INTERNATIONAL MULTIDISCIPLINARY JOURNAL OF RESEARCH FOR INNOVATION, SUSTAINABILITY AND EXCELLENCE (IMJRISE)
https://risejournals.org/index.php/imjrise
ISSN Online: 3028-032X | ISSN Print: 3028-0370
Volume 1, Issue no. 8 (2024)

Teachers Difficulties and School's Readiness in Computer Systems Servicing in Relation to Learner's Academic Performance

DOI: https://doi.org/10.5281/zenodo.13354196

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Abstract:

This study examines the challenges faced by teachers and the readiness of schools in computer system servicing, and their impact on learner performance in a Congressional District within a large-sized schools division in central Philippines during the School Year 2022-2023. Through survey analysis and comparative assessments, the research investigates the profile of respondents, teacher difficulties in curriculum design, training, and equipment, as well as school readiness in these areas. Additionally, it explores the relationship between teacher challenges, school readiness, and learner performance. Findings reveal a diverse demographic profile among teachers, with varying levels of experience and perceptions of difficulty. While schools demonstrate high readiness levels, teachers encounter significant challenges, particularly in curriculum and training design. Despite these obstacles, learner performance remains satisfactory. Recommendations include tailored professional development, fostering a culture of innovation, prioritizing safety measures, enhancing technological integration, promoting independent learning, and implementing comprehensive maintenance protocols. These findings underscore the importance of aligning support mechanisms with teacher needs to improve educational outcomes effectively.

Keywords: Teachers difficulties, school's readiness, computer systems servicing, learner's academic performance, curriculum design, training design, tools, equipment, materials.

Introduction:

Nature of the Problem

School readiness is a crucial factor in determining the effectiveness of the learning process. It encompasses a range of aspects that contribute to creating a conducive environment for learning. Marzano and Kendall (2014) study identified curriculum design, training design, and tools, equipment, and materials as critical factors for school readiness. In senior high school programs, curriculum design must align with industry standards and national competency standards and provide updated information on the latest trends in computer systems servicing. The training design must provide adequate hands-on experience and opportunities to apply theoretical knowledge in real-life situations, while the tools, equipment, and materials must be modern, updated, and sufficient in quantity to support the learning process. Garet (2015) found that schools with adequate resources and preparedness were more likely to provide high-quality education to their students. The study also indicated that students who attended schools with high readiness performed better in their academic pursuits. In the context of computer systems servicing, school readiness can help students acquire the necessary skills and knowledge required to install computer systems, set up computer networks, and troubleshoot problems.

School readiness plays a vital role in achieving effective learning outcomes. According to a study by Garet (2015), schools that have adequate resources and preparedness are more likely to provide high-quality education to their students. The study also showed that students who attend schools with high readiness are more likely to perform better in their academic pursuits. In the context of computer systems servicing, school readiness can help students acquire the necessary skills and knowledge required to install computer systems, set up computer networks, and troubleshoot problems. Despite the importance of school readiness, the current status of student competence level in computer servicing in the Philippines is concerning. According to a study by Gonzales (2016), most senior high school students lack the necessary skills and knowledge required to perform basic computer systems servicing tasks. The study also found that the lack of adequate training and outdated tools and equipment contributed significantly to this problem.

The current state of student competence level in computer systems servicing in the research venue reveals a significant gap between school readiness and student competence level. This study aims to investigate the relationship between school readiness and senior high learner's competence and difficulties in computer systems servicing. The output of the study will be an action plan aimed at addressing any gaps identified by improving

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curriculum design, training design, and tools, equipment, and materials, and enhancing the competence level of senior high school students in computer systems servicing.

Current State of Knowledge

In their book, Groth and Tobey (2018) discussed the importance of training and professional development for school staff involved in computer systems servicing. They highlighted the need for continuous learning and updating of skills to keep up with the rapidly changing technological landscape. They also emphasized the importance of collaboration and communication among staff to ensure that the school's computer systems are running efficiently. The availability of modern equipment and resources in schools enhances the practical learning experiences in CSS programs. Garcia (2019) points out that access to up-to-date tools and technologies is crucial for hands-on learning. When students can work with the same equipment they will encounter in the industry, they gain practical experience that is invaluable for their future careers. This hands-on experience helps solidify theoretical knowledge and builds confidence in using technical tools.

Effective curriculum design and implementation strategies are vital for ensuring school readiness in CSS. Hernandez (2020) asserts that a well-structured curriculum should provide a balanced mix of theory and practice, enabling students to develop a comprehensive understanding of computer systems servicing. The implementation of such a curriculum requires careful planning and continuous evaluation to adapt to evolving educational and industry needs. This dynamic approach ensures that the curriculum remains relevant and effective. Curriculum relevance and its alignment with students' interests and future career aspirations are vital. Salazar and Mercado (2022) argue that a curriculum that is engaging, challenging, and aligned with real-world applications can significantly boost student performance. They suggest that educational stakeholders should continuously review and update the curriculum to ensure its relevance.

Engaging students and maintaining their motivation is essential for success in CSS programs. Martinez and Ruiz (2019) highlight that student engagement can be enhanced through interactive and hands-on learning activities that make the subject matter more interesting and relevant. Motivated students are more likely to persist in their studies and achieve higher levels of proficiency in technical skills. Schools must therefore employ strategies that foster engagement and sustain student interest in CSS. Collaboration with industry partners provides students with real-world experience and enhances school readiness in CSS. Nguyen (2020) discusses the benefits of partnerships between educational institutions and industry, such as internships, apprenticeships, and mentorship programs. These collaborations offer students practical insights into the workplace and help them build professional networks. Industry partnerships also ensure that the curriculum remains aligned with current industry standards and practices.

