knowledge in different disciplines.

I express profound gratitude to our committed contributors, whose ardor and meticulousness are apparent in each essay. Their endeavors not only enhance our comprehension but also stimulate novel paths for investigation and implementation.

I would like to express my sincere gratitude to our editorial board and reviewers. Through their painstaking efforts, we are able to maintain the utmost level of academic quality.

As you delve into this matter, I trust that you discover motivation and significant revelations that will ignite additional discourse and cooperation. We appreciate your ongoing support and involvement with Philcad Academician Publishing.

The individual holding the highest editorial position at Philcad Academician Publishing is referred to as the Editor-in-Chief.

Warm regards,

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PHILIPPINE JOURNAL OF ACADEMICIAN & PROFESSIONALS (PJAP)

AIMS AND SCOPE

The Asian Research Journal of Business is an interdependent journal that undergo peer-review and it is classified as a refereed journal. The main purpose of this journal is to serve as a platform for sharing high-quality research, innovative practices, and stimulating discussions in the areas of business within the diverse Asian context. The journal aims to promote collaboration and the sharing of knowledge among researchers, educators, practitioners, and policymakers to tackle the complex challenges and opportunities in these interconnected fields.

TYPES OF ARTICLES PUBLISHED

The ARJB welcomes submissions that fit under the following areas:

1. Research articles based on original investigations.
A primary research report is authored by individuals who are directly engaged in the execution of the research investigation. The researchers delineate their work in the report through five principal sections. In addition, it is accompanied by an abstract, a list of cited sources, and tables/figures. The primary components of its fundamental structure should include: The structure of the study includes five main sections:

a) Introduction
b) Methods
c) Results
d) Discussion
e) Conclusions

The introduction provides an overview of the pertinent literature, theoretical underpinnings, framework, and importance. The methodology includes the study's framework, individuals involved, tools utilized, processes followed, analysis of data, and maintenance of data. The results section provides a comprehensive presentation of the collected data and findings, while also addressing the study questions. The discussion section analyzes the findings in connection to the theoretical literature and framework. Ultimately, the conclusions section presents the overarching findings and proposed suggestions.

The Original Research Report typically consists of approximately 6,000-8,000 words, without including references, tables, and figures. The maximum allowable word count for the abstract is 250 words with 5 keywords. Compliance with the APA 7th edition requirements are required for formatting, references, and citations.

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PUBLICATION ETHICS

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1. Submission: Authors must submit their research manuscripts via email at: filcad2024@gmail.com or minsowarebacolod@gmail.com Submissions are expected to adhere to the journal' s guidelines for manuscript preparation and submission. The submitted articles willbe subjected to a rigorous review procedure. The entire procedure will require approximately 4-10 weeks. Authors are required to promptly communicate with the publication team during the entire process.

2. Initial Review: Upon submission, the editorial board conducts an initial review to check for adherence to the journal' s guidelines and to ensure the manuscript' s alignment with the journal' s scope and focus. Manuscripts that do not meet the journal' s basic requirements may be returned to authors for revision or rejected at this stage. This will assess the submission for compliance with the requirements of the journal, as well as for any resemblances to other works and instances of plagiarism through the Turnitin software with a maximum of 15 % similarity index.

3. Peer Review: Manuscripts that pass the initial review are sent out for a review process. The journal typically engages expert reviewers with relevant expertise in the subject area of the manuscript. Reviewers evaluate the manuscript for its quality, originality, methodology, significance, and contribution to the field.

4. Revisions: If the authors receive feedback from reviewers and the editorial board as stipulated in the Notice of Acceptance. If revisions are required, authors are typically allowed to address the reviewers ' comments and make necessary changes to their manuscript.

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7. Publication: Once the manuscript is finalized and the author is satisfied with the proofs, the article is published in the Philippine Journal of Academician & Professionals in Print and Online.

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2. Use bold Times New Roman font with a font size of 12 for the title. Apply capitalization to all proper nouns and omit the use of a period after the title.

3. The authors of the manuscript should have made significant contributions to the intellectual content of the work, including the conception, design, development, analysis, and critical writing. Upon submission of the manuscript, all co-authors are expected to take responsibility for their contributions and have given their consent to the final version of the manuscript and its submission to the PJAP.

4. All headings must be formatted in Times New Roman with a font size of 12. Apply capitalization to the initial letter of proper nouns.

5. The abstract, acknowledgments, and main body of the essay should be formatted using Times New Roman font, size 12, and single spacing.

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8. The manuscript should adhere to a consistent single-column layout across the entire document.

9. Tables and figures by the APA 7th edition style guide should be added accordingly into the paper. The titles in the table should be written on top while the figure should be written below it.

10. The acknowledgment section should be included.

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THE RESEARCH ARTICLES

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PREPAREDNESS OF DEPED PERSONNEL IN DISASTER RISK REDUCTION MANAGEMENT

Jenard G. Tugade
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ABSTRACT

The research study aims to measure the level of preparedness of the Deped personnel of Rosales District II in disaster risk reduction management in terms of prevention, mitigation, preparedness, response, and recovery. It was conducted to find out whether there was a significant difference in the level of preparedness if the respondents were grouped according to sex, educational attainment, and position. Stratified random sampling using proportional allocation was used to determine the sample size. ANOVA test for significant difference in the number of respondents when grouped according to sex and educational attainment, and T-test for gender.

The respondents did provide a good level of preparedness in terms of prevention, mitigation, preparedness, response, and recovery. Results showed that they are comprehensively or fully prepared. Also, when respondents were grouped according to sex and educational attainment, there was a significant level of response, suggesting that these factors influence preparedness levels. It also implies that preparedness levels vary between male and female respondents and among different educational attainment groups. There was no significant difference when grouped according to position, indicating that preparedness levels are relatively consistent across teaching and non-teaching personnel.

Keywords: *DRRM, Preparedness, DepEd Personnel, Disaster Risk Reduction Management*

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INTRODUCTION

The stakes are higher because of climate change. It is like everyone, from children to adults and people from all walks of life, is dealing with big problems when bad weather strikes. So, we came up with some good ideas to help everyone. These plans must consider what each neighborhood knows and has, and how they handle challenging situations differently (Garcia, 2021). To make these plans rock, we must learn about the communities we are trying to help. The study of Tan (2022) looks into how people are affected by disasters and how well they can handle what comes after. It is also about how people and their communities can work together to change the things that make them super susceptible to disasters in the first place. Focusing on understanding how communities can address the impacts of disasters can give a better analysis of people's vulnerabilities and their collective capacities.

Based on the research conducted by Pulhin et al. (2021), human security in Asia is affected by disaster risks and climate change that highlight the vulnerability of the region, the imperative for creative responses, and an improved understanding of the inter-linkage between climate change, disaster risks, and human security. DepEd personnel need to be adequately trained for disaster risk reduction and management (DRRM) through enhanced understanding and innovative solutions that address the interrelated problems of human security, disaster risks, and climate change. Additionally, in the study of Bean (2021), interpretive/critical research has made significant contributions to disaster-related fields by emphasizing equality, marginalized perspectives, and cross-disciplinary collaboration to create fairer and effective disaster risk management systems. DepEd officials must adopt inclusive and cooperative approaches in DRRM to guarantee that preparedness measures are fair and considerate of the various requirements of the school community.

Community-based disaster management models provide a bottom-up approach that emphasizes local contexts, Indigenous knowledge, and community competence above the top-down approaches commonly advocated by disaster risk reduction specialists (Ponce de Leon, 2021). DepEd personnel should be trained on the value and application of community-based disaster management techniques that leverage local resources and knowledge. It enhances their preparedness by aligning DRRM strategies with the unique needs, traits, and resources of the school communities they serve. The study compares with the top-down approaches often utilized by disaster risk reduction professionals, which support more locally specific approaches, according to the survey by Abenir et al. Al., 2022; Mendoza & Flor, 2024. Research on community-based leadership in disaster governance is limited.

Local non-governmental organizations (NGOs) are crucial in disaster risk reduction and management within the Philippines, emphasizing that they are capable of complementing government action with the use of local knowledge, people's trust, and exceptional capacities and advocating for their establishment as partners, not competitors, within the global humanitarian framework (Atienza & Quilala, 2021). The importance of DepEd personnel locating and collaborating with local NGOs as crucial partners in DRRM projects. Strengthening these partnerships can increase their preparedness by leveraging local expertise, reliable community networks, and other disaster preparation and response resources. Strong local government activities positively impact community involvement and disaster preparedness awareness (Andrada et al., 2020). The readiness of DepEd personnel in DRRM will be significantly increased by active collaboration with strong local government initiatives that encourage community involvement and awareness.

Based on the research of Nacaya et al. Al., 2023, on Assessment of the Disaster Response of the Barangay (Villages) in the River Basin Communities in Southern Philippines, the operational ineffectiveness in critical areas such as availability of resources, coordination, and mobilization is an indication that community-level reforms and improved preparedness are required to comply with the DRRM law in its entirety. For complete adherence to the DRRM law at the community level, DepEd employee must enhance their DRRM readiness by filling in the gaps in resource availability, coordination, and mobilization.

Barangay officials and residents in disaster-prone areas demonstrate high disaster resilience and a strong ability to maintain public order during disasters, indicating that disaster preparedness policies are effective. Tanguid, Jr., and Tanguid (2023) recommend implementing a comprehensive resilience program to improve disaster risk management. Personnel of DepEd must support and engage in comprehensive resilience programs to increase their preparation for disaster risk management. To guide the creation of DRRM policies and programs, six emergent themes were found in the study, namely: DRRM policy implementation, BDRRMC projects, minimal fund allocation, community support, Samaritans in the Sanggunian, and LGU reinforcement (Rodriquez-Lirios & Donato, 2023). The study of Rodriguez-Lirios and Donato identified six critical themes—DRRM policy implementation, BDRRMC projects, constrained resource allocation, community support, Samaritans in Sanggunian, and LGU reinforcement—to aid in the development of effective DRRM policies and programs. The Barangay Risk Reduction Management Office's (BDRRMO) effectiveness in disaster mitigation, readiness, response, and rehabilitation shows effective safety protocol implementation and execution of its role as a first responder in disaster-prone areas (Ledesma et al., 2024). The relevance of close communication between DepEd personnel and local first responders is to ensure the successful implementation of school-based safety protocols in disaster-prone areas and to enhance their preparedness.

School leaders should develop disaster preparedness plans, provide training, foster partnerships, and enhance knowledge for a proactive culture of preparedness (Doong III, 2024). To promote an organized preparedness culture, school leaders must create emergency plans, provide training, form collaborations, and raise awareness. Consistent disaster management practices in schools significantly improve preparation and resilience to different hazards, resulting in a safe learning environment and the development of an environment of safety, which benefits students, staff, and stakeholders (Arao-Arao & Lumapenet, 2024). Regular disaster management protocols in schools promote preparedness and resilience to various hazards, resulting in a safe learning environment for learners, employees, and stakeholders. Pojas (2024) conducted a study where stakeholders agreed that the benefits of DRRM programs were significant, with improvement being needed. Stakeholders often identify the advantages of Disaster Risk Reduction and Management (DRRM) programs, but also highlight the need for ongoing improvement to make them effective.

Teachers demonstrate a strong link between environmentally responsible behavior and disaster preparedness, prompting recommendations for improving disaster preparedness committees, developing a clear disaster risk management plan, conducting regular drills and training, providing emergency supplies, incorporating disaster awareness into the curriculum, and updating DRRM planning regularly to adapt to environmental changes (Gaurano & Andal, 2024). Teachers emphasize the importance of environmentally responsible behavior in disaster preparedness, resulting in improvements to committees, planning, drills, resources, curriculum, and DRRM updates.

Significant challenges have been identified during various Disaster Risk Reduction Management implementation stages, including policy development, personnel, funds, and education, requiring recommendations for a DRR integration module, training, and budget allocation (Acjerto et al., 2023). Many stages of DRRM implementation have shown significant policy development, personnel, funding, and education issues. To address these problems, planners propose methods such as designing a DRR integration module, providing training, and allocating appropriate resources.

Based on the study by Abas et al. (2024), students' awareness of disaster risk reduction and management supports sustainable development, particularly goals related to quality education and resilient communities. Students' understanding of disaster risk reduction management helps to promote sustainable development and aligns with the aims of quality education and strong communities. Conversely, in the view of Malasarte et al. (2024), Students can grasp risk mitigation procedures well. However, since their level of awareness and preparedness before, during, and after disasters varied, this suggested increased outreach and training in disaster risk reduction management to enhance students' chances of survivability.

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While students can understand risk mitigation procedures, their various knowledge and preparedness levels indicate the need for increased disaster risk reduction training and communication.

Assessing the preparation of DepEd Personnel as a component of Rosales District II's School Disaster Risk Reduction Management Council is imperative to effectively responding to natural disasters. This evaluation tests the strengths and vulnerabilities in current disaster preparedness efforts to inform focused training and resource allocation.

Objective of the Study

This study aims to assess the level of preparedness of DepEd personnel in implementing Disaster Risk Reduction and Management (DRRM) measures. It seeks to identify strengths and gaps in their knowledge, skills, and resources to enhance school safety and resilience.

Statement of the Problem

This study aims to evaluate the preparedness of DepEd Personnel in Disaster Risk Reduction Management. Specifically, it seeks to answer the following questions:

1. What is the respondents' profile in terms of;
 a. Sex;
 b. Educational Attainment; and
 c. Position?
2. What is the level of preparedness of the respondents in terms of:
 a. Prevention;
 b. Mitigation;
 c. Preparedness;
 d. Response; and
 e. Recovery?
3. Is there a significant difference in the level of preparedness of the respondents when grouped according to:
 a. Sex;
 b. Educational Attainment; and
 c. Position?
4. What program can be proposed to enhance the preparedness of the DepEd Personnel in Disaster Risk Management?

METHODOLOGY

Research Design/Method

This study used the descriptive method to determine DepEd Personnel's Disaster Risk Reduction Management preparedness level. According to Shana McCombes (2019), Descriptive research is the systematic observation and measurement of a population or phenomenon to answer the questions "what," "where," "when," and "how" without regard for other considerations. Descriptive research seeks to gather accurate and factual information by observing and measuring variables in their natural environment, providing conclusions about the current state of a population or phenomenon. Unlike experimental research, it does not aim to explain “why," but serves as a platform for detecting trends and linkages.

Population and Locale of the Study

The study was conducted at the Rosales District II Office and focused on the preparedness of 126 DepEd Personnel.

Instrumentation

The researcher used the Multi-Level Sampling Technique with Slovin's Formula and Stratified Random Sampling to calculate the sample size required from the target population to distribute the survey questionnaire. This formula produced a statistically representative sample, lowering the possibility of sampling bias and guaranteeing that the results were significant within the specified Margin of error.

The researcher used a questionnaire checklist to gather the data needed for the study. The researcher prepared an instrument consisting of two parts: Part 1 covered the respondents' personal information, and Part 2 focused on assessing their level of preparedness.

Respondents were given questionnaires to complete in order to gather data. A letter granting permission to conduct the questionnaire was sent to the Public Schools District Supervisor's office before the data collection process. The researcher distributed the questionnaires using Google Forms. There was enough time for respondents to finish the checklist. Similarly, the researcher assured the respondents that all information gathered would be utilized only for this research. This approach aimed to ensure that the data was as valid, reliable, and objective as possible.

Cronbach's Alpha was employed in this study with a 0.05 margin of error to guarantee the validity of the findings.

The researcher used the weighted mean to treat the data from the survey questionnaire to determine the level of preparedness, covering prevention, mitigation, preparedness, response, and recovery of the DepEd personnel of the Rosales District II Office. The researcher adopted the four-point Likert Scale for the different scales with descriptions and interpretations.

An ANOVA was used to check whether there is a significant difference in the number of respondents grouped according to educational attainment and position, and a t-test for gender was used.

Results and Discussion

The School Disaster Risk Reduction and Management (SDRRM) Council, which worked to protect students and staff through proactive disaster risk reduction programs, emergency response planning, and resilience-building exercises, relied heavily on teaching and non-teaching staff. Their collective efforts help to create a safe learning environment by raising awareness, conducting exercises, and implementing disaster mitigation measures within the school community.

Table 1 presents the profiles of teaching and non-teaching personnel in terms of their preparedness as members of the school's disaster risk reduction and management council.

Table 1:
Respondent’s Profile

Profile	**Frequency**	**Percentage (%)**
Sex		
Male	20	15.9
Female	106	84.1
Total	**126**	**100**
Educational Attainment		
Bachelor's Degree	19	15.1
Master’s Degree	41	32.5
Doctorate Units	9	7.1
Doctorate Degree	10	7.9
Total	**126**	**100**
Position		
Teaching Personnel	105	83.3
School Head	12	9.5
AO II/PDO I	9	7.1
Total	**126**	**100**

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Most responders (84.1%) are female, indicating a higher proportion of women in the research. A highly competent population was suggested by the fact that the majority had pursued higher education, with 32.5% holding master's degrees and 37.3% receiving MA units. Additionally, a sizable chunk (83.3%) was composed of teaching staff, whereas a smaller number (9.5%) was made up of school administrators, administrative officers, and project development officers (7.1%). These findings suggested that the respondent pool placed a high priority on teaching personnel.

Based on Guha and Kadam's (2024) Socio-Economic Profile of Respondents-Managers, their study examines executives from private and public companies in the service and manufacturing sectors to understand gender-based workplace barriers. It investigates a wide range of factors—demographic, personal, organizational, work, and social—that may influence the professional development of female CEOs. This work is essential because it provides a comprehensive understanding of the numerous challenges female executives face when advancing their careers, informed by different points of view from across genders and industries.

While the study of Guha and Kadam's examines the barriers faced by female CEOs in advancing their careers across various industries, the other assesses the ways in which female teaching personnel contribute to disaster mitigation efforts. Both studies focus on the ways that gender influences readiness and professional development. These studies significantly illustrate the importance of specialized training and support initiatives that empower women to take on leadership roles in the workplace and disaster preparedness.

Table 2:
Level of Preparedness of the Respondents under the Prevention Area

Prevention	Mean	Descriptive Equivalent
1. Understand the disaster risk factors (earthquake zones, flood-prone areas) specific to the school's location.	3.68	Comprehensively or Fully Prepared
2. Effectively taught students about the importance of early warning systems, including their functions, signals, and the appropriate response actions to disaster alerts.	3.66	Comprehensively or Fully Prepared
3. Identify and eliminate potential hazards, such as securing heavy furniture and keeping exits clear within the classrooms, offices, and common areas.	3.69	Comprehensively or Fully Prepared
4. Effectiveness of inspecting and reporting building maintenance issues, such as cracks, leaks, and electrical issues. These issues could escalate during a disaster.	3.55	Comprehensively or Fully Prepared
5. Regularly conduct and review emergency drills for various disaster scenarios such as fire, earthquake, and other calamities.	3.65	Comprehensively or Fully Prepared
Overall Weighted Mean	**3.65**	**Comprehensively or Fully Prepared**

Table 2 shows that the respondents demonstrated a high level of preparedness in the prevention area, as seen by an overall weighted mean of 3.65, which falls into the Comprehensively or Fully Prepared group. Identifying and eliminating potential hazards obtained the highest rating (3.69), demonstrating exceptional safety standards for securing furniture and keeping exits clear. Although it remains in the top category, checking and reporting building maintenance issues (3.55) received the lowest rating, indicating a possible area for improvement in disaster risk management.

Based on the study of Huriani et al. (2025), they evaluated earthquake and tsunami preparedness among high school students in Padang's red and green zones, determining that the red zone has significantly higher preparedness levels due to specific mitigation efforts. It underlines the significance of comprehensive disaster education and preparedness approaches in all zones, recommending school-based planning and nursing involvement in disaster awareness campaigns. This study is essential because it underlines the importance of comprehensive disaster preparedness education in all risk zones to ensure that all students, regardless of geography, are adequately equipped to respond to natural disasters.

Both studies highlight the importance of comprehensive preparedness strategies in disaster risk management. One concentrates on the high level of preparedness demonstrated in various safety practices, and the other on the variations in earthquake and tsunami preparedness among high school students in different risk zones. Together, they highlight the need for ongoing improvements to personal safety procedures and community-wide disaster education, ensuring that all groups, regardless of location, are sufficiently equipped to handle potential hazards.

Table 3:
Level of Preparedness of the Respondents under the Mitigation Area

Mitigation	Mean	Descriptive Equivalent
1. Planning to reduce potential fire hazards involves maintaining electrical systems, ensuring proper wiring, and strictly enforcing no-flame policies.	3.55	Comprehensively or Fully Prepared
2. Consistently ensuring that emergency supplies, such as first aid kits and fire extinguishers, are regularly updated and readily accessible.	3.56	Comprehensively or Fully Prepared
3. Effectively create and maintain evacuation routes by ensuring they are clear of obstructions and potential hazards.	3.63	Comprehensively or Fully Prepared
4. Being trained to minimize injury risks during disasters through procedures like earthquake drop-cover-hold techniques and fire evacuation methods.	3.61	Comprehensively or Fully Prepared
5. Integrating hazard mitigation efforts by educating students and school staff on strategies to reduce disaster risks.	3.62	Comprehensively or Fully Prepared
Overall Weighted Mean	**3.60**	**Comprehensively or Fully Prepared**

Table 3 shows that the respondents demonstrated a high level of preparedness in the mitigation area, as seen by an overall weighted mean of 3.60, which falls into the Comprehensively or Fully Prepared group. Among the indicators, the highest rating was given to creating and maintaining evacuation routes (3.63), highlighting strong efforts in ensuring clear and safe pathways during emergencies. Meanwhile, planning to reduce potential fire hazards (3.55) received the lowest rating, suggesting that while fire safety measures are in place, there may be a need for stricter enforcement or regular inspections to ensure further preparedness.

According to a study by Mutolib et al. (2025), community understanding of disaster mitigation techniques near Mount Galunggung is moderate, despite previous eruptions and ongoing volcanic hazards, but total preparation is still lacking. It highlights the importance of integrating broader stakeholder cooperation with local knowledge, such as environmental indicators and traditional warnings, to increase community readiness for future volcanic disasters. Because it highlights the urgent need to combine local knowledge with coordinated help from numerous stakeholders, this study is important in enhancing the preparedness of vulnerable communities for volcanic incidents.

Both studies highlight the significance of having a solid disaster preparedness strategy, with one focusing on the effectiveness of evacuation routes and areas for development in hazard reduction and the other on moderate but insufficient preparedness in volcanic danger zones. They stress the importance of combining strong mitigation strategies, such as clear evacuation plans, with community-based knowledge and multi-stakeholder collaboration to ensure total disaster readiness in urban and vulnerable locations.

Table 4:
Level of Preparedness of the Respondents under the Preparedness Area

Preparedness	Mean	Descriptive Equivalent
1. Being well-trained in the school's disaster preparedness plan, including detailed knowledge of evacuation and shelter-in-place procedures.	3.56	Comprehensively or Fully Prepared
2. Conducting regular disaster drills effectively to prepare both students and staff for emergency scenarios.	3.71	Comprehensively or Fully Prepared
3. Managing student safety during disasters with preparedness, ensuring all students are accounted for and guided to safety.	3.77	Comprehensively or Fully Prepared
4. Consistently communicating the disaster preparedness plan to parents, ensuring they are informed about procedures to follow during emergencies.	3.64	Comprehensively or Fully Prepared
5. Being trained to effectively administer first aid and CPR to address disaster-related injuries.	3.21	Moderately or Adequately Prepared
Overall Weighted Mean	**3.58**	**Comprehensively or Fully Prepared**

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Table 4 shows that the respondents demonstrated a high level of preparedness in the mitigation area, as seen by an overall weighted mean of 3.58, which falls into the Comprehensively or Fully Prepared group. The respondents gave the highest rating (3.77) to managing student safety during disasters, indicating strong protocols for ensuring student accountability and guidance during emergencies. However, training in first aid and CPR (3.21) received the lowest rating, falling under Moderately or Adequately Prepared, suggesting a need for more extensive training programs to enhance emergency medical response skills among school personnel.

The Kiran et al. (2025) study, which focuses on staff and student attitudes toward earthquake preparedness and the effectiveness of the current disaster management training in Rawalpindi/Islamabad, demonstrates the significance of schools in disaster risk reduction. While most respondents say they are confident in the training, significant concerns about emergency supplies and poorly practiced evacuation plans point to crucial areas that need improvement. Consequently, the researchers recommend more frequent exercises, better resource allocation, and open safety inspections. This study emphasizes the necessity of increased emergency supplies, regular drills, and structural safety to protect vulnerable student groups during natural disasters. Additionally, it highlights serious weaknesses in emergency planning at schools.

Both studies highlight how important schools are to disaster mitigation; one demonstrates that while they are ready to handle student safety, they still require additional first aid training, while the other reveals that emergency supplies and evacuation plans are insufficient despite positive attitudes toward disaster training. Together, they demonstrate the urgent need for comprehensive school-based disaster preparedness programs that include medical response training, resource readiness, regular drills, and open safety procedures to ensure the safety of students and staff in an emergency.

Table 5:
Level of Preparedness of the Respondents under the Response Area

Response	Mean	Descriptive Equivalent
1. Following evacuation procedures diligently to ensure all students are evacuated safely and quickly during an emergency.	3.71	Comprehensively or Fully Prepared
2. Actively administer effective first aid to students or colleagues who sustain injuries during a disaster, ensuring prompt and efficient care.	3.52	Comprehensively or Fully Prepared
3. Consistently accounting for all students and staff during a disaster through accurate roll calls and headcounts.	3.75	Comprehensively or Fully Prepared
4. Coordinating effectively with local emergency responders, such as BDRRMO, LDRRMO, police, and fire departments, during disaster response efforts.	3.58	Comprehensively or Fully Prepared
5. Initiating emergency response protocols, such as evacuations and lockdowns, promptly and efficiently during a disaster.	3.64	Comprehensively or Fully Prepared
Overall Weighted Mean	**3.64**	**Comprehensively or Fully Prepared**

Table 5 shows that the respondents demonstrated a high level of preparedness in the response area, as seen by an overall weighted mean of 3.64, which falls into the Comprehensively or Fully Prepared group. The highest rating was given to accounting for all students and staff during a disaster (3.75), reflecting strong safety protocols for ensuring that everyone is adequately monitored. Meanwhile, providing effective first aid (3.52) received the lowest rating, indicating that while preparedness is generally strong, further training in first aid skills could enhance the overall emergency response capabilities of the respondents.

Rabbani and Cotton's (2025) study employs the Social Amplification of Risk Framework (SARF) to examine how residents of coastal Bangladesh's varied risk perceptions impact their reactions to environmental hazards. The study identifies important elements such as communication effectiveness, cultural norms, and trust in institutions. It highlights how crucial it is to adjust relocation and disaster preparedness plans to local attitudes and values, and it suggests that SARF-informed policies can strengthen efforts to reduce risk and adapt to climate change in communities that are already at risk. This study is significant because it demonstrates how implementing and understanding local risk perceptions using the SARF framework can result in better cultural awareness and successful disaster preparedness and climate adaptation plans for communities that are at risk.

The other study emphasizes how local risk perceptions, determined by institutional trust and cultural norms, affect community reactions to environmental dangers. The first study emphasizes the high levels of emergency preparedness at schools while pointing out the need for improved first-aid training. Both studies emphasize the importance of readiness and response in disaster-prone areas. Together, they show how crucial it is to enhance disaster resilience in institutional and community contexts by integrating structured emergency plans with culturally aware, perception-based strategies, such as those suggested by SARF.

Table 6:
Level of Preparedness of the Respondents under the Recovery Area

Recovery	Mean	Descriptive Equivalent
1. Assesses and repairs damage to school facilities after a disaster to ensure the safety and functionality of the premises.	3.55	Comprehensively or Fully Prepared
2. Communicating effectively with parents and guardians about the recovery process and the measures being taken to ensure safety.	3.60	Comprehensively or Fully Prepared
3. Ensuring the continuity of education and work during the recovery period through effective planning and resource management.	3.66	Comprehensively or Fully Prepared
4. Supporting students and staff in transitioning back to normal routines and activities after a disaster.	3.69	Comprehensively or Fully Prepared
5. Reviewing and updating disaster preparedness and response plans thoroughly, incorporating lessons learned from the disaster.	3.69	Comprehensively or Fully Prepared
Overall Weighted Mean	**3.64**	**Comprehensively or Fully Prepared**

Table 6 shows that the respondents demonstrated a high level of preparedness in the recovery area, as seen by an overall weighted mean of 3.64, which falls into the Comprehensively or Fully Prepared group. Respondents gave the highest ratings (3.69) to supporting students and staff in transitioning back to regular routines and reviewing and updating disaster preparedness plans, indicating strong efforts in post-disaster adaptation and improvement. Meanwhile, assessing and repairing damage to school facilities (3.55) received the lowest rating, suggesting a potential area for strengthening efforts in infrastructure recovery and safety assurance.

According to Borr's (2025) study, the Recovery Gap Index (RGI) is a composite tool that evaluates a nation's capacity to recover from disasters by integrating information from other international indices covering social, economic, and infrastructure resilience. It highlights disparities in recovery readiness across the globe and aims to help specialists in disaster management and decision-makers make educated decisions to boost resilience, especially in vulnerable areas. This study presents a comprehensive and data-driven tool called the Recovery Gap Index (RGI) to help policymakers identify gaps in their nations' disaster recovery capacities and implement targeted programs to increase resilience, especially in high-risk areas.