Support systems and mentorship for CSS teachers are also critical. Dela Rosa (2021b) emphasizes the importance of mentorship programs for novice teachers, noting that the lack of guidance from experienced colleagues can hinder professional growth and teaching efficacy. Dela Rosa advocates for structured mentorship and support systems to help new teachers navigate the challenges of the profession. Assessment and evaluation methods in CSS education pose another challenge. According to Perez and Bautista (2021), traditional assessment methods often fail to accurately measure students' practical skills and competencies in CSS. They argue for the adoption of more practical, competency-based assessment approaches that better reflect industry requirements and students' actual abilities. The rapid pace of technological change is a persistent challenge for CSS teachers. Villanueva and Santos (2022) highlight the difficulty teacher’s face in keeping up with continuous technological advancements. They suggest that ongoing professional development and regular updates to teaching materials are necessary to ensure that teachers can provide relevant and current instruction.

Theoretical Underpinnings

This study will make use of three theories, namely the theory of school readiness, the theory of competence of the learners, and the theory of difficulties encountered by teachers. The theory of school readiness, proposed by Pianta and Cox (2016), emphasizes the importance of preparing schools for the successful delivery of educational programs. According to this theory, school readiness involves the alignment of resources, policies, and practices in a way that supports the learning and development of students. In the context of this study, the theory of school readiness is relevant because it highlights the need to ensure that schools are adequately prepared to provide computer systems servicing programs to senior high learners.

The theory of competence of the learners, proposed by Zimmerman (2013), posits that competence is a critical factor in academic success. This theory suggests that learners who possess the necessary skills, knowledge, and attitudes to succeed in a particular field are more likely to perform well in that area. In the context of this study, the theory of competence of the learners is relevant because it emphasizes the importance of assessing the competence of senior high learners in computer systems servicing.

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The theory of difficulties encountered by teachers, proposed by Hargreaves and Fullan (2012), focuses on the challenges that teachers face in delivering effective instruction. This theory suggests that teachers encounter various difficulties, such as inadequate resources, lack of support, and competing demands, that can impede their ability to teach effectively. In the context of this study, the theory of difficulties encountered by teachers is relevant because it highlights the challenges that teachers may face in teaching computer systems servicing to senior high learners.

The three theories mentioned above are most appropriate for this study because they provide a comprehensive framework for examining the readiness of schools, the competence of senior high learners, and the difficulties encountered by teachers in providing computer systems servicing programs. By using these theories, this study can identify the factors that contribute to the success or failure of computer systems servicing programs in schools, which can help inform the development of effective policies and practices in this field.

Objectives

This study aimed to determine the teacher's level of difficulties and the level of school's readiness in computer system servicing in relation to the level of learner's performance in a Congressional District, in a large sized school's division, in central Philippines for the School Year 2022-2023. Specifically, it sought answers to the following questions: 1) the teacher's level of difficulties in computer system servicing according to the area of curriculum design, training design, and tools, equipment, and material; 2) the level of school's readiness in computer system servicing according to the aforementioned areas; 3) the level of learner's performance during the first semester of the school Year 2022-2023; 4) the significant difference in the teacher's level of difficulties in computer systems servicing when grouped and compared according to the aforementioned variables; 5) the significant difference in the level of school's readiness in computer systems servicing when grouped according to the aforementioned variables; 6) the significant relationship exists between the level of schools' readiness in computer system servicing and the level of learners' performance.

Methodology

This section presents the discussion of the research methodology used, the subjects and respondents of the study, the research instruments used, the validity and reliability of the instruments, the procedure for data gathering, and the statistical tools and procedure for data analysis.

Research Design

This study used the descriptive research design in determining the level of difficulties encountered by teachers, and school readiness in computer systems servicing in relation the learners' academic performance during the school year 2022-2023 as basis for a capability building plan. Descriptive method of research according to Loeb (2017), seeks to determine the relationship between variables, explore causes of phenomena, hypotheses, and develops generalization, principles, and theories based on the findings. In the quantification of data.

Study Respondents

The respondents of the study comprised 100 Computer Systems Servicing (CSS) teachers from selected schools within the congressional district. The study employed purposive sampling, a technique particularly useful for selecting individuals who are most relevant to the research objectives. This method ensured that the chosen participants had specific experience and expertise in CSS, thereby providing rich, detailed insights into the challenges and readiness related to their field. The manageable population size allowed for in-depth data collection and analysis, facilitating a comprehensive understanding of the issues at hand. By focusing on a targeted group of educators, the study aimed to gather nuanced perspectives that could directly inform the development of effective strategies and interventions to enhance academic performance and instructional quality in CSS.

Instruments

The researcher gathered data by administering the survey questionnaire to the total ICT teacher population of schools. To assess the challenges faced by teachers in CSS and the preparedness of schools, the researcher employed a three-part questionnaire. Part 1 collects information on respondents' profiles. Part II comprises the actual questionnaire, consisting of 30 survey questions related to the difficulties encountered by teachers in computer systems servicing instruction. Part III contains 30 survey questions relating to the readiness of schools in computer systems servicing instruction. Teachers' responses were interpreted according to the following guide: 5 (Always), 4 (often), 3 (Sometimes), 2 (rarely) and 1 (almost never). The survey instruments were subjected to validity and reliability test. The validity index for level of school readiness was 4.53 with an interpretation excellent and for teachers' level difficulties was 4.51 with an interpretation excellent. And the reliability index for teachers'

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level of difficulties is 0.969 interpreted as excellent and for level of school readiness is 0.973 interpreted as excellent.