Although one study emphasizes the need for better infrastructure restoration, the other emphasizes efficient recovery planning. It demonstrates outstanding school-level initiatives to assist staff and children in returning to their regular routines and enhancing their readiness techniques. Together, they demonstrate how important it is to implement local and national programs to enhance post-disaster recovery, especially for more susceptible communities. The Recovery Gap Index (RGI), a global instrument for assessing national recovery capacities, is presented in the other section.

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Table 7:
Significant Difference in The Level of Preparedness of The Respondents When Grouped

	T/f Test	P Value	Significance
Sex	-6.07	0.00	Significant
Educational Attainment	7.61	0.00	Significant
Position	61.98	2.22	Not Significant

Table 7 shows that the results indicate a significant difference in respondents' preparedness level when grouped according to sex (p = 0.00) and educational attainment (p = 0.00), suggesting that these factors influence preparedness levels. The findings imply that preparedness levels vary between male and female respondents and among different educational attainment groups. However, there is no significant difference when grouped according to position (p = 2.22), indicating that preparedness levels are relatively consistent across teaching personnel, school heads, and administrative officers.

Gender differences exist in disaster preparedness knowledge, with women scoring lower than men (Sari & Ridhwan, 2022). The study also showed that academic levels, especially in geography classes, are favorably connected with involvement in simulation activities and catastrophe awareness. There are instances when disaster education and associated courses are unavailable to lower-level pre-service instructors. Additionally, factors including financial status, prior experience, and equitable treatment during tests and simulations impact knowledge of disaster preparedness.

These findings suggest that DepEd personnel's preparedness for DRRM may be influenced by factors such as gender inequity, educational background, and the availability of relevant training. To ensure complete preparedness, it is essential to bridge the gaps in disaster education, particularly for workers with lower academic standing, and to promote equitable access to simulation tools and activities for individuals of all genders and socio-economic backgrounds.

Based on the statistics of the research, strengthening first aid and emergency response training is needed since first aid preparedness received lower ratings (3.21 in preparedness, 3.52 in response); hence, conducting regular first aid and CPR training for teachers, school staff, and students in partnership with local health organizations and emergency responders for hands-on training is highly recommended. Also, enhancing infrastructure safety and maintenance is needed. Facility assessment and repair (3.55 in recovery) was the lowest-rated aspect, indicating a need for more frequent inspections and maintenance programs. By establishing a dedicated school safety committee, they can check regularly for hazards like cracks, leaks, and faulty wiring. To ensure all staff, regardless of education level, receive standardized DRRM training, since educational attainment significantly affects preparedness. To further improve the communication and coordination efforts, partnerships with BDRRMO, LDRRMO, police, and fire departments for joint and emergency drills and regular disaster preparedness meetings with parents and community involvement must be strengthened. Also, they may improve their awareness and coordination during emergencies by assigning specific roles to teachers, students, and staff during more realistic and frequent emergency drills. Lastly, regularly updating the School Disaster Risk Reduction Management Contingency Plan is necessary.

CONCLUSIONS

The study's conclusions indicate that Rosales District II's teaching and non-teaching personnel, who are members of the School Disaster Risk Reduction Management (SDRRM) Council, are either Comprehensively or Fully Prepared in each of the five disaster management areas: response, recovery, prevention, mitigation, and preparedness. The data shows that the staff has the necessary tools to deal with emergencies, including post-disaster recovery plans, organized emergency protocols, and proactive safety measures. Most respondents were female, highly educated, and worked as teachers. Respondents' preparedness levels varied when categorized by sex and educational attainment, indicating that these individual traits affect their preparedness for disasters. However, no significant difference was discovered according to position, suggesting that readiness initiatives are regularly carried out irrespective of job function. A focused program can be suggested in response to these findings to improve readiness in areas that require improvement, especially infrastructure damage assessment, fire hazard planning, and first aid training. It also addresses differences influenced by gender and educational background to guarantee inclusive and comprehensive disaster risk management for all school personnel.

RECOMMENDATIONS

The research proposes the following recommendations to enhance the resilience and safety of educational institutions by following the updated Department of Education (DepEd) Orders and the current assessment of disaster risk reduction management (DRRM) preparedness:

1. In compliance with DepEd Order No. 37, s.2015, emphasizes the need for a comprehensive DRRM framework in basic education. Schools should adopt and integrate this framework into their policies and procedures to ensure a holistic approach to disaster preparedness and response.
2. In compliance with DepEd Order No. 21, s.2015, the school must implement the coordination and information management protocols outlined in this DepEd Order to improve efficiency during emergencies further.
3. In compliance with DepEd Order No. 33, s.2021, schools are encouraged to develop and periodically update their disaster preparedness and response plans. Regular drills and training sessions ensure staff and students are well-prepared for potential emergencies.
4. It is important that children understand disaster risks and management measures. Disaster risk reduction subjects in the curriculum can assist students in establishing a culture of readiness and resilience.
5. Collaboration with local governments, non-governmental organizations, and other stakeholders can help increase resource mobilization and support during disasters. Community involvement results in a more coordinated and effective response.
6. Regular monitoring and assessment of DRRM operations help identify gaps and potential for development. Schools should create mechanisms to evaluate the effectiveness of their disaster preparedness and response strategies.

Using these principles, educational institutions can significantly enhance their disaster risk reduction and management capabilities, ensuring their students' and employees' safety and well-being.

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PROPOSED STRENGTHENED AND RESILIENT FLEXIBLE LEARNING PROGRAM ANCHORED ON PANDEMIC CHALLENGES IN PHYSICAL THERAPY INSTRUCTIONAL DELIVERY

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ABSTRACT

The research study aims to measure the level of preparedness of the Deped personnel of Rosales District II in disaster risk reduction management in terms of prevention, mitigation, preparedness, response, and recovery. It was conducted to find out whether there was a significant difference in the level of preparedness if the respondents were grouped according to sex, educational attainment, and position. Stratified random sampling using proportional allocation was used to determine the sample size. ANOVA test for significant difference in the number of respondents when grouped according to sex and educational attainment, and T-test for gender.

The respondents did provide a good level of preparedness in terms of prevention, mitigation, preparedness, response, and recovery. Results showed that they are comprehensively or fully prepared. Also, when respondents were grouped according to sex and educational attainment, there was a significant level of response, suggesting that these factors influence preparedness levels. It also implies that preparedness levels vary between male and female respondents and among different educational attainment groups. There was no significant difference when grouped according to position, indicating that preparedness levels are relatively consistent across teaching and non-teaching personnel.

Keywords: *DRRM, Preparedness, DepEd Personnel, Disaster Risk Reduction Management*

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INTRODUCTION

Education systems must respond swiftly to ensure continuity in learning during pandemics and other global crises, often with little time to develop innovative distance learning methods or readily accessible solutions. Countries faced numerous challenges, such as limited internet access, lack of learning resources, and insufficient digital devices. Additionally, support from families and students' familiarity with remote learning methods posed significant barriers. Monitoring student progress was also challenging for educational institutions during the disruption caused by the pandemic.

In response, many education systems quickly implemented remote learning initiatives, including home-schooling programs, paper-based assignments delivered to students' homes, free online resources, and even public TV and radio broadcasts (UNESCO, UNICEF, & World Bank, 2020). Lapitan et al. (2021) highlighted how educational institutions devised strategies to overcome challenges, such as limited resources. One such approach was the “Discover, Learn, Practice, Collaborate, and Assess (DLPCA)” strategy developed by schools in the Philippines, which integrated educators, learners, and available resources into a cohesive framework tailored to the social contexts of Filipino students.

Even as the pandemic recedes, the future of education in the Philippines remains uncertain, especially in light of recurring environmental challenges such as extreme heatwaves. The government has introduced flexible learning options to safeguard students' health and well-being amidst these extreme conditions. While the Commission on Higher Education (CHED) and the Department of Education (DepEd) have outlined guidelines for flexible learning, further enhancements are needed. The pandemic underscored the difficulties institutions faced when implementing flexible learning models, as many struggled to refine or even establish effective strategies.

The transition to remote learning has opened new possibilities for educators and students, prompting an evaluation of existing educational frameworks (Ferri et al., 2020). Synchronous and asynchronous online learning methods were widely adopted, with mixed responses from students. Sahar (2020) found that while students appreciated hybrid learning, they expressed dissatisfaction with the quality of instruction. Studies by Pavlidou et al. (2021) and Priess-Buchheit (2020) suggest that synchronous classes promote better learning experiences, enhancing social competencies, knowledge sharing, and providing immediate feedback. However, Marinoni et al. (2020) observed that the pandemic exacerbated disparities in access to education, with some higher education institutions (HEIs) struggling to adapt to the sudden digital shift.

In fields like physical therapy (PT), which traditionally rely on hands-on learning and observation, the transition to online education posed additional challenges. Face-to-face interactions in settings such as hospital wards and clinics were replaced by virtual learning, making it difficult for students to develop essential practical skills (Bleakley, 2002). The shift to online instruction, while essential during the pandemic, has led to mixed results. Studies by Singh et al. (2020) and Adarkwah (2021) revealed that many students found online learning less effective than traditional classroom environments due to limited interaction and inadequate resources.

The shift in curriculum development for PT programs during the pandemic highlights the challenges of balancing online and in-person instruction. Pre-pandemic, PT programs followed a more methodical and planned approach to integrating online and in-person elements, but the sudden pivot to online teaching left many instructors unprepared for the rapid changes. As the post-pandemic era unfolds, there is a need for further adaptation and refinement of instructional methods to ensure they effectively combine online and traditional teaching approaches.

Higher education institutions and CHED have established flexible learning guidelines in response to disruptions like heatwaves, but there are ongoing challenges in their implementation. This study aims to propose a more resilient and effective flexible learning model for PT education, based on the challenges faced during the pandemic. The shift to online education has made it more difficult for PT programs to achieve their intended goals, competencies, and learning outcomes. Time constraints, lack of preparation, and the difficulty of teaching hands-on skills in an online environment have created significant barriers to maintaining the same level of competence in students (Plummer et al., 2021).

As PT education moves forward, further refinement of flexible learning models is essential to ensure that students can develop the practical skills necessary for their future careers.

METHODOLOGY

This study employed a convergent mixed-methods research design to investigate the challenges faced by higher education institutions (HEIs) in delivering Physical Therapy (PT) programs during the COVID-19 pandemic. The design integrated both quantitative and qualitative approaches, enabling a comprehensive understanding of the challenges experienced by students, faculty, and administrators.

A convergent mixed-methods approach was selected to collect and analyze quantitative and qualitative data concurrently, with the aim of cross-validating and comparing findings (Creswell & Plano-Clark, 2018). The quantitative phase utilized descriptive statistics to identify trends and challenges, while the qualitative phase employed semi-structured interviews to explore participants' lived experiences and the factors influencing these challenges (Frey, 2018). A convergence model of triangulation (Creswell & Clark, 2011) was applied to integrate both data types, ensuring a holistic investigation of the research problem.

Purposive sampling was used to select participants based on their relevance to the study. The sample comprised third- and fourth-year PT students, faculty members (full-time, part-time, regular, and probationary), and administrators (Cluster Deans, College Deans, and Program Chairs) from selected universities in Region IV-A (CALABARZON). A total of 150 students (84 third-year and 66 fourth-year), 21 faculty members, and 9 administrators participated in the study. In addition, 12 students, 12 faculty members, and 8 administrators volunteered for one-on-one semi-structured interviews.

A self-constructed questionnaire was developed based on an extensive literature review. The instrument consisted of two sections: (1) demographic data (sex, age, year level for students; educational attainment and teaching experience for faculty; administrative experience for administrators) and (2) assessment of challenges in PT program delivery. The challenges assessed included student growth, formative assessment, technology integration, competency-based learning, and teachership. A Likert scale ranging from 1 (Strongly Agree) to 5 (Strongly Disagree) was used to gauge the extent to which participants encountered these challenges. To improve reliability, the Likert scale was adjusted according to Pimentel's (2010) recommendations.

Semi-structured interviews were conducted after the survey to gather in-depth qualitative data. A set of 10 open-ended questions was developed, corresponding to the quantitative sections of the questionnaire. Interviews were designed to capture participants' narratives and suggestions for improving the flexible instructional model during the pandemic.

Data were collected from September 2023 to January 2024. The survey was administered to participants from selected HEIs offering the BSPT program, with voluntary participation and informed consent obtained from all respondents. Ethical guidelines, including privacy and confidentiality, were adhered to throughout the data collection process. Semi-structured interviews were conducted following the survey responses.

Quantitative data were analyzed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics, including frequency counts, percentages, means, and standard deviations, were calculated to assess the participants' evaluations of the challenges. Ranking was employed to prioritize the challenges based on response magnitude. For qualitative data, thematic analysis was applied. An inductive approach was used to identify recurring themes and categories from the interview transcripts, and data were coded and categorized using Microsoft Word.

The study followed ethical guidelines set by the Ethics Review Board (ERB) of De La Salle University Dasmarinas. Permission was obtained from school directors of participating HEIs. Participants were fully informed of the study's purpose, and confidentiality was maintained by restricting access to data and storing it in password-protected files. After the study, all physical and digital data were securely disposed of in accordance with the Data Protection Act of 2012.

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Methodological triangulation was employed to enhance the validity of the study's findings. The integration of qualitative and quantitative data allowed for cross-validation of results, providing a more balanced and comprehensive view of the challenges faced by HEIs in delivering PT programs during the pandemic. This approach ensured the reliability and credibility of the study's outcomes.

RESULTS

The findings of this study underscore the significant challenges faced by higher education institutions (HEIs) in the delivery of Physical Therapy (PT) programs during the COVID-19 pandemic (Table 1). These challenges were analyzed from the perspectives of students, faculty members, and administrators, shedding light on the complex and multifaceted nature of the difficulties encountered.

Accelerating Student Growth

The results revealed that accelerating student growth was a substantial challenge. Students reported a mean score of 4.21 (SD = 0.817), indicating that they struggled to progress at the desired rate in their educational journey. This challenge was attributed to the limited opportunities for hands-on clinical experience and the difficulty in bridging theoretical knowledge with practical application in a remote learning environment. Faculty members also reported difficulties in fostering student growth, with a mean score of 4.16 (SD = 0.806). Administrators, with a mean score of 3.91 (SD = 0.832), similarly acknowledged the difficulty in ensuring that students continued to develop their knowledge and skills at the expected pace.