Data Gathering Procedure

Permission from the Schools Division Superintendent will be secured for the conduct of the study. The Cluster Head and School Heads will note and approve the schedule of distribution of the questionnaires to the respondents. After the approval of the heads, the researcher will present the purpose of the study to the faculty and to the respondents. After the test is conducted to the respondents, the questionnaires will be retrieved immediately and the data will be organized, tabulated, analyzed and interpreted with the aid of SPSS.

Data Analysis and Statistical Treatment

Objective No. 1 used the descriptive analytical scheme and means to determine the teacher's level of difficulties in computer system servicing according to the area of curriculum design, training design, and tools, equipment, and material.

Objective no. 2 used the descriptive analytical scheme and mean level of school's readiness in computer system servicing according to the aforementioned areas.

Objective No.3 used the descriptive analytical scheme and mean to determine the level of learner's performance during the first semester of the school Year 2022-2023.

Objective No. 4 used the comparative analytical scheme and the Mann Whitney U test to determine significant difference in the teacher's level of difficulties in computer systems servicing when grouped and compared according to the aforementioned variables.

Objective No. 5 used the comparative analytical scheme and the Mann Whitney U test to determine significant difference in the teacher's level of school's readiness in computer systems servicing when grouped and compared according to the aforementioned variables.

Objective No. 6 used the relational analytical scheme and Spearman's rho to determine the significant relationship exists between the level of schools' readiness in computer system servicing and the level of learners' performance.

Ethical Consideration

Participants will be informed that their participation in this study is voluntary, and their decision to participate or not will not affect their relationship with the researcher or any other individual. All information collected from participants will be kept confidential, and no identifying information will be disclosed or published in any form of dissemination. Participants will be assigned a pseudonym or a unique identifier to protect their identity. The researcher acknowledges that research participation can cause discomfort, stress, or psychological distress. Participants will be informed of the potential risks and benefits of the research. Participants will be free to withdraw from the study at any time, without any penalty or consequences. If the researcher becomes aware of any adverse events or harm caused by the research, appropriate measures will be taken to address the situation. Participants will be provided with a consent form that outlines the purpose of the research, the procedures, the potential risks and benefits, the anonymity and confidentiality measures, and the right to withdraw from the study. The researcher will obtain written informed consent from all participants before their participation in the research. This research ethics protocol ensures the protection of participants' rights and minimizes the risk of harm. The researcher will comply with all ethical guidelines and regulations throughout the research process.

Results and Discussion

This section deals with the presentation, analysis and interpretation of data gathered to carry out the objectives of this study. All these were made possible by following certain appropriate procedures so as to give the exact data and solution to each specific problem.

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Table 1
Teacher's Level of Difficulties in Computer System Servicing According to Curriculum Design

Items	Mean	Interpretation
What is the level of difficulties you encountered in		
1. integrating computer systems servicing concepts into existing curriculum (MELCs).	4.12	High Level
2. balancing depth of technical content with accessibility for students.	4.16	High Level
3. identifying appropriate learning outcomes and assessment methods.	4.14	High Level
4. adapting curriculum to rapidly evolving technology trends.	4.24	High Level
5. ensuring alignment with industry standards and certification requirements.	4.26	High Level
6. incorporating ethical and security considerations into the curriculum.	4.20	High Level
7. addressing diverse learning styles and abilities of students.	4.30	High Level
8. integrating practical application and hands-on activities.	4.22	High Level
9. collaborating with cross-disciplinary teams for curriculum enhancement.	4.18	High Level
10. securing sufficient time for comprehensive curriculum delivery.	4.26	High Level
Overall Mean	**4.21**	**High Level**

This section analyzes Table 1, which presents the level of difficulties teachers encounter in computer system servicing according to curriculum design. The Overall mean is 4.21 with an equivalent High level. Among the items listed, the least mean score of 4.12 corresponds to the difficulty of integrating computer systems servicing concepts into the existing curriculum (MELCs), indicating a high level of difficulty. This suggests that while this task is challenging, it is relatively less problematic compared to other areas, but it still reflects significant obstacles in adapting current curricular frameworks to include comprehensive computer system servicing content.

On the other hand, the item with the highest mean score of 4.30 pertains to addressing diverse learning styles and abilities of students. This indicates a very high level of difficulty for teachers in ensuring that their teaching methods and materials are inclusive and effective for a varied student demographic. The implications of this finding are critical; it underscores the necessity for differentiated instruction and the development of more adaptable teaching strategies that can cater to a wide range of learning preferences and capabilities. The high mean also highlights a need for professional development programs that focus on equipping teachers with skills to manage diverse classrooms effectively.

Supporting this finding, a study by Tomlinson (2014) emphasizes the complexity and necessity of differentiated instruction in modern education. Tomlinson's research found that teachers often struggle with creating and implementing lesson plans that meet the diverse needs of their students, which aligns with the difficulties highlighted in this table. This correlation between the current study and existing literature suggests that more comprehensive support and training are needed to help teachers navigate these challenges successfully.

Table 2
Teacher's Level of Difficulties in Computer System Servicing According to Training Design

Items	Mean	Interpretation
What is the level of difficulties you encountered in…		
1. determining the most effective training delivery methods.	3.96	High Level
2. developing engaging and interactive training materials.	4.08	High Level
3. adapting training to cater to varied teacher experience levels.	4.00	High Level
4. ensuring sufficient hands-on practical sessions.	4.02	High Level
5. addressing time constraints for intensive training sessions.	4.06	High Level
6. selecting the right balance of technical depth and clarity.	4.10	High Level
7. creating resources that facilitate continuous learning and reference.	4.14	High Level
8. managing technological changes that affect training content.	4.02	High Level
9. monitoring and evaluating the effectiveness of training programs.	4.12	High Level
10. overcoming resistance to new teaching techniques and tools.	4.16	High Level
Overall Mean	**4.07**	**High Level**

Table 2 explores the difficulties teachers face concerning training design in computer system servicing which garnered an overall mean that is 4.07 or High level. The item with the least mean score of 3.96 is determining the most effective training delivery methods, interpreted as a high level of difficulty. This reflects that while determining effective delivery methods is challenging, it is somewhat less of a barrier compared to other training design aspects, yet it remains a significant concern that requires attention for optimizing teacher training programs.

Conversely, the item with the highest mean score of 4.16 is overcoming resistance to new teaching techniques and tools, indicating a high level of difficulty. This finding is particularly important as it suggests that resistance to change among educators is a major hurdle in the adoption of new instructional methods and technologies. The

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implications of this are profound, as overcoming such resistance is crucial for the successful implementation of innovative teaching practices that can enhance student learning outcomes. This resistance can stem from a variety of sources, including comfort with established methods, lack of confidence in new tools, or insufficient support and training.

A related study by Ertmer and Ottenbreit-Leftwich (2010) discusses the challenges teachers face in integrating technology into their teaching practices. The study found that teacher beliefs and attitudes towards technology play a significant role in the adoption of new tools and methods. This supports the findings from Table 4, emphasizing the need for professional development that not only introduces new techniques but also addresses underlying resistance by fostering a positive attitude towards change and providing continuous support.

Table 3
Teacher's Level of Difficulties in Computer System Servicing According to Tools, Equipment and Materials

Items	Mean	Interpretation
What is the level of difficulties you encountered in…		
1. ensuring availability of up-to-date computer hardware.	3.70	High Level
2. managing frequent software and operating system updates.	3.72	High Level
3. overcoming constraints with networking infrastructure.	3.62	High Level
4. addressing compatibility issues among different tools and systems.	3.80	High Level
5. maintaining adequate levels of troubleshooting and diagnostic tools.	3.86	High Level
6. managing the costs of regular maintenance and repairs.	3.82	High Level
7. providing access to comprehensive and timely online resources.	3.92	High Level
8. overcoming limitations in access to equipment and resources.	3.94	High Level
9. addressing technical support and repair delays.	3.86	High Level
10. ensuring the availability of adequate safety equipment and measures.	3.96	High Level
Overall Mean	**3.82**	**High Level**

Table 3 examines the difficulties teachers encounter concerning tools, equipment, and materials in computer system servicing with an overall mean of 3.82 or an equivalent which is high level. The item with the least mean score of 3.62 pertains to overcoming constraints with networking infrastructure, still reflecting a high level of difficulty. This indicates that while networking infrastructure poses significant challenges, it is slightly less of a problem compared to other issues, but it remains a critical area requiring improvement to support effective computer system servicing education.

The highest mean score of 3.96 is associated with ensuring the availability of adequate safety equipment and measures, interpreted as a high level of difficulty. This finding highlights a crucial concern regarding the safety aspects of computer systems servicing, indicating that teachers face substantial difficulties in obtaining and maintaining proper safety equipment. The implications are significant as the lack of adequate safety measures can jeopardize both teacher and student well-being, underscoring the need for schools and institutions to prioritize the procurement and maintenance of safety equipment to ensure a safe learning environment.

Supporting this finding, a study by Wilkins (2017) emphasizes the importance of safety in technical education. Wilkins' research found that inadequate safety measures are a common issue in technical and vocational education, leading to increased risks of accidents and injuries. This aligns with the difficulties highlighted in Table 5, suggesting that institutions must allocate more resources and attention to safety protocols and equipment to mitigate these risks effectively.

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Table 4
Level of School's Readiness in Computer System Servicing According to Curriculum Design

Items	Mean	Interpretation
1. The curriculum aligns with the latest industry standards. The curriculum provides a comprehensive and well-structured approach to teaching computer systems servicing.	4.30	High Level
2. The curriculum includes relevant topics and practical applications for learners.	4.32	High Level
3. The curriculum includes a variety of instructional methods and activities to cater to different learning styles.	4.38	High Level
4. The curriculum includes assessments that accurately measure the learners' understanding and competency in computer systems servicing.	4.44	High Level
5. The curriculum incorporates the use of technology in teaching and learning process.	4.50	Very High Level
6. The curriculum is updated regularly to reflect the changing needs of the industry.	4.38	High Level
7. Insufficiency of supply of covid-19 essentials to ensure protection of teachers and parents during distribution and retrieval of modules.	4.24	High Level
8. The curriculum provides clear learning objectives and outcomes.	4.44	High Level
9. The curriculum is appropriate for the intended learners' level of understanding and experience.	4.36	High Level
10. The curriculum covers both theoretical and practical aspects of computer systems servicing.	4.44	High Level
Overall Mean	**4.38**	**High Level**

Table 4 evaluates the school's readiness in computer system servicing according to curriculum design, with an overall mean rating of 4.38, which corresponds to a "High Level" of readiness. The highest-rated item is "The curriculum incorporates the use of technology in the teaching and learning process," with a mean of 4.50, indicating a "Very High Level" of readiness. This suggests that the curriculum is highly effective in integrating technological tools, which is crucial for a course focused on computer systems servicing.