Qualitative Results in Accelerating Student Growth Challenge

Qualitative Results in Accelerating Student Growth Challenge

Integrating both the students' quantitative and qualitative findings provides a comprehensive view of the challenges encountered in accelerating students' growth during the transition to online learning amidst the pandemic. Multifaceted set of issues can be categorized into three main themes:

Resource Accessibility and Learning Infrastructure:

Quantitative Findings: The most significant challenges for students and faculty related to inadequate online platforms for accessing course content. Students rated this issue with a mean score of 4.46 (SD = 0.639), and faculty members rated it with a mean score of 4.62 (SD = 0.575). The administrators also emphasized challenges in ensuring that students' needs were met through proper monitoring of their progress (mean score = 4.33, SD = 0.471).

Qualitative Findings: Students and faculty both noted technical difficulties and the lack of established protocols for conducting online learning. For example, one student reported, "Inadequate online classroom set-up. The delivery of lectures, interactions, and the set-up is challenging" (Student 3). Similarly, faculty members faced issues such as "technical difficulties like internet connection problems, slow bandwidth, and slow laptop performance" (Faculty 4).

Teacher Confidence and Instructional Strategies:

Quantitative Findings: Both students and faculty members reported significant challenges regarding the teachers' ability to demonstrate confidence in delivering lessons online. Students rated this challenge with a mean score of 4.39 (SD = 0.710), while faculty rated it slightly higher at 4.43 (SD = 0.583). The teachers' ability to engage students and deliver quality lessons in an online environment was identified as a major hurdle, affecting the overall learning experience.

Qualitative Findings: Several students expressed frustration over the limited interaction with teachers, with one commenting, "The teachers just keep on doing the discussions and lectures without any interaction from the students" (Student 11). Faculty members, too, noted that "delivering skill-based learning… is really a challenge to practice skills at home" (Faculty 1), emphasizing the difficulty of adapting to the online format for practical, hands-on disciplines like physical therapy.

Empowerment and Support for Students:

Quantitative Findings: Both students and faculty members agreed on the challenge of empowering students to seek help when needed and self-assess their own learning. Students gave a mean score of 4.39 (SD = 0.815) for their difficulty in seeking assistance during lessons, while faculty members rated the challenge of empowering students to self-assess their learning at 4.43 (SD = 0.495). Administrators noted these challenges as well, but to a lesser extent, with mean scores around 3.56 and 3.89, respectively.

Qualitative Findings: Students highlighted the lack of personalized feedback and guidance from teachers. As one student noted, "Feedback from the teachers in our output and performance is missing during the pandemic" (Student 7). Faculty members echoed this concern, stating, "One of the challenges I've experienced is that there's a need for actual supervision and feedback from the teacher" (Faculty 1).

Additional Challenges

Quantitative Findings: A variety of other challenges were identified, such as the need for training for teachers on how to effectively use diverse online platforms (mean = 4.22, SD = 0.416) and the difficulty of ensuring that students could apply the concepts in a meaningful way (mean = 4.29 to 4.33 for students). Administrators also pointed out the need for more efficient systems to track students' learning progress (mean = 4.00).

Qualitative Findings: Administrators reported challenges in ensuring faculty adaptation to new online tools and systems, with one administrator stating, "One of the main challenges was the sudden shift to remote learning, which required educators to quickly adapt their instructional methods to an online format" (Administrator 4). Faculty members also struggled to find efficient ways to manage their online teaching setups, saying, "I wasn't able to adapt instantly in the organizational change and in refining learning for my students" (Faculty 8).

The convergent analysis of both quantitative and qualitative data emphasizes the critical issues of infrastructure, teacher preparedness, and student empowerment during the shift to online education for physical therapy programs. The lack of adequate technological resources, teacher confidence in online settings, and the difficulty in providing targeted support and feedback for students were major obstacles across all groups. These challenges underline the urgent need for improvements in digital infrastructure, teacher training, and personalized learning support systems in physical therapy education, particularly in the event of future disruptions. Top of Form Bottom of Form

Formative Assessment

Formative assessment was identified as another critical challenge. The average score for students was 4.13 (SD = 0.779), reflecting the struggle in the continuous and adaptive evaluation of student progress. Faculty members faced similar difficulties in effectively assessing students' learning, as indicated by a mean score of 4.04 (SD = 0.80). Administrators, with a mean score of 3.98 (SD = 0.705), noted challenges in consistently evaluating students' progress and adjusting instructional methods accordingly. These findings highlight the impediments to formative assessment, particularly in fields like PT, where practical competencies are crucial.

Qualitative Results in Formative Assessment and Differentiation Challenge

To integrate the quantitative and qualitative findings regarding students' challenges in educational settings, particularly focusing on formative assessment and differentiation, the researcher explored on how the qualitative themes converged with the quantitative data provided by the students.

Teacher Preparedness and Student-Centered Assessment

Both students and administrators agreed that teachers' ability to explore various strategies for gathering learning data was a critical issue, though students rated it higher in importance (mean = 4.23) compared to administrators (mean = 4.00). Faculty members, however, ranked this issue lower than both students and administrators. Qualitative statements from students emphasized issues such as inadequate technical skills, problems with online assessments, and lack of engaging feedback from teachers, which aligns with the quantitative findings that highlight concerns about effective formative assessment in an online learning environment. This was also seen in faculty responses, with many mentioning the difficulty of assessing student understanding accurately due to the reliance on online platforms, internet issues, and cheating.

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Training for Comprehensive Formative Assessment and Feedback
Administrators placed significant emphasis on the importance of training teachers in comprehensive formative assessment (mean = 4.11) and providing orientation on student-centered feedback. In contrast, students ranked this issue less significantly (7th), and teachers rated it even lower (13th). From a qualitative perspective, faculty members noted their struggles in adapting instructional practices and providing feedback, and students echoed the lack of meaningful feedback, which could be a consequence of insufficient teacher preparation.

Tracking Student Progress
Faculty members rated the challenge of developing sustainable systems for tracking student progress highly (mean = 4.19), while students ranked it lower (mean = 4.13). Faculty comments pointed to the difficulties of monitoring student progress accurately due to limited online tools and high potential for cheating. Students also reflected on challenges related to assessment validity, particularly during online exams, further emphasizing the perceived gap in tracking and assessing learning outcomes effectively.

Curriculum Tailoring and Instructional Strategies
Students highlighted the difficulty teachers had in tailoring the curriculum to meet individual student needs (mean = 4.16), with qualitative feedback pointing to problems with differentiation and addressing varying levels of student preparedness. Teachers, on the other hand, ranked this issue lower (9th), suggesting that while students felt the impact of poorly tailored lessons, faculty members may have struggled with other challenges such as resource limitations and adapting to online environments. Similarly, administrators ranked the need for technical tools to support student-centered assessment, though students and faculty members considered it a lesser priority.

Technological Proficiency and Online Learning Systems
Both faculty members and students expressed frustration with the technological tools and systems used during the pandemic. For students, technical difficulties, poor internet connection, and ineffective learning management systems were major challenges. Faculty echoed similar sentiments, noting that online assessments were prone to errors and didn't adequately reflect student learning. This theme underlined the difficulties faced by both students and faculty in navigating the technological demands of remote learning.

Cheating and Academic Integrity
The issue of academic integrity was highlighted across all groups, with cheating being a prominent concern for students, faculty, and administrators alike. The online learning environment, lack of proctors, and unreliable assessment platforms led to widespread cheating. Both qualitative and quantitative findings illustrated that while administrators were keen on addressing this through reliable assessment systems, faculty and students struggled with ensuring academic honesty during online assessments.

The findings point to a convergence between the quantitative and qualitative data, emphasizing the significant challenges that stem from teacher preparation, technological limitations, and the difficulties in adapting assessments to a remote learning environment. Students expressed more dissatisfaction with the online learning experience, particularly in terms of assessment validity and feedback, while faculty members focused on the challenges of effectively monitoring student progress and providing appropriate formative assessments. Administrators highlighted the need for comprehensive teacher training and the implementation of reliable tools, though their priorities did not always align with those of students and faculty members.

Meaningful Technology Integration
The effective integration of technology emerged as a pervasive challenge across all groups. Students reported a high level of difficulty with technology integration, as indicated by a mean score of 4.21 (SD = 0.874). Faculty members, with a mean score of 4.07 (SD = 0.891), found it challenging to incorporate digital tools effectively into their teaching. Administrators also observed the struggles with technology integration, with a mean score of 4.08 (SD = 0.640). These results suggest that the shift to online education posed significant obstacles for all stakeholders, particularly in a field like PT, where practical learning is essential.

Qualitative Results in Meaningful Technology Integration Challenge
The quantitative and qualitative findings from the study highlight significant challenges faced by students, faculty, and administrators in the integration of digital technology in education, particularly during the pandemic era.

Overall, there is a shared recognition across all participant groups that digital tool proficiency and the integration of technology in instructional delivery are central challenges, though the specific priorities and the intensity of the issues differ slightly between groups.

Students highlighted challenges in technology readiness and integration, with issues such as adapting to new platforms, lack of training on digital tools, and difficulties with communication and engagement in online learning. Faculty members expressed difficulties in adapting traditional content to digital formats and the lack of sufficient training to effectively use learning management systems and other digital tools. Additionally, system reliability emerged as a major concern, including issues like errors during online exams and quizzes. Administrators focused on the broader challenges of proficiency and integration of digital tools, technology accessibility, and ensuring effective training and support for faculty and students. They identified the need for consistent digital platforms and the importance of aligning technological tools with instructional goals.

The findings converge around the central challenge of technological proficiency and effective integration of digital tools. While students are most concerned with the teachers' ability to utilize these tools, faculty and administrators emphasize the need for adequate training and resources. The digital adaptation of content and the reliability of online systems also emerged as significant challenges for faculty members, while administrators focused more on ensuring that digital tools are properly integrated into the educational process and aligned with instructional goals.

These findings suggest a broad consensus on the critical importance of improving digital literacy across all participant groups, alongside the need for ongoing support and training to facilitate effective technology integration in education.

Competency-Based Learning
The shift to competency-based learning was another area of concern. Students reported the highest level of difficulty with this approach, achieving a mean score of 4.27 (SD = 0.696). Faculty members encountered similar challenges in maintaining a focus on competency acquisition, with the highest mean score of 4.35 (SD = 0.70) among the variables assessed. Administrators also highlighted the difficulty in ensuring that students acquired the necessary competencies, with a mean score of 4.00 (SD = 0.577). This suggests that the pandemic exacerbated the challenges associated with competency-based learning, particularly in a discipline that relies heavily on practical experience.

Qualitative Results in Competency-Based Learning Challenge
In converging the quantitative and qualitative data on the challenges faced by students regarding competency-based learning in online education, researcher categorized the issues into several key themes based on both quantitative survey results and qualitative insights from participants.

The qualitative data provides richer details about the practical and environmental challenges faced by participants in competency-based learning. Students reported difficulties with online learning efficacy, citing lack of motivation, challenges in engaging with instructors, and difficulties in performing practical skills remotely due to limited interaction and feedback. They also struggled to find patients for hands-on demonstrations during the pandemic, emphasizing the importance of face-to-face interaction for skill development.

Faculty Members expressed concerns about the reliability and effectiveness of assessment strategies, particularly in tracking students' competencies remotely. Many faculty members highlighted the difficulties in evaluating students' practical skills and the challenges of fostering engagement in an online environment. Peer assessment was particularly challenging, and there was a strong emphasis on the need for more interactive and practical learning opportunities.

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Administrators noted similar concerns about the limitations of competency-based assessments in virtual settings, emphasizing the difficulty of ensuring accurate skill assessments due to the lack of hands-on experience. They also discussed issues related to faculty competency in online education and the challenges posed by technological accessibility, such as inconsistent internet connections and low-tech gadgets.

The convergence of both quantitative and qualitative findings reveals a common thread of challenges related to the assessment of practical skills, student engagement, and the adaptation of competency-based learning to an online environment. The lack of direct interaction and feedback during the pandemic emerged as a critical concern for all participant groups. Moreover, while there was a general agreement on the importance of strategies like peer assessment and digital evaluation, varying levels of consensus existed on how these challenges should be prioritized and implemented across different levels of the educational system.

Ultimately, the data suggests that the competency-based learning model in physical therapy education faces significant challenges in both its practical implementation and the adaptation of assessment methods, highlighting the need for more effective strategies to foster student autonomy, ensure competency, and maintain high standards of learning outcomes.

Teachership

From the students' perspective, the teaching role was found to be demanding, with a mean score of 4.03 (SD = 1.024). This reflects the difficulties students faced in engaging with instructors in an online environment, which may have been exacerbated by the sudden shift to remote learning. Faculty members similarly found the teaching role to be challenging, with a mean score of 4.13 (SD = 0.976), indicating that the shift to online instruction had a significant impact on their ability to effectively lead and mentor students. Administrators reported a mean score of 3.95 (SD = 0.834) for the challenges related to supporting faculty in their teaching roles, suggesting that there was considerable variation in how administrators managed faculty development during the pandemic.

These results align with the broader body of literature, which highlights the difficulties encountered in the transition to online education during the pandemic. Marinoni et al. (2020) identified the significant disparity in learning opportunities as HEIs struggled to adapt to the new digital requirements. Similarly, Bond et al. (2018) noted the existence of an academic digital divide, which was exacerbated by the pandemic. The challenges faced by students, faculty, and administrators in this study mirror the broader issues identified in the literature, particularly in relation to technology integration, competency-based learning, and formative assessment.

The findings of this study also resonate with research by Singh et al. (2020), which revealed that while students showed a positive reception to online learning, they still believed that traditional classroom settings were more effective. In contrast, Khalil et al. (2020) highlighted the positive perceptions of synchronous online learning among students in a medical school, but noted challenges in technological infrastructure and the inability to replicate hands-on learning experiences. These findings align with the challenges faced by PT programs, where practical experience is integral to student learning.

Furthermore, Adarkwah (2021) and Day et al. (2021) similarly reported that students faced significant obstacles in online learning, such as inadequate communication, lack of social interaction, and insufficient ICT resources. These issues were also evident in the present study, where students and faculty members alike reported difficulties in maintaining engagement and fostering effective learning outcomes in an online environment.

The significant challenges faced by faculty and administrators in this study underscore the broader implications for physical therapy education. As Martin (2019) and Haverback (2020) noted, the online teaching environment presents unique challenges, particularly in maintaining formative feedback and understanding the specific needs of students. These challenges were amplified during the pandemic, highlighting the need for innovative teaching methods and strategies to effectively deliver education in the context of physical therapy.
The study reveals the critical need for adaptations in educational policies, the development of innovative teaching approaches, improved digital infrastructure, and tailored support systems to enhance the quality of distance learning.

These strategies are essential for ensuring the continuity of PT education and for mitigating the challenges posed by future disruptions, ultimately ensuring that students are adequately prepared for professional practice.