Conversely, the item with the lowest mean rating is "Insufficiency of supply of COVID-19 essentials to ensure the protection of teachers and parents during the distribution and retrieval of modules," with a mean score of 4.24. While this still indicates a "High Level" of readiness, it raises a significant concern. The data suggests that there is administrative support with limited resources, which are insufficient to meet the needs of funding MDL essentials during the virulent outbreak. Furthermore, this result reveals a well-designed curriculum (as indicated by the high average score) for a program implementing remote learning during COVID-19. However, a critical concern arises: there is a lack of supplies to ensure the safety of teachers and parents during the distribution and collection of learning materials. This gap between a strong curriculum and weak logistical safety poses a significant risk. Even with good learning materials, the effectiveness of the program and the well-being of the school community could be compromised if those involved in distribution are not adequately protected from the virus. The implication is that while the curriculum design is strong, there is a need for improvement in addressing logistical challenges related to health and safety during the pandemic. This gap could impact the effective delivery of the curriculum and the overall safety of the school community.

Supporting these findings, a study by Harris and Jones (2020) emphasized the importance of addressing logistical challenges in educational settings, especially during crises like the COVID-19 pandemic. Their research highlights that while curriculum design is critical, the successful implementation also depends on overcoming external challenges, such as ensuring health and safety measures.

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Table 5
Level of School's Readiness in Computer System Servicing According to Training Design

Items	Mean	Interpretation
1. The training program includes an orientation session that provides an overview of the course.	4.42	High Level
2. The training program includes a comprehensive schedule and timeline for the course.	4.36	High Level
3. The training program includes a clear explanation of the course requirements and expectations.	4.44	High Level
4. The training program provides opportunities for learners to practice their skills and receive feedback.	4.44	High Level
5. The training program includes activities that promote collaborative learning among learners.	4.42	High Level
6. The training program includes activities that promote independent learning among learners.	4.50	Very High Level
7. The training program includes activities that promote problem-solving and critical thinking skills.	4.44	High Level
8. The training program provides access to resources that support learning, such as reading materials and online tools.	4.28	High Level
9. The training program includes opportunities for learners to ask questions and seek clarification.	4.40	High Level
10. The training program provides opportunities for learners to reflect on their learning progress.	4.46	High Level
Overall Mean	**4.42**	**High Level**

Table 5 examines the school's readiness in computer system servicing according to training design, with an overall mean rating of 4.42, indicating a "High Level" of readiness. The highest-rated item is "The training program includes activities that promote independent learning among learners," with a mean of 4.50, reflecting a "Very High Level" of readiness. This suggests the training program excels in fostering autonomy among learners, a key aspect of effective training in technical fields.

The item with the lowest mean rating is "The training program provides access to resources that support learning, such as reading materials and online tools," with a mean of 4.28, still a "High Level" of readiness. This slightly lower rating, compared to other items, points to a potential area for improvement. Several factors could contribute to this lower rating. Firstly, there might be inconsistencies in the availability and quality of resources across different training facilities. Additionally, the rapid pace of technological advancements can render existing resources outdated quickly, making it challenging to keep them current and relevant. Moreover, budget constraints or logistical issues could limit the ability to provide high-quality, comprehensive resources consistently. Enhancing the availability and quality of learning resources is crucial, as adequate access to these materials is essential for comprehensive learning and skill development. Addressing these areas could further bolster the training program and better support learners' educational needs.

In support of this finding, a study by Johnson and Aragon (2017) highlighted the critical role of access to quality learning materials in training programs. They found that providing sufficient resources significantly impacts learners' ability to acquire and apply new skills effectively.

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Table 6
Level of School's Readiness in Computer System Servicing According to Tools, Equipment and Materials

Items	Mean	Interpretation
1. The training facility has adequate space and resources to accommodate learners.	3.84	High Level
2. The training facility has access to high-speed internet and other essential communication tools.	3.72	High Level
3. The training facility has the necessary tools and equipment to teach computer systems servicing.	3.84	High Level
4. The training facility provides access to up-to-date computer hardware and software.	3.78	High Level
5. The training facility provides access to specialized tools and equipment for computer systems servicing.	3.80	High Level
6. The training facility provides adequate supplies and materials needed for hands-on activities.	3.86	High Level
7. The training facility has a safe and secure environment for learners to practice their skills.	3.98	High Level
8. The training facility has a backup plan in case of technical difficulties during training.	3.92	High Level
9. The training facility has the necessary support staff to assist learners in case of technical difficulties.	3.98	High Level
10. The training facility follows proper protocols in handling and maintaining the tools and equipment used for training.	4.24	High Level
Overall Mean	**3.90**	**High Level**

Table 6 assesses the school's readiness in computer system servicing according to tools, equipment, and materials, with an overall mean rating of 3.90, indicating a "High Level" of readiness. The highest-rated item is "The training facility follows proper protocols in handling and maintaining the tools and equipment used for training," with a mean of 4.24, demonstrating a "High Level" of readiness. This indicates that the facility excels in maintaining its tools and equipment, ensuring they are safe and functional for educational purposes.

The item with the lowest mean rating is "The training facility has access to high-speed internet and other essential communication tools," with a mean of 3.72, still a "High Level" of readiness. This lower rating highlights a significant area for improvement. Several factors could contribute to this rating. For instance, the infrastructure in certain areas may not support high-speed internet, or there might be budgetary constraints preventing the upgrade of existing facilities. Additionally, outdated hardware and insufficient IT support can exacerbate connectivity issues. Access to high-speed internet is crucial for both practical training and theoretical learning in computer systems servicing. Inadequate internet access can hinder the effectiveness of the training program, limiting learners' ability to access online resources, participate in interactive activities, and use essential tools necessary for a comprehensive education. Addressing these issues is essential to enhance the overall training experience and ensure that learners can fully engage with the curriculum.

Supporting this observation, a study by Selwyn, Nemorin, Bulfin et al. (2016) emphasized the importance of reliable internet access in educational settings, especially in technical and vocational training. They found that limited internet access significantly impacts the quality of education and the learners' ability to engage with digital learning tools and resources.

Table 7
Level of Learner's Performance During the First semester of the School Year 2022-2023

Variable	N	Mean	Interpretation
Learners' Performance	3124	84.72	Very Satisfactory

The analysis of Table 7 reveals the performance levels of learners during the first semester of the school year 2022-2023. With a sample size of 3124 students, the mean score is 84.72, which falls within the "Very Satisfactory" range. This result indicates that, on average, students performed well during this period, demonstrating a strong understanding of the curriculum and achieving high academic standards. The mean score of 84.72 suggests that the majority of students are meeting or exceeding the expected academic benchmarks. This "Very Satisfactory" performance can be attributed to several factors, including effective teaching strategies, a well-designed curriculum, and supportive learning environments both at school and at home. The high level of performance also indicates that students are engaged and motivated, which is crucial for maintaining academic success.

The "Very Satisfactory" performance level has several important implications. Firstly, the current curriculum appears to be effective in promoting student understanding and academic achievement, suggesting that the instructional materials and teaching methods are well-aligned with students' learning needs. Secondly, teachers are likely employing effective pedagogical techniques that enhance student learning, such as interactive teaching methods, regular assessments, and personalized feedback, which help students grasp complex concepts and

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perform well academically. Thirdly, the high performance level may reflect strong support systems within the school, including tutoring programs, counseling services, and extracurricular activities that reinforce learning and provide additional academic assistance. Furthermore, the results indicate a high level of student engagement and motivation. Engaged students are more likely to attend classes regularly, participate in learning activities, and complete their assignments diligently, all of which contribute to higher academic performance. Lastly, school policies and administrative support likely play a crucial role in maintaining high academic standards. Effective leadership, resource allocation, and continuous monitoring and evaluation of teaching practices can help sustain and further improve student performance.

A related study by Araiz (2018) examined the factors contributing to high academic performance in secondary schools. The study found that schools with well-structured curricula, effective teaching methods, and robust student support systems tended to have higher student performance levels. Specifically, this study highlighted the importance of continuous professional development for teachers, the use of technology in the classroom, and the provision of extracurricular activities that support academic learning. The results aligned with the study by suggesting that a combination of high-quality teaching, effective curriculum design, and strong support systems are essential for achieving high quality performance levels. Moreover, the study emphasized the role of school leadership in fostering an environment conducive to learning and academic excellence.

Table8
Difference in the Teachers' Level of Difficulties in Computer Systems Servicing According to Curriculum Design When Grouped According to Age, Length of Service, and Plantilla Position

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	*Sig. level*	Interpretation
Age	Younger	48	62.17	686.00	0.000		Significant
	Older	52	39.73				
Length of Service	Shorter	35	62.70	710.50	0.002	0.05	Significant
	Longer	65	43.93				
Plantilla Position	Lower	38	48.55	1104.00	0.597		Not Significant
	Higher	62	51.69				

Table 8 presents the analysis of differences in teachers' level of difficulties in computer system servicing based on curriculum design when grouped by age, length of service, and plantilla position. The Mann-Whitney U test was employed to evaluate the significance of differences between groups. The alpha level of significance was set at 0.05. The null hypothesis, which posits that there is no significant difference in the level of difficulties experienced by different groups, will be rejected if the p-value is less than 0.05.

The results indicate significant differences in teachers' difficulties in computer system servicing based on age and length of service, but not by plantilla position. Teachers categorized as "Younger" (mean rank = 62.17) experienced greater difficulties compared to "Older" teachers (mean rank = 39.73), with a p-value of 0.000, indicating a significant difference. Similarly, teachers with a "Shorter" length of service (mean rank = 62.70) reported more difficulties than those with a "Longer" length of service (mean rank = 43.93), with a p-value of 0.002, signifying significance. However, differences in difficulties based on plantilla position were not significant, as evidenced by a p-value of 0.597.

The significant differences by age suggest that younger teachers face more challenges in computer system servicing. This could be attributed to their lack of experience and familiarity with the technical aspects of computer systems compared to older teachers, who might have developed more skills and confidence over time. Younger teachers, being newer to the profession, might also have less exposure to practical, hands-on training in computer system servicing, contributing to their perceived difficulties.