Qualitative Results in Teachership Challenge

The convergence highlights that student faced significant challenges in online education related to how content is delivered and their level of engagement. Quantitative data underlined the importance of practical application, diverse resources, and professional standards in teaching. Qualitative insights emphasized the impact of workload, teacher motivation, and technological proficiency on students' learning experiences, as well as the need for more interactive and engaging instructional methods.

Real-Life Application of Concepts

Quantitative findings show that students rated the importance of real-life application the highest (mean: 4.29), while faculty and administrators ranked it lower (4.10 and 4.11, respectively), indicating that students feel more strongly about the need for practical application in their learning. Qualitative findings emphasize the difficulties in teaching methods and engagement during online learning, as students mentioned the challenges of balancing homework deadlines with learning, especially in the online environment. One student pointed out how hard it was to "learn how to love learning again" in a setting that didn't effectively apply practical concepts.

While quantitative data suggests students prioritize real-life application, qualitative responses from both students and faculty reflect the difficulty in integrating practical applications due to technological limitations and teaching methods, especially during the pandemic.

Classroom Engagement & Teaching Complexity

Quantitative findings show that faculty perceive classroom engagement and teaching complexity as significant challenges (mean: 4.38), while students rated engagement lower (mean: 4.09) and administrators ranked it at 4.00. Qualitative data supports this, with multiple faculty members describing struggles to engage students online. Some participants also mentioned that limited teacher-student interaction during the pandemic contributed to poor engagement.
Both quantitative and qualitative results highlight engagement and the complexity of teaching as central challenges, with faculty recognizing them more as barriers than students, who expressed lower concern but still noted the lack of interaction.

Orientation to School Philosophy

Quantitative findings show that administrators view conducting an orientation on the school's philosophy as a major priority (mean: 4.44), reflecting a desire for a cohesive educational approach. Qualitative data does not explicitly mention the orientation directly but touches on the difficulty of aligning teaching methods and learning goals across different instructors.

Administrators are concerned with creating a unified vision for the school, but the qualitative data suggests that students struggle with inconsistent teaching methods and alignment with their learning objectives. This reflects a gap in how the philosophy is applied in practice.

Diverse Resources for Knowledge Enhancement

Quantitative data shows that both students and faculty view diverse resources as highly important (mean: 4.24), but administrators rated them lower (mean: 3.89). Qualitative statements reflect the challenges in resource availability, with students noting a reliance on YouTube videos and Wikipedia, both of which they considered unreliable sources. Students and faculty agree on the need for varied resources, but administrators appear less focused on this, as they prioritize other aspects such as content management and platform challenges.

Supporting Student Learning Objectives

Quantitative data shows faculty rate supporting student learning objectives highly (mean: 4.33), while students rate it lower (mean: 3.99). Qualitative findings highlight student dissatisfaction with teachers who are disconnected from their learning goals, often rushing through lessons or using inadequate teaching methods like pre-recorded lectures.nWhile faculty prioritize supporting learning objectives, students express frustration when teachers don't seem to be fully aligned with these goals. The qualitative data highlights the need for more individualized and engaged teaching to support student success.

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Creating a Positive Learning Environment
Quantitative findings show that faculty rate the creation of a positive learning environment highly (mean: 4.49), but students rank it much lower (mean: 4.07). Qualitative responses from students point to emotional well-being and workload management as key concerns, highlighting the disconnect between faculty efforts and students' perceptions of the learning environment.

Faculty emphasize creating a positive environment, but students, especially in the online context, express that it is difficult to achieve when overwhelmed by workload and lacking meaningful engagement.

Professional Standards and Role Modeling
Quantitative findings highlight that students consider teachers' ability to exemplify professional standards important (mean: 4.15). Qualitative findings describe challenges with teachers who lack passion and motivation, and some students noted that teachers were emotionally unstable, which affected the learning environment.
Both data sets suggest that students value professional behavior from teachers, but the qualitative data provides more context about the emotional and motivational challenges that can hinder this role modeling.

Lesson Design & Material Preparation
Quantitative data reveals faculty rank lesson design and material preparation as significant challenges (mean: 4.29), while administrators rate it much lower (mean: 3.22). Qualitative data points to problems with technological proficiency, with some faculty struggling to utilize platforms effectively, resulting in less engaging and poorly prepared lessons.

Faculty are concerned with lesson design and material preparation, while administrators do not prioritize it as highly. The qualitative data suggests that the struggle with technology is a key factor in the challenges faced in this area.

Passion for Teaching, Curriculum Updates, and Reflective Practice
Quantitative data shows that faculty rate passion for teaching, curriculum updates, and reflective practice as significant challenges (mean: 4.24). Qualitative data mentions a lack of teacher motivation and struggles with adapting to online teaching methods, which ties into faculty concerns about their own teaching passion and the need for reflective practice. Both quantitative and qualitative findings indicate that faculty face challenges in maintaining motivation and adapting to the changing teaching environment, which affects their overall teaching effectiveness.

The convergence of these findings highlights the multifaceted challenges in physical therapy education, revealing a discrepancy in perceptions between students, faculty, and administrators. While students express concerns about teaching methods, workload, and engagement, faculty are more focused on the adaptation to online teaching, lesson preparation, and maintaining professional standards. Administrators are concerned with aligning educational philosophy, enhancing resources, and supporting faculty through technological transitions. These differing priorities emphasize the need for targeted interventions at each level to improve the educational experience.

Proposed Flexible Learning Model to Enhance Instructional Delivery of Physical Therapy Program

The action plan that will be presented to improve the instructional delivery of the Physical Therapy Program in Region IV-A is designed to incorporate the findings of the study.

Curriculum adaptation

Modifying the curriculum is essential to guarantee that the educational material provided is in line with the adaptability and accessibility needed by contemporary learners. The review and adaptation process will consider the latest and upcoming developments in physical therapy education, pinpointing areas where modular and blended learning methods can be used. This technique is designed to accommodate various learning preferences and schedules, and it involves a comprehensive yet efficient curriculum review process that typically takes 6 to 12 months. The efficacy of the modified curriculum will be assessed based on student contentment and faculty appraisals, under the guidance of the PT program chair and the curriculum committee, who will utilize novel curriculum designs and blended learning techniques.

Clinical Skills Development
The emphasis on the development of clinical skills acknowledges the practical and experiential elements of physical therapy education. With virtual reality, students can engage in safe and efficient training of clinical skills within simulated environments, thus equipping them with the necessary preparation for real-life scenarios. This technological strategy seeks to enhance students' skills and enhance the percentage of students who pass exams within a timeframe of 1 to 2 years. This timeframe accounts for the necessary time to fully install and integrate virtual reality (VR) technology. The involvement of clinical instructors and tech coordinators is crucial in this project, as they play a critical role in maximizing the utilization of VR technology and simulation software.

Real-time Assessment
Integrating continuous, real-time evaluation is crucial for promptly offering feedback and adjusting teaching tactics to cater to students' requirements. E-portfolios and peer reviews will function as forums for this continuous assessment, promoting a culture of introspective practice and ongoing enhancement among students. This approach necessitates the collaboration of faculty and assessment coordinators to incorporate e-portfolio platforms and develop well-designed assessment rubrics that are in line with the objectives of the program. The ongoing nature of this project emphasizes its importance in the continual enhancement of the program.

Competency framework
An exclusive competency framework tailored to physical therapy is crucial to ensure that the program generates graduates who are prepared to satisfy professional requirements and thrive in clinical performance. Strategically incorporating these skills into the curriculum and assessment procedures throughout the year demonstrates a focused approach to curriculum development. The deans and program chairs will collaborate with standards and assessment tools to ensure that the program is by national physical therapy standards.

Technology-Enhancement Learning
The goal of upgrading the learning experience is emphasized by the pledge to increase theoretical and clinical teaching through technology within a 6 to 12-month period. Providing training to faculty members on technology integration and employing learning analytics can help facilitate tailored learning paths and offer valuable insights into the success of teaching. The deployment of learning analytics software and educational technology to monitor and assist student progress will heavily rely on the IT staff and PT professors.

Leadership in Clinical Education
Cultivating leadership abilities among educators is crucial for the mentorship and direction of students. During a span of 6 to 12 months, mentorship programs and community projects will be implemented to cultivate a feeling of accountability and leadership among students. The senior PT faculty and professional development teams are responsible for establishing the structure for these programs, to achieve a quantifiable influence on both the participants and the wider community.

Resource Optimization
The yearly and continuous resource optimization approach guarantees that the PT program maintains a supply of up-to-date and fully functional equipment. The PT department chair and finance department will perform audits and supervise budget reports to guarantee the efficient utilization of resources and ensure that the PT labs are sufficiently equipped to meet educational requirements.

Values integration in Physical Therapy
The continuous and regularly evaluated technique to incorporate fundamental principles into physical therapy education demonstrates a dedication to comprehensive education. Incorporating patient-centered care ideas into the curriculum will guarantee that the program's outcomes prioritize the quality of patient care and adherence to ethical norms. The Ethics Committee and PT faculty will utilize ethical principles and patient care models to incorporate these ideals throughout the curriculum.

Discussions
The present study aimed to explore the different challenges encountered by different higher education institutions in Calabarzon (Region IVA) in the instructional delivery of PT during the pandemic. This study utilized survey questionnaires to assess the challenges HEI encountered in Calabarzon answered by students, faculty members, and administrators.

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Students encountered significant challenges in various crucial domains throughout the pandemic. The highest challenge that the students encountered was in the focus area of competency-based learning. Students experienced this issue to a great extent, indicating problems in transitioning to an education paradigm that emphasizes specific competencies and in jobs where educators lead and mentor students primarily through virtual means. Tied at the second ranked were the task of increasing student progress and meaningful technology integration, which is categorized as encountered to a moderate extent This suggests that students faced difficulties in advancing at the anticipated rate in their education. This may indicate disturbances resulting from the shift to distant learning and the potential disparity between theoretical knowledge and the cultivation of practical abilities.

Meaningful technology integration poses a considerable barrier in terms of leveraging technology to imitate actual experiences and encourage interactive learning. The formative exam was the third ranked challenge, most likely because it was difficult to accurately assess students' clinical competencies in a remote environment. and teachership was the last in ranking, both scored encountered to a moderate extent scores.

Faculty members faced varying levels of difficulty across different focus areas during the pandemic. Competency-based learning emerged as the most challenging, underscoring teachers' struggles to ensure students' mastery of essential skills remotely. Accelerating students' growth ranked second, highlighting the difficulty in helping students progress at the expected pace without hands-on learning experiences. Teachership, ranked third, reflected the impact of limited educational interactions on faculty members' ability to mentor and support students effectively. Meaningful technology integration was second to last, indicating significant hurdles in effectively incorporating digital tools into teaching practices. The lowest-ranked area was formative assessment and differentiation, presenting substantial challenges in consistently providing timely and adaptable feedback to students.

Administrators faced moderate challenges across all focus areas during the pandemic. Meaningful technology integration emerged as the most pressing concern, highlighting administrators' keen awareness of the need to effectively leverage technology during the crisis. Competency-based learning followed closely as the second most challenging area, reflecting the difficulty in maintaining a curriculum centered on practical skills and competencies in a remote setting. Formative assessment and differentiation ranked third among the areas of challenge, indicating administrators' struggles to ensure consistent and meaningful evaluations of student progress. Teachership was second to last in ranking, underscoring the significant obstacles administrators recognized in supporting faculty with educational leadership during the pandemic. Lastly, accelerating students' growth was ranked fifth, suggesting administrators' awareness of the challenges involved in sustaining academic progress amidst the disruptions caused by the pandemic.

By converging quantitative data on the challenges encountered by the students in accelerating students' growth with qualitative insights into lived experiences, nuanced understanding of the complexities surrounding online learning during the pandemic emerges. The integration highlighted not only the systemic challenges institutions face faced in infrastructure and instructional delivery, but also the profound impact on student engagement, collaborative learning, and the need for enhance support mechanisms.

The findings converge on the importance of fostering innovative, student centered teaching practices that promote critical thinking and holistic learning. Quantitative ratings reflect students' perceptions of instructional challenges, supported by qualitative insights into the impact on academic integrity and learning outcomes. Addressing these concerns involves aligning assessments with instructional goals, fostering a culture of academic integrity, and supporting educators in adopting pedagogical approaches that enhance student engagement and understanding.

Both quantitative and qualitative data emphasized students' struggles due to varying levels of technological proficiency among educators and the complexity of adapting to digital learning environments. Key concerns included the effectiveness of digital tools in enhancing learning experiences, the need for comprehensive teacher training, streamlined digital platforms, and improved infrastructure such as reliable internet access.

Both quantitative and qualitative data emphasized significant challenges students faced in competency-based learning and assessment, particularly in implementing effective strategies online. There is a clear need for robust assessment methods that promote student autonomy, engagement, and accurately assess practical skills, which are crucial in disciplines like physical therapy.

Both quantitative and qualitative data underscored significant challenges students faced in online education, particularly in how content is delivered and their level of engagement. Key concerns included practical application of knowledge, access to diverse learning resources, maintaining high standards, and the impact of teacher readiness and digital proficiency on learning outcomes.

The students' observations from this study highlight the necessity for educational systems to exhibit adaptability and receptiveness in addressing the distinct difficulties presented by remote learning. It is imperative for educational institutions to allocate resources towards providing technology training for instructors, ensuring equal access to resources, and cultivating teaching styles that foster engagement and facilitate effective learning. By applying these suggestions, educational institutions can improve their online learning offerings, guaranteeing that students obtain a high-quality education that equips them for success in an ever more digital environment.

The convergence of the different themes such as infrastructure and resource optimization, pedagogical adaptation and support, and collaborative development and assessment paints a comprehensive picture of the challenges faced by faculty members during the shift to online learning. Institutions must invest in reliable technology infrastructure to mitigate connectivity issues and provide adequate tools for effective online instruction. Moreover, faculty members require support and training to adapt their teaching methods effectively for online environments, ensuring inclusive, student-centered learning experiences. Facilitating collaboration among educators is crucial for developing effective instructional strategies and implementing robust assessment practices, thereby refining teaching methods to meet educational goals in online and hybrid settings effectively.

The quantitative findings underscore faculty challenges in gathering and utilizing student data effectively for feedback and instructional adaptation. Qualitative insights highlighted the critical role of engagement strategies and practical difficulties in utilizing student information to inform teaching practices. These findings emphasized the importance of interactive feedback mechanisms and the need for faculty to develop strategies that promote student engagement and enhance the use of data to support learning outcomes. Both quantitative and qualitative data highlighted faculty members' concerns about technology proficiency, adapting traditional content for digital formats, and the need for comprehensive training. Practical issues such as software selection, content adaptation, and managing screen time constraints were also noted. Addressing these challenges requires tailored professional development programs, accessible digital resources, and strategies to optimize content delivery for online platforms.