Similarly, the significant differences based on length of service highlight that teachers with shorter tenures encounter more difficulties than those with longer tenures. This can be explained by the fact that newer teachers are still in the learning phase, adapting to the technical demands of their roles. They may not have had as much opportunity to build up the same level of expertise and problem-solving abilities as their more experienced colleagues. This learning curve can manifest as greater perceived difficulties in managing and servicing computer systems effectively.

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The implications of these findings for school administrators and policymakers are clear. There is a need for targeted professional development and support programs for younger teachers and those with shorter service lengths to help them build the necessary skills and confidence in computer systems servicing. Providing more comprehensive training and mentorship opportunities can help reduce the difficulties these groups face, leading to better integration of technology in the classroom. Additionally, schools should consider implementing ongoing professional development programs that are accessible to all teachers, regardless of their age or length of service, to ensure continuous skill enhancement and adaptation to new technological advancements.
These findings align with the study by Garcia and Robles (2018), which found that newer and younger teachers often report higher levels of difficulty in integrating technology into their teaching practices. Garcia and Robles emphasized the importance of ongoing professional development and support to bridge the skills gap and enhance teachers' confidence and competence in technology use. This study reinforces the need for sustained investment in teacher training to address the specific challenges faced by younger and less experienced teachers.

Table9
Difference in the Teachers' Level of Difficulties in Computer Systems Servicing According to Training Design When Grouped According to Age, Length of Service, and Plantilla Position

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	*Sig. level*	Interpretation
Age	Younger	48	59.33	624.00	0.003		Significant
	Older	52	42.35				
Length of Service	Shorter	35	60.99	770.50	0.008	0.05	Significant
	Longer	65	44.85				
Plantilla Position	Lower	38	49.71	1148.00	0.830		Not Significant
	Higher	62	50.98				

Table 9 explores the differences in teachers' difficulties in computer system servicing based on training design, again using the Mann-Whitney U test with a significance level of 0.05. The null hypothesis, suggesting no significant differences, will be rejected if p-values are less than 0.05. The analysis shows significant differences in teachers' difficulties in computer system servicing based on age and length of service, but not by plantilla position. Younger teachers (mean rank = 59.33) reported more difficulties than older teachers (mean rank = 42.35), with a p-value of 0.003, indicating a significant difference. Similarly, teachers with a shorter length of service (mean rank = 60.99) faced more difficulties compared to those with longer service (mean rank = 44.85), with a p-value of 0.008, signifying significance. However, differences in difficulties based on plantilla position were not significant, as evidenced by a p-value of 0.830.

The significant differences by age suggest that younger teachers encounter more challenges in computer systems servicing. This could be attributed to their relative lack of experience and exposure to computer systems in a professional setting. Younger teachers may be less familiar with troubleshooting and maintaining computer systems, leading to higher reported difficulties. Additionally, younger teachers might still be developing their confidence and technical skills, which older, more experienced teachers have already acquired over time. Similarly, the significant differences based on length of service highlight that teachers with shorter tenures experience more difficulties than those with longer tenures. This disparity can be explained by the learning curve associated with mastering the technical aspects of computer systems servicing. Teachers with shorter service lengths might not have had ample opportunities to engage in professional development or accumulate practical experience, resulting in greater perceived challenges compared to their more experienced counterparts.

The implications of these findings are crucial for educational administrators and policymakers. There is a clear need for targeted support and training programs for younger teachers and those with shorter lengths of service. Providing comprehensive, hands-on training and ongoing professional development opportunities can help these teachers build the necessary skills and confidence to manage computer systems effectively. Schools should consider implementing mentorship programs where experienced teachers can guide and support newer teachers, helping to bridge the skills gap and reduce the difficulties faced by less experienced staff. These results are consistent with the findings of Harris and Brown (2017), who found that younger and less experienced teachers often struggle more with the technical aspects of their roles due to less exposure and training. This study highlights the importance of targeted training programs to alleviate these difficulties, particularly for newer and younger teachers. The non-significance of differences by plantilla position supports the idea that training and professional development efforts should be uniformly accessible to all teachers, regardless of their administrative status.

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Table10
Difference in the Teachers' Level of Difficulties in Computer Systems Servicing According to Tools, Equipment and Materials When Grouped According to Age, Length of Service, and Plantilla Position

Variable	Category	N	Mean Rank	Mann Whitney U	*p*-value	*Sig. level*	Interpretation
Age	Younger	48	60.88	750.00	0.001		Significant
	Older	52	40.92				
Length of Service	Shorter	35	63.59	679.50	0.001	0.05	Significant
	Longer	65	43.45				
Plantilla Position	Lower	38	49.97	1158.00	0.887		Not Significant
	Higher	62	50.82				

Table 10 examines the differences in teachers' difficulties with computer system servicing based on the availability of tools, equipment, and materials, using the Mann-Whitney U test and an alpha level of 0.05 to determine significance. The findings indicate significant differences in the difficulties faced by teachers in computer system servicing based on age and length of service, but not by plantilla position. Younger teachers (mean rank = 60.88) encountered more difficulties compared to older teachers (mean rank = 40.92), with a p-value of 0.001, indicating a significant difference. Similarly, teachers with shorter service lengths (mean rank = 63.59) experienced more difficulties than those with longer service (mean rank = 43.45), with a p-value of 0.001, also signifying significance. However, differences in difficulties based on plantilla position were not significant, as shown by a p-value of 0.887.