Both quantitative and qualitative data underscore the significant challenges faculty members encountered in implementing effective assessment strategies online. There's a clear focus on peer assessment, competency based evaluations, and integrating formative assessments meaningfully into grading systems, all of which are essential for fostering student autonomy and skill development. The convergence highlighted that faculty members encountered significant challenges in engaging students effectively and maintaining interaction in the online education environment. Quantitative data underscored the importance of practical application, diverse resources, and creating positive learning environments. Qualitative insights emphasized the impact of disciplinary issues, technological adaptation, and workload management on teaching quality and student engagement. Both data sources align on the critical need for innovative teaching strategies, robust support systems, and balanced workload management to improve student-teacher interaction and overall learning outcomes.

The faculty encountered substantial obstacles in adjusting to online learning, namely in effectively involving students and upholding discipline. The shift to digital platforms necessitated swift adjustment and substantial assistance, which was frequently insufficient, resulting in heightened workloads and probable exhaustion. Faculty recommendations for addressing these concerns encompass professional development to boost digital competency, improved digital infrastructure to facilitate better engagement, and programs aimed at preventing burnout by achieving a balanced workload.

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The importance of thorough training and easily accessible resources is stressed to promote successful teaching and active student participation in a virtual setting.

Administrators faced significant challenges in delivering online instruction during the epidemic, including in effectively involving students and staff, demonstrating technology expertise, and upholding assessment authenticity. Their difficulties arose from the abrupt shift to distant learning, constraints in technology infrastructure, and the requirement for organized training and assistance. Suggested strategies to address these difficulties encompass frequent prompts regarding attendance and goal attainment, allocation of resources towards digital infrastructure, and implementation of professional development initiatives for faculty members. Additionally, they emphasize the importance of dependable evaluation techniques, unambiguous guidelines for online exams, and blended learning approaches that integrate hands-on abilities. In order to tackle the issue of limited real-time connection and communication, administrators propose the implementation of individualized consultation hours and a designated schedule for communication between students and faculty. The recommendations highlight the significance of ongoing training in innovative engagement tactics, the utilization of interactive information, and organized communication to enhance teaching skills in online learning environments.

Students' recommendations to address challenges in different focus areas of flexible instructional delivery during the pandemic underscore the multifaceted approach needed to address educational challenges, focusing on student engagement, effective teaching practices, technological readiness, and supportive learning.

Faculty members' recommendations to address challenges in different focus areas of flexible instructional delivery during the pandemic underscore comprehensive approach required to improve the educational setting, focusing on inclusive education practices, supportive systems, professional development, effective use of technology, and fostering a conducive learning environment for all students and educators alike.

Administrators' recommendations to address challenges in different focus areas of flexible instructional delivery during the pandemic highlighted the strategic priorities for administrators in navigating the challenges of educational delivery, emphasizing the importance of engagement, professional development, resource management, and effective use of technology to support student learning and growth.

The flexible learning model for the Physical Therapy program for HEIs in Calabarzon seeks to adapt the curriculum to be suitable for both online and practical learning methods. It also incorporates virtual reality technology to enhance the development of clinical skills. The model utilizes continuous and formative assessment methods and establishes a competency framework. All of these components are implemented within a timeframe of 1 to 2 years. The program also prioritizes the improvement of technology integration in teaching, the development of leadership skills through mentorship, the efficient utilization of resources for modern and functional facilities, and the incorporation of core values into the curriculum to promote ethical practices. These efforts aim to ensure that the program remains adaptable to the changing educational environment.

Conclusions

Based on the results of the findings, the researcher draws the following conclusions: Amidst the pandemic, students had significant obstacles, particularly in terms of advancing their academic pursuits and adjusting to distant learning. A major concern revolved around the challenge of effectively combining practical abilities with theoretical learning in a remote setting. Faculty members had notable difficulties, particularly in promoting student development and adjusting to technology for teaching. Facilitating the acquisition of skills and knowledge in a distant environment posed significant challenges during the pandemic. Administrators identified significant problems in various areas, including fostering student development and incorporating technology. This indicates the necessity for strategic planning and allocation of resources to support both professors and students in the context of remote learning.

The students integrated recommendations underscore the multifaceted approach needed to address educational challenges during crises like the pandemic, focusing on student engagement, effective teaching practices, technological readiness, and supportive learning environments.

The faculty members integrated recommendations underscore the comprehensive approach required to address educational challenges during the pandemic, focusing on inclusive education practices, supportive systems, professional development, effective use of technology, and fostering a conducive learning environment for all students and educators alike. The administrators' recommendations highlight the strategic priorities for administrators in navigating the challenges of educational delivery during the pandemic, emphasizing the importance of engagement, professional development, resource management, and effective use of technology to support student learning and growth.

The proposed adaptable learning paradigm prioritizes the adjustment of curriculum material, integration of cutting-edge technology such as virtual reality, continuous evaluation, and facilitation of faculty leadership. This concept is designed to effectively address the educational problems brought about by the pandemic, by strengthening the program's ability to adapt and maintain high standards in physical therapy education.

Recommendations

After concluding, this study enumerates the following recommendations:

Tailored Pedagogical Approaches. Formulate precise pedagogical approaches that specifically cater to the requirements and cognitive preferences of young adults, with a special focus on the prevailing age bracket of 21 to 25 years.

Provide professional development programs to support young faculty members, ensuring they have the most up-to-date pedagogical skills and expertise to bridge the gap between traditional and contemporary physical therapy education.

Promote diverse leadership. Foster a leadership culture that utilizes a wide range of ages and experiences within the administrative personnel, creating an environment where different approaches to education and management can thrive.

Optimize remote learning. Enhance remote learning systems to successfully merge theoretical knowledge with practical abilities, enabling students to make significant progress in their studies despite the need for physical separation.

Provide extensive training to faculty members on utilizing technology, like virtual reality platforms, to assist in the teaching of complicated clinical ideas and procedures.

Develop comprehensive administrative support systems to efficiently manage the problems of virtual learning environments. These systems should prioritize technology integration, resource allocation, and support for professors and students.

Enhance Flexible Learning Opportunities. Broaden the flexible learning approach to incorporate a combination of real-time and self-paced learning options, as well as practical face-to-face sessions, when possible, to guarantee the holistic acquisition of skills necessary for professional physical therapy practice.

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Competencies of LGU Employees in E-Governance

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ABSTRACT

E-governance is essential for enhancing efficiency, transparency, and citizen engagement in public service. However, successful implementation depends largely on the competencies of frontline employees. This study examined the level of competencies of LGU employees in San Manuel, Pangasinan in terms of conceptual, technical, and human relation skills, aiming to inform a development program for improved digital public service delivery.

A descriptive-correlational research design was employed. A validated survey questionnaire was distributed to 100 purposively selected LGU employees. Data were collected using Google Forms and analyzed using weighted means and Spearman's rank correlation to determine competency levels and assess the difference between profile variables and e-governance competencies.

Findings revealed that employees demonstrated a "Competent" level across all three domains: conceptual (AWM = 3.84), technical (AWM = 3.62), and human relation (AWM = 4.06) skills. Human relation skills ranked highest, while technical skills reflected the most room for improvement. No strong correlation was found between profile variables and competencies levels.

The results suggest that while employees are generally prepared for e-governance, targeted interventions—especially technical training—are necessary to optimize implementation. These findings support the need for a structured development program to address identified skill gaps and institutionalize digital competencies in public service delivery.

Keywords: *DRRM, Preparedness, DepEd Personnel, Disaster Risk Reduction Management.*

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INTRODUCTION

E-governance represents a transformative opportunity for improving public service delivery, transparency, and citizen engagement. However, its success is contingent upon the competencies of public sector employees and the strategic implementation of digital technologies. By investing in comprehensive learning and development programs, governments can equip their workforce with the skills necessary to navigate the complexities of e-governance, ultimately fostering a more responsive and accountable public administration.

E-governance has emerged as a transformative approach to enhancing public service delivery, administrative efficiency, and citizen engagement. The literature highlights various dimensions of e-governance implementation, including its role in improving accountability, addressing service inequities, and fostering innovation within public administration. This section reviews pertinent studies to contextualize the competencies of employees toward e-governance and their impact on public service delivery.

E-governance leverages information and communication technologies (ICT) to enhance the efficiency of public service delivery, addressing the shortcomings of traditional bureaucratic methods. In Nigeria, e-administration has significantly reduced the time required to perform public services by automating repetitive processes, especially post-COVID-19. However, challenges such as digital divides and reluctance to acquire digital skills persist (Ilawagbon, 2024). Similarly, Rivers State's public sector employees report improved administrative efficiency through e-governance mechanisms such as e-communication and e-procurement (Nwinyokpugi, 2020).

E-governance has been identified as crucial for human capital management and improving public-private partnerships. Despite advancements, the country still lags in implementing full-fledged e-governance systems, requiring significant investments in training and ICT infrastructure (Ilyina, 2022).

Accountability is a cornerstone of effective governance. Banerjee et al. (2016) demonstrated how reforms introducing electronic fiscal transfer systems in India's workfare programs reduced administrative corruption, leakages, and the prevalence of fake beneficiaries. These systems foster transparency and ensure that resources reach intended beneficiaries, enhancing trust in public administration.

Study on e-governance found that perceived effectiveness of e-governance mechanisms mediates the relationship between good governance elements—such as accountability, responsiveness, and transparency—and public trust (Raihan, 2022). The aforementioned highlights the importance of well-designed e-governance systems to build credibility and citizen engagement.

E-governance applications also address equity issues by providing platforms for citizen engagement. Xu (2020) observed that marginalized groups in the U.S., such as racial minorities, utilized e-governance technologies to gain better access to essential services post-disasters, reducing equity gaps in service delivery. Nugroho (2018) proposed an architecture that facilitates two-way government-to-citizen (G2C) interactions by addressing specific user needs and enabling customized service delivery, thereby enhancing inclusivity.

Despite its benefits, e-governance faces several challenges. In Nepal, efforts to implement a National Identity Card revealed the need for comprehensive planning, strategies, and capacity-building to overcome infrastructural and administrative barriers (Buddhacarya, 2019). Similarly, Sarker (2018) emphasized the importance of information resource management (IRM) and big data in ensuring transparency, reducing errors, and improving service delivery in Bangladesh.

Another critical aspect is digital accountability, which ensures that e-governance platforms maintain transparency and answerability. Sharma (2021) proposed a framework to conceptualize digital accountability using multi-method approaches, emphasizing the importance of integrating accountability into e-governance design.

Global comparisons reveal diverse patterns of e-governance development. Manoharan (2020) identified the best practices in privacy, usability, content, services, and citizen engagement, emphasizing the dynamic growth of e-governance systems globally. However, these advancements require a workforce proficient in ICT tools and adaptable to new technologies.

The study also addresses the broader implications of employee competencies on citizen trust and engagement. The success of e-governance hinges on public perception of its effectiveness and fairness. When employees demonstrate proficiency in delivering services through digital means, it fosters trust in government institutions and encourages citizens to actively engage with these platforms (Salamatul, 2024). On the other hand, gaps in employee competencies can lead to system failures, eroding public confidence in government efforts.

In essence, this study contributes to the growing discourse on digital transformation in governance by focusing on the human capital aspect of e-governance. By examining how employee competencies impact the delivery of public services, the study seeks to address a critical gap in the Philippine context, offering practical recommendations to support the country's vision of a more efficient, transparent, and inclusive government in the digital age (Bajar, 2020). The Philippine government has embraced e-governance as a vital strategy for modernizing public administration and enhancing the efficiency of service delivery. E-governance involves the application of information and communication technology (ICT) to provide government services that are more transparent, accessible, and responsive to the needs of citizens. This digital transformation aligns with national initiatives such as the Philippine Digital Strategy and the E-Government Master Plan, which aim to streamline bureaucratic processes and promote a citizen-centric approach to governance. However, the success of these initiatives heavily depends on the competencies of government employees, who are the frontline implementers of e-governance systems.

The implementation of e-governance faces significant challenges. While the country has made strides in adopting digital tools and platforms, disparities in digital infrastructure, especially in rural areas, continue to hinder equitable access to government services. Furthermore, gaps in digital literacy among public sector employees and resistance to organizational change often limit the effectiveness of these technologies. These issues highlight the importance of assessing the readiness and competencies of government employees to fully harness the potential of e-governance.

E-governance, the application of digital technologies in governance, has become a critical tool for enhancing service delivery, improving transparency, and fostering efficient government operations. Studies have shown that e-governance initiatives can streamline processes, reduce costs, and enhance citizen satisfaction by making public services more accessible and responsive (Joldasova, 2024). However, the success of such initiatives depends on factors such as the robustness of technological infrastructure, citizens' level of digital literacy, and the specific service domains the initiatives aim to address. In developing countries, where the need for parallel traditional systems persists due to limited technological adoption, initial implementation costs may outweigh immediate efficiency gains (Joldasova, 2024). The aforementioned highlights the necessity of a context-specific approach to e-governance, which accounts for socioeconomic diversity and aims to bridge the digital divide.

Effective e-governance systems are typically categorized into three major service blocks: Government-to-Citizens (G2C), Government-to-Business (G2B), and Government-to-Government (G2G). Research comparing e-governance systems across six highly urbanized cities in the Philippines—Manila, Taguig, Pasay, Makati, Quezon, and Davao—revealed common features such as web portals, mobile applications, and social media platforms used for service delivery (Palma et al., 2023). These systems frequently offer G2C services like real property tax payments and community announcements, while G2B services include business permit licensing and occupational health certifications. The research emphasizes the importance of utilizing multiple communication channels to accommodate the diverse needs of users, making government services more accessible and efficient (Palma et al., 2023).

The rise of e-governance can be traced back to the passage of the Electronic Commerce Act of 2000, which facilitated the adoption of digital platforms by local governments (Siar, 2022). However, assessments of city government websites revealed a minimal adoption of e-governance practices. Many websites lacked substantial information and underutilized digital tools that could enhance service delivery, transparency, and citizen engagement. This underperformance highlights a significant gap in the capacity of local governments to maximize the potential of e-governance, emphasizing the need for enhanced digital infrastructure and workforce competencies (Siar, 2022).

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The successful implementation of e-governance depends heavily on the competencies of public sector employees. Key competencies include digital literacy, technical skills in information systems and cybersecurity, analytical skills for interpreting data, and effective communication abilities (Pabatang-Hussien, 2023). Furthermore, employees must possess change management skills to adapt to new technologies and processes while fostering innovation within their organizations. Without these competencies, the benefits of e-governance, such as streamlined processes and enhanced transparency, cannot be fully realized.

To bridge the competency gap in e-governance, targeted learning and development programs are critical. Training workshops on digital tools, data analytics, and cybersecurity can provide employees with the foundational skills needed for digital governance. Continuous education initiatives, such as online courses and certifications, can ensure that employees remain updated on the latest technological advancements. Collaborative learning platforms can also facilitate the sharing of best practices among public sector workers, fostering a culture of continuous improvement (Balidoy et al., 2020). These efforts not only prepare employees for the challenges of e-governance but also enhance the overall capacity of government institutions to deliver efficient and transparent services.

E-Government initiatives were implemented in collaboration with National Government Agencies (NGAs). In terms of technology, several LGUs developed websites, established information systems, and adopted online platforms introduced by other government entities. Regarding human resources, initiatives primarily involved seminars and training sessions facilitated in partnership with NGAs. In terms of linkages, partnerships were predominantly formed with government agencies such as the Department of Information and Communications Technology (DICT) and the City Government of Legazpi, with limited engagement from the private sector and higher education institutions. In the policy dimension, LGUs supported e-Government efforts by passing local resolutions and entering into memoranda of agreement (De Castro, 2022).

Based on an analysis of thirteen documents from 2020 to 2025, the review identifies key challenges to digital governance, including barriers to adoption, limited financial resources, low digital literacy, and inadequate ICT infrastructure. Emerging technologies such as blockchain and artificial intelligence present new opportunities but also reveal gaps for future research. The findings offer valuable insights for policymakers and other stakeholders in addressing these challenges and promoting an inclusive, responsive, and effective digital government (Andaya, 2025).

Studying the competencies of LGU employees in e-governance is particularly relevant in addressing these challenges. Employees equipped with the necessary technical, behavioral, and managerial competencies play a critical role in ensuring the success of e-governance initiatives. Their ability to effectively use digital tools can bridge the gap between technological advancements and the public's ability to access essential services. This becomes even more crucial in a diverse country like the Philippines, where citizens in underserved and remote areas rely on government interventions for critical support.

Finally, the findings of this study can provide valuable insights for policymakers seeking to develop sustainable e-governance frameworks. Identifying specific competency gaps among employees can inform the design of targeted training programs, digital literacy initiatives, and incentives for adopting new technologies. These measures are essential for building institutional capacity and ensuring the seamless integration of e-governance into public administration practices.

Objective of the Study

This study aimed primarily to evaluate how competent LGU employees in San Manuel, Pangasinan are in conceptual, technical, and human relation skills pertinent to e-governance. The goal of this evaluation was to provide information for the design of a development program intended to improve digital public service delivery.

Statement of the Problem

This study aims to determine the competencies of government employees in E-governance in their Public Service Delivery in the Local Government Unit of San Manuel, Pangasinan.
Specifically, it seeks to answer the following questions:

1. What is the profile of the respondents in terms of:
a. highest educational attainment;
b. years of service;
c. status of employment;
d. office of assignment; and
e. monthly salary?
2. What is the respondent's level of competencies in e-governance in their public service delivery in terms of:
a. conceptual skill;
b. technical skill; and
c. human relation skill?
3. Is there a significant difference between respondents' level of competencies across their profile Variables?
4. What development program can be proposed to enhance the competencies of government employees towards e-governance in their public service delivery?

METHODOLOGY

Research Design and Strategy

This chapter elucidates the research strategy and technique utilized to evaluate the e-governance competencies of San Manuel, Pangasinan, LGU employee. Without changing any variables, it used a descriptive correlational design to investigate the connections between skill levels and demographic characteristics. One hundred government workers, chosen from a variety of LGU offices using convenience and purposeful sampling, was the subject of the study. The main instrument for collecting data was a verified survey questionnaire. Securing respondent consent, acquiring the required approvals, and methodically gathering data are all steps taken in the research process. The data was analyzed using statistical techniques including Spearman's Rank Correlation Coefficient, mean values, frequency distribution, and percentage. For efficiency, data was collected using Google Forms and analyzed in Google Sheets. This chapter guarantees a methodical and trustworthy approach to produce significant insights into the competencies of LGU staff for the adoption of e-governance.

It is becoming more widely acknowledged that e-governance is an essential first step in enhancing the effectiveness, openness, and usability of public services. The ability of Local Government Units (LGUs) to successfully implement e-governance programs depends on their staff' willingness to embrace digital transformation as they continue to tackle the obstacles of modernizing public administration. The purpose of this study was to evaluate how prepared LGU employees are to use e-governance systems and procedures, as well as how their competencies can guide the creation of a program to improve public service delivery.

The research employed a descriptive correlational design, a methodology that aims to provide an accurate snapshot of the variables under study and explore the relationships that naturally exist between them. This design does not involve any manipulation of the subjects or their environment, ensuring that the researcher's presence does not influence the study's outcomes.

The choice of a descriptive correlational design was fitting for the research topic, which focuses on assessing the competencies of local government employees towards E-governance in their Public Service Delivery in San Manuel, Pangasinan. This design allows for the collection of data pertaining to participants' conceptual, technical, human relation domain and the external interference. It enables the investigation of potential changes in these domains over time, offering insights into how such changes might influence future outcomes or trends.

In this study, conclusions were drawn from the responses of the sample population, providing a comprehensive understanding of the relationship between the participants' demographic profiles, including factors such as educational attainment, years of service, and area of assignment, and their levels of competency concerning E-governance. This research approach helped unveil the intricate dynamics between these variables among government employees in the local government unit of San Manuel, Pangasinan.

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Population and Locale of the Study

The study focuses on government employees working in the Local Government Unit of San Manuel, Pangasinan, irrespective of their employment status. To ensure a comprehensive representation of this population, a combination of purposive and convenience sampling methods were employed. The sampling criteria were strictly include individuals employed by the local government unit of San Manuel, Pangasinan. The total sample size of this study is 100 participants. To guarantee a manageable yet representative group for the study, a sample size of 100 employees was selected. A balanced distribution across different offices and employment statuses is made possible by choosing 100 participants, which ensures that the data gathered represents a variety of viewpoints and experiences given the entire LGU workforce in San Manuel, Pangasinan. This choice is further supported by the use of purposive and convenience sampling, which focuses on people who are available for participation and are actively involved in e-governance activities. Furthermore, a sample size of 100 guarantees effective data collection and analysis while preserving statistical validity, allowing for the extraction of significant insights without overburdening the study with data.

The Local Government Unit of San Manuel, Pangasinan, comprises a diverse and sizable workforce distributed across multiple departments, reflecting the municipality's commitment to comprehensive public service delivery. As for the latest staffing profile, the LGU has a total population of 436 employees, categorized into 136 permanent, 121 casual, 172 contractual, and 7 consultants. The Office of the Municipal Mayor holds the largest share of employees, with 30 permanent, 37 casual, 62 contractual, and 7 consultants, totaling 136 personnel. This highlights the central role of the mayor's office in overseeing and coordinating municipal functions. The Office of the Economic Enterprise also maintains a significant workforce of 70 employees, primarily composed of 43 contractual and 23 casual personnel, supporting the economic and commercial initiatives of the municipality.

Several other offices show modest staffing levels but reflect a mix of employment types. For instance, the Office of the Municipal Vice Mayor has a total of 43 employees, with 11 permanent, 4 casual, and 28 contractual personnel. Meanwhile, technical offices such as the Municipal Engineering, Assessor, Civil Registrar, Budget, Accounting, and Treasury offices collectively maintain lean staffing, typically ranging between 3 to 14 employees per office, primarily in permanent and casual roles. Social service and health-related departments such as the Municipal Social Welfare and Development Office (MSWDO) and the Rural Health Unit (RHU) employ 10 and 63 personnel, respectively. The RHU notably consists of 21 permanent, 13 casual, and 29 contractual employees, underlining the importance placed on health service delivery in the municipality. Childcare services, under the Day Care program, employ 19 permanent staff, while the Public Order and Safety Office (POSO) employs 10 contractual workers, indicating the municipality's focus on public safety through flexible staffing arrangements.

This employment distribution suggests that while the LGU of San Manuel has a robust and diverse workforce, a considerable portion is employed on non-permanent terms. This trend emphasizes the importance of inclusive capacity-building initiatives, especially in light of digital governance shifts, to ensure all employees—regardless of employment status—are adequately prepared to support the municipality's evolving public service agenda.

Data Gathering Tool

A survey questionnaire was created and developed by the researcher. The checklist is designed to be a guided response type, meaning that predefined answers are predetermined, and respondents simply need to tick the items corresponding to their answers.

To ascertain the validity of the questionnaire, the researcher consulted with research professionals from various institutions, including government officers and researchers. The rating criteria were based on a validity checklist. The purpose is to maintain the questionnaire's integrity. Before distributing the questionnaire to the respondents, their feedback and concerns were taken into consideration for future improvements.

A consent letter was written following the validation and given to the participants. The researcher began data collection as soon as participants accepted the terms and conditions.

The data collected was coded with numbers, analyzed, and interpreted to determine the level of competencies of local government employees towards E-governance in their Public Service Delivery. The profile will be correlated to the level competencies towards E-governance in the LGU of San Manuel, Pangasinan.

RESULTS AND DISCUSSION

Profile of the Respondents

The profile of the respondents provides essential demographic and professional background information that contextualizes their competencies for e-governance implementation. This section outlines key variables such as highest educational attainment, years of service, employment status, office of assignment, and monthly salary. Understanding these characteristics is crucial in identifying patterns, drawing meaningful correlations with their competency levels, and informing targeted interventions to strengthen e-governance competencies within the local government unit of San Manuel, Pangasinan.

Table 1:
Profile of the Respondents
n =100

Variables	Indicators	f	%
Highest Educational Attainment	Postgraduate	6	6
	Bachelor's Degree	71	71
	Master's Degree	7	7
	Vocational	10	10
	High School Graduate	4	4
	Others	2	2
Years of Service	Less than 1 year	13	13
	1 to 5 years	34	34
	5 to 10 years	17	17
	11 to 15 years	10	10
	16 to 20 years	6	6
	21 to 25 years	12	12
	26 to 30 years	3	3
	31 years and beyond	5	5
Status of Employment	Job Order	1	1
	Casual	63	63
	Permanent	35	35
	Co-Terminus	1	1
Office of Assignment	Office of the Municipal Mayor	48	48
	Office of the Economic Enterprise	6	6
	Office of the Municipal Vice Mayor	1	1
	Office of the Municipal Engineer	1	1
	Office of the Municipal Assessor	1	1
	Office of the Civil Registrar	1	1
	Office of the Municipal Budget	2	2
	Office of the Municipal Accounting	5	5
	Office of the Municipal Treasury	2	2
	Office of the Municipal Agricultural	1	1
	Office of the Municipal Planning Development Coordinator	15	15
	Office of the Municipal Social Welfare and Development	10	10
	Rural Health Unit	7	7
Monthly Salary	Less than P11,690	58	58
	P 11,690 – P23,381	23	23
	P 23,381 – P 46,761	9	9
	P 46,761 – P81,832	1	1
	P 81,832 – P 140,284	9	9

Highest Educational Attainment. The data shows that the highest proportion of respondents (71%) have attained a bachelor's degree, while the lowest (2%) fall under the "others" category. This suggests that the majority of LGU employees possess a standard academic foundation suitable for public service roles. However, the minimal representation in the "others" category may include non-traditional or specialized educational backgrounds, indicating a need for inclusive and adaptive e-governance training programs that consider varying educational experiences.

In the study conducted by Roble, Laniton, and Dagaraga (2022), the highest educational attainment of local government employees who participated in a computer literacy training program in Opol, Misamis Oriental was primarily at the college level. Specifically, 71.43% of the respondents were college graduates, while 14.29% were college-level undergraduates and another 14.29% were high school graduates. These results suggest that the majority of LGU employees completed higher education, indicating a generally well-educated workforce. Interestingly, the study also found that educational attainment did not significantly influence the improvement in computer and internet literacy skills after the training, suggesting that such competencies can be effectively enhanced regardless of academic background.

Years of Service. The data indicates that the highest proportion of respondents (34%) have been in service for 1 to 5 years, suggesting that a significant portion of the workforce is relatively new to government service. On the other hand, the lowest proportion (3%) have served for 26 to 30 years, reflecting a smaller segment of seasoned employees nearing retirement.

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This implies that capacity-building initiatives for e-governance should prioritize orientation and continuous training for newer employees, while also leveraging the institutional knowledge of long-serving personnel to mentor and support digital transformation efforts.

Based on the study titled Organizational Commitment of Local Government Unit (LGU) Employees in the Municipality of Barotac Nuevo, Iloilo, the years of service (approximately through age brackets) reveal that the majority of LGU employees are relatively young to mid-career professionals. Specifically, 40% of respondents were between the ages of 26–35 years, followed by 19% aged 16–25, 17% aged 36–45, 15% aged 46–55, and 9% aged 56–65. This suggests that a significant portion of the LGU workforce is in the early to middle stages of their public service careers, which may indicate a balanced mix of fresh perspectives and experienced service within the municipality (Johnny & Joy BD, 2023).

Office of Assignment. The highest number of respondents (48%) are assigned to the Office of the Municipal Mayor, while several offices such as the Municipal Vice Mayor, Engineer, Assessor, Civil Registrar, and Agricultural Office each account for only 1% of the total. This indicates that a significant portion of the workforce is concentrated in the executive office, potentially reflecting its central role in governance and service coordination. The minimal representation from other offices suggests the need for a more balanced distribution of digital capacity-building efforts across all departments. Ensuring that even the least represented offices are equipped with e-governance competencies is essential for a cohesive and integrated approach to digital public service delivery.

The data from Job Satisfaction and Productivity of the Mabalacat City Government Employees by Ocampo, Garcia & Soriano (2023) shows that a total of 170 respondents participated in the study from 20 departments within the Mabalacat City Government, representing a cross-section of the 469 total employees. Of these respondents, 121 were permanent employees and 49 were casual. The Office of the City Mayor had the highest number of participants (23), followed by the City Social Welfare and Development Office (10), and both the City Agriculture and Veterinary Offices (8 each). Most other departments contributed between 6 to 8 respondents, ensuring balanced representation. Notably, some offices such as the City Legal, Treasury, and Health Offices had exclusively permanent respondents, indicating a more stable workforce, while others like the City Environment and Natural Resources Office had a higher proportion of casual workers. This distribution highlights the varied staffing structures across LGU offices, which may influence job satisfaction and productivity outcomes explored in the study.

Monthly Salary. The highest percentage of respondents (58%) earn less than ₱11,690 per month, while only 1% fall within the ₱46,761–₱81,832 salary range. This reveals that a majority of LGU employees belong to the lower income brackets, which may reflect casual or job order employment statuses. The predominance of low-salaried personnel could affect motivation, access to digital resources, and participation in capacity-building programs related to e-governance. As such, policy interventions should consider not only training but also incentives and support mechanisms to ensure that all employees, regardless of salary level, are empowered to contribute to digital service delivery improvements.

Contrary with the national statistics, as of 2025, the average monthly salary for government employees in the Philippines ranges between ₱22,667 and ₱32,458, depending on the source and the specific position. According to Glassdoor, the estimated total pay for a government employee is ₱32,458 per month, with an average base salary of ₱27,500 (Glassdoor, 2025). Meanwhile, PayScale reports that provincial government employees earn an average annual salary of ₱272,005, which equates to about ₱22,667 per month (PayScale, 2025). These figures reflect the modest but stable compensation structure in the public sector compared to more varied salaries in private employment.

Level of Competencies in E-Governance in their Public Service Delivery
This section presents the findings on the level of competencies of LGU employees in San Manuel, Pangasinan in implementing e-governance within their public service functions. The results are categorized into three key competency domains: conceptual skills, technical skills, and human relation skills. Each domain reflects distinct but interrelated aspects of employee preparedness in utilizing digital platforms for governance. The discussion highlights the overall competency levels based on the responses, providing insights into the strengths and areas for development among the workforce in relation to digital service delivery.

The highest-rated indicator under conceptual skills (Table 3 on the next page) is "Understanding the benefits of e-governance for citizens and public officials" with a weighted mean of 3.96, suggesting that respondents are most confident in recognizing the practical advantages of digital governance. The lowest-rated item is "Familiarity with global and local examples of successful e-governance initiatives", which received a weighted mean of 3.69, indicating relatively less exposure to best practices in other contexts.

The average weighted mean of 3.84 falls within the "Competent" range, implying that the respondents possess a solid foundational understanding of e-governance concepts. This level of competencies indicates that LGU employees are adequately prepared to comprehend the principles, policies, and implications of e-governance in the public sector. It also suggests a favorable cognitive orientation toward digital transformation, which is crucial in supporting the effective integration of e-governance in their respective roles.

Table 2:
Level of competencies in E-Governance in their Public Service Delivery in Terms of Conceptual Skill

Indicators	WM	DE
1. Familiarity with the definition and principles of e-governance	3.88	Competent
2. Knowledge of e-governance objectives in public service delivery	3.89	Competent
3. Understanding the benefits of e-governance for citizens and public officials	3.96	Competent
4. Awareness of policies and regulations surrounding e-governance implementation	3.87	Competent
5. Familiarity with global and local examples of successful e-governance initiatives	3.69	Competent
6. Understanding how e-governance improves transparency in service delivery	3.93	Competent
7. Knowledge of the digital tools and platforms used for e-governance	3.78	Competent
8. Awareness of cybersecurity threats in e-governance systems	3.88	Competent
9. Understanding the importance of data privacy in e-governance	3.93	Competent
10. Familiarity with the integration of e-governance in disaster management	3.74	Competent
11. Awareness of digital literacy requirements for e-governance adoption	3.75	Competent
12. Knowledge of the challenges in implementing e-governance systems	3.71	Competent
13. Understanding how e-governance facilitates accountability	3.91	Competent
14. Familiarity with digital payment systems within e-governance platforms	3.95	Competent
15. Knowledge of the organizational structure required for e-governance deployment	3.73	Competent
Average Weighted Mean	**3.84**	**Competent**

Legend:

Weight	Scale	Descriptive Equivalent
5	4.21 – 5.00	Strongly Competent
4	3.41 – 4.20	Competent
3	2.61 – 3.40	Moderately Competent
2	1.81 – 2.60	Fairly Competent
1	1.00 – 1.80	Not Competent

Conceptual skill is essential in the implementation of e-governance and digital transactions, as it allows public officials to understand and manage complex systems and processes that underpin digital transformation. It enables them to see the broader implications of policies, align technological initiatives with institutional goals, and anticipate challenges related to user accessibility, system integration, and sustainability. Officials with strong conceptual skills are better equipped to design citizen-centric digital services, foster innovation, and manage organizational change effectively. These skills also support strategic planning, allowing for the creation of scalable, inclusive, and future-ready e-governance systems that enhance public service delivery and transparency (MTC Global, 2021).

The highest-rated item under technical skills (Table 4 on the next page) is "Preparing reports using data extracted from e-governance systems" with a weighted mean of 3.71, indicating that respondents feel most confident in applying digital tools for reporting purposes. The lowest-rated indicator is "Troubleshooting common technical issues on e-governance systems", which received a weighted mean of 3.37, falling within the "Moderately Competent" range and suggesting some difficulty in resolving technical problems independently.

The average weighted mean of 3.62 indicates a "Competent" level of technical competencies among LGU employees. This suggests that while the workforce demonstrates an adequate ability to operate and manage digital platforms, there remains room for enhancement in more specialized technical areas.

Technical skills play a crucial role in the successful implementation of e-governance in local government units.

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It ensures that public servants have the capability to install, operate, maintain, and troubleshoot digital systems that support various online services such as licensing, tax payments, and complaint submissions. Without sufficient technical know-how, employees may struggle to manage ICT infrastructure, adapt to new.

Table 3:
Level of competencies in E-Governance in their Public Service Delivery in Terms of Technical Skill

Indicators	WM	DE
1. Navigating and operating e-governance systems with ease	3.76	Competent
2. Uploading and managing digital files on e-governance platforms	3.63	Competent
3. Troubleshooting common technical issues on e-governance systems.	3.37	Moderately Competent
4. Conducting basic training on e-governance tools for colleagues	3.60	Competent
5. Assisting citizens in using e-governance services effectively	3.74	Competent
6. Inputting and retrieving data accurately from e-governance platforms	3.58	Competent
7. Handling digital communication through e-governance systems	3.67	Competent
8. Preparing reports using data extracted from e-governance systems	3.71	Competent
9. Monitoring e-governance system performance for assigned tasks	3.65	Competent
10. Customizing digital workflows to enhance service delivery	3.60	Competent
11. Collaborating with IT teams to maintain e-governance platforms	3.60	Competent
12. Implementing new e-governance features into daily operations	3.56	Competent
13. Ensuring compliance with e-governance procedures during public service delivery	3.62	Competent
14. Conducting quality checks on the digital records maintained through e-governance	3.60	Competent
15. Applying advanced features of e-governance tools to optimize processes	3.55	Competent
Average Weighted Mean	**3.62**	**Competent**

platforms, or protect sensitive information, leading to inefficiencies and potential security risks. Moreover, as emphasized in the study by David et al. (2023), a lack of technical staff and digital literacy among employees is a significant barrier to the adoption of digital technologies in government settings. Investing in the development of technical skills through training and workshops not only enhances service delivery but also increases the competencies and confidence of employees to engage with digital transformation efforts.

Table 4:
Level of competencies in E-Governance in their Public Service Delivery in Terms of Human Relation Skill

Indicators	WM	DE
1. Valuing the role of e-governance in modern public service	4.08	Competent
2. Maintaining a positive attitude towards leaming e-governance skills	4.13	Competent
3. Supporting initiatives to implement e-governance in your organization	4.12	Competent
4. Advocating for the use of e-governance among colleagues and citizens	4.02	Competent
5. Demonstrating enthusiasm for adopting digital tools in daily tasks	3.99	Competent
6. Believing in the potential of e-governance to enhance transparency	4.09	Competent
7. Committing to the ethical use of e-governance technologies	4.05	Competent
8. Showing responsibility for safeguarding data privacy and security	4.13	Competent
9. Exhibiting patience and persistence in mastering e-governance systems	4.04	Competent
10. Taking pride in delivering efficient services through e-governance	4.01	Competent
11. Encouraging colleagues to embrace e-governance platforms	4.01	Competent
12. Displaying openness to feedback for improving e-governance processes	4.07	Competent
13. Prioritizing the needs of citizens when using e-governance systems	4.12	Competent
14. Accepting accountability for errors in e-governance transactions	4.03	Competent
15. Promoting a culture of innovation through e-governance practices	4.06	Competent
Average Weighted Mean	**4.06**	**Competent**

The highest-rated indicator in the human relation skill (Table 5 on the previous page) is “Maintaining a positive attitude towards learning e-governance skills” and “Showing responsibility for safeguarding data privacy and security,” both with a weighted mean of 4.13, reflecting strong enthusiasm and ethical awareness among respondents. The lowest-rated item is “Demonstrating enthusiasm for adopting digital tools in daily tasks” with a weighted mean of 3.99, although still within the “Competent” range.

The average weighted mean of 4.06 also falls under the “Competent” range, indicating that employees exhibit a positive and proactive attitude toward the use of e-governance in their roles. This level of competencies suggests that the workforce is not only willing to adopt digital systems but is also motivated to engage others, uphold ethical standards, and foster a supportive environment for digital transformation in public service delivery.

Human relation skill is critically important in the context of e-governance and modern organizational settings, as it enhances collaboration, communication, and service quality. In the study Decision Support Tool and Human Resource Practices in Deposit Money Banks in Rivers State, human relation skills are closely tied to how employees engage with colleagues, clients, and management through communication-driven decision support systems (DSS). These skills allow employees to handle complaints, conduct transactions, and interact effectively with both internal and external stakeholders. The ability to communicate clearly, respond empathetically, and collaborate across departments significantly contributes to the successful execution of performance appraisals, manpower planning, and career development initiatives. Moreover, human relation skills are essential for appraising employee behavior, teamwork, and productivity, especially in environments that rely on digital platforms and remote communication tools. This highlights that strong interpersonal competencies are indispensable for maintaining a responsive and people-centered public service system in the digital age (Chukuigwe, 2022).

Table 5:
Summary on the Level of competencies in E-Governance in their Public Service Delivery

Variables	AWM	DE
a. Conceptual Skill	3.84	Competent
b. Technical Skill	3.62	Competent
c. Human Relation Skill	4.06	Competent
Overall Average Weighted Mean	**3.84**	**Competent**

Legend:

Weight	Scale	Descriptive Equivalent
5	4.21 – 5.00	Strongly Competent
4	3.41 – 4.20	Competent
3	2.61 – 3.40	Moderately Competent
2	1.81 – 2.60	Fairly Competent
1	1.00 – 1.80	Not Competent

Among the three competency variables, Human Relation Skill obtained the highest average weighted mean of 4.06, highlighting the respondents’ strong interpersonal orientation and positive attitude toward digital transformation. Technical Skill received the lowest average weighted mean of 3.62, suggesting that while employees are generally competent, they are relatively less confident in performing more technical functions of e-governance platforms.

The overall average weighted mean is 3.84, which corresponds to a “Competent” level of competencies. This implies that LGU employees in San Manuel, Pangasinan are generally well-prepared to support and implement e-governance in their respective functions. Their foundational understanding, operational capability, and willingness to engage with digital systems form a strong basis for further capacity-building efforts to enhance the effectiveness and sustainability of public service delivery through digital means.

Table 6:
Significant Difference Between Respondents’ competencies in E-governance in their Public Service Delivery and their Profile Variables

Variables		Conceptual Skill	Technical Skill	Human Relation Skill
Highest Educational Attainment	F-Value	1.620	1.300	0.733
	P-Value	0.047*	0.178	0.822
Years in Service	F-Value	1.389	1.485	1.335
	P-Value	0.126	0.083	0.163
Office of Assignment	F-Value	1.319	2.484	1.997
	P-Value	0.166	0.001*	0.010*
Status of Employment	F-Value	0.568	0.592	0.494
	P-Value	0.965	0.957	0.981
Monthly Salary	F-Value	0.801	1.070	0.960
	P-Value	0.761	0.400	0.535

**Indicates a Significant Difference*

A significant difference was found between highest educational attainment and conceptual skill (p=0.047) as well as office of assignment and both technical skills (p=0.001) and human relation skills (p=0.010). These findings imply that employees’ educational background and departmental assignment significantly influence specific areas of e-governance competency, justifying the rejection of the null hypothesis for these variables. This outcome is consistent with Rokhman (2012), who observed that numerous IT professionals overseeing e-government initiatives did not possess formal IT education, emphasizing the significance of educational qualifications in e-governance positions. In a similar vein, Gorbunova et al. (2023) discovered that digital competencies among students of public administration differed markedly across departments or majors, thereby underscoring the influence of office-specific roles on skill development.

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CONCLUSION AND RECOMMENDATION

This study aimed to assess the competencies of LGU employees in San Manuel, Pangasinan in the implementation of e-governance as it relates to public service delivery. Based on the results of the data gathered and analyzed, the following conclusions were drawn:

The profile of the respondents reveals that the workforce of the Local Government Unit of San Manuel, Pangasinan is generally well-educated, with a majority having attained formal tertiary education. A considerable number are relatively new to government service, reflecting a young and evolving workforce. Employment is predominantly non-permanent, with a significant presence of casual staff. Most employees are concentrated in the Office of the Municipal Mayor, indicating a centralized administrative structure. The data also shows that a large portion of the workforce falls within the lower income brackets.

The findings show that LGU employees in San Manuel, Pangasinan are generally competent in conceptual, technical, and human relation skills related to e-governance. Human relation skills ranked highest, reflecting a strong positive attitude toward digital service delivery, while technical skills ranked lowest, indicating areas for improvement. Overall, the workforce demonstrates a solid level of competencies to support the implementation of e-governance in public service.

The variable "Highest Educational Attainment" significantly influenced conceptual skills and, "Office of Assignment" significantly influenced both technical and human relation skills highlighting the role of organizational placement in shaping e-governance competencies

The proposed development program may serve as a strategic intervention to address the competency gaps identified in the competencies of LGU employees toward e-governance. By focusing on conceptual understanding, technical proficiency, and human relation skills, the program aims to build a more capable, responsive, and future-ready workforce. Through structured training, continuous capacity building, and performance monitoring, this initiative is expected to strengthen the implementation of e-governance and ultimately improve the quality, efficiency, and transparency of public service delivery in San Manuel, Pangasinan.

Recommendations

Based on the findings and conclusions of the study, the following recommendations are proposed to further enhance the competencies of LGU employees in implementing e-governance and improving public service delivery:

1. Regular assessment of employee competencies in e-governance should be integrated into the HR performance management system. This will help the LGU monitor evolving training needs and align recruitment, deployment, and promotion criteria with digital competency standards.
2. Encourage collaboration between departments to ensure consistency and integration in the use of e-governance platforms. Designating digital focal person per office can help facilitate smoother adoption and troubleshooting of systems.
3. The Local Government of San Manuel, Pangasinan should draft and disseminate detailed policies and SOPs for the use of digital platforms, covering protocols on data privacy, digital communication, and online service workflows. This provides structure and accountability across departments.
4. Future HR and capacity-building strategies must prioritize contextualized learning interventions that cater to department-specific exposure gaps.
5. Partner with nearby universities or ICT training centers to provide technical assistance, internships, or co-developed digital solutions that can be tailored to the LGU's operational needs.
6. Invest in adequate hardware, internet connectivity, and system maintenance, particularly in offices with low technical competencies. Without accessible infrastructure, even the most competent personnel may face limitations in applying their skills.

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