The significant differences by age suggest that younger teachers face more challenges in computer system servicing, likely due to their relative lack of experience and familiarity with the school's specific technological environment. Younger teachers may still be adjusting to the technical demands of their roles and might not have developed the same level of proficiency and confidence in handling computer systems as their older counterparts. This could be exacerbated by a lack of extensive prior training or exposure to the practical aspects of computer system maintenance.

Similarly, the significant differences based on length of service highlight that teachers with shorter tenures struggle more with computer system servicing compared to their more experienced colleagues. This is likely because teachers with shorter service lengths have had less time to acclimate to the technical aspects of their roles and to develop the necessary troubleshooting skills. Teachers with longer service lengths typically have more experience, have likely faced and overcome various technical issues, and have attended more professional development sessions, thereby reducing their difficulties.

The implications of these findings are crucial for educational institutions aiming to improve technological support and training. There is a clear need for targeted professional development programs that focus on enhancing the technical skills of younger teachers and those with shorter service lengths. Schools should consider implementing comprehensive training programs that offer hands-on experience with computer systems and provide ongoing support. Additionally, mentorship programs where experienced teachers can offer guidance and share their expertise with newer teachers could be highly beneficial. By addressing these gaps, schools can ensure a more uniformly skilled teaching staff, which in turn can enhance the overall educational experience for students.
These results are supported by the study conducted by Lee and Kim (2016), which found that access to and familiarity with tools and equipment significantly impacts teachers' ability to effectively manage computer system servicing tasks. Younger and less experienced teachers, who may have less exposure and practice with these tools, face greater challenges. The study emphasizes the need for adequate resources and hands-on training to ensure all teachers, especially the less experienced ones, can competently handle technological requirements in their roles.

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Table11

Difference in the Level of School's Readiness in Computer Systems Servicing According to Curriculum Design When Grouped According to Age, Length of Service, and Plantilla Position

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	*Sig. level*	Interpretation
Age	Younger	48	61.83	704.00	0.000		Significant
	Older	52	40.04				
Length of Service	Shorter	35	61.79	763.50	0.006	0.05	Significant
	Longer	65	44.75				
Plantilla Position	Lower	38	52.76	1092.00	0.538		Not Significant
	Higher	62	49.11				

Table 11 investigates the differences in the school's readiness for computer system servicing based on curriculum design, using the Mann-Whitney U test with an alpha level of 0.05. The results indicate significant differences in teachers' perceptions of their schools' readiness for computer system servicing based on age and length of service, but not by plantilla position. Younger teachers (mean rank = 61.83) rated their schools' readiness significantly higher than older teachers (mean rank = 40.04), with a p-value of 0.000. Similarly, teachers with shorter lengths of service (mean rank = 61.79) perceived higher readiness compared to those with longer service (mean rank = 44.75), with a p-value of 0.006. However, differences in perceptions based on plantilla position were not significant, as indicated by a p-value of 0.538.

The significant differences by age suggest that younger teachers view their schools as better prepared for computer system servicing, potentially due to their familiarity and comfort with newer technologies, which they may have been exposed to more recently during their education and training. Younger teachers might be more adaptable and confident in utilizing technological resources, leading to a higher perception of readiness. Additionally, they may have had more recent training in computer system servicing techniques, contributing to their positive evaluations of school readiness.

Similarly, the significant differences based on length of service highlight that teachers with shorter tenures perceive their schools as more prepared for computer system servicing. This could be because newer teachers are often more recently trained and might be more optimistic about the resources and support available. They may also have more recent knowledge of current technologies and best practices in computer system maintenance, which could positively influence their perceptions. Conversely, teachers with longer service may have experienced periods of inadequate resources or support in the past, leading to a more critical view of the current state of readiness.

The implications of these findings are significant for educational institutions aiming to enhance their technological readiness. Schools should consider providing ongoing and updated training for all teachers, regardless of their age or length of service, to ensure a consistent perception of readiness. Tailored professional development programs that address the specific needs of both newer and more experienced teachers can help bridge any gaps in perception. Additionally, fostering a collaborative environment where teachers of varying experiences can share insights and best practices may enhance overall readiness. Ensuring that all teachers feel supported and equipped to handle computer system servicing is crucial for maintaining a high level of operational efficiency and educational quality.

This finding aligns with the study by Gonzales and Torres (2019), which indicated that younger and less experienced teachers often view their schools as more prepared for technological integration due to their recent training and exposure to modern educational technologies. This perception might also reflect a generational difference in comfort and familiarity with technology. The study suggests continuous evaluation and updating of the curriculum to meet the evolving technological demands and ensure that all teachers feel adequately supported.

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Table 12
Difference in the Level of School Readiness Computer Systems Servicing According to Training Design When Grouped According to Age, Length of Service and Plantilla Position

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	*Sig. level*	Interpretation
Age	Younger	48	58.63	858.00	0.006		Significant
	Older	52	43.00				
Length of Service	Shorter	35	61.19	763.50	0.006	0.05	Significant
	Longer	65	44.75				
Plantilla Position	Lower	38	52.79	920.00	0.061		Not Significant
	Higher	62	46.34				

Table 12 examines the differences in the level of school readiness for computer system servicing based on training design, employing the Mann-Whitney U test with a significance level of 0.05. The analysis reveals significant differences in perceptions of school readiness for computer system servicing based on age and length of service, but not by plantilla position. Younger teachers (mean rank = 58.63) perceived their schools as more ready compared to older teachers (mean rank = 43.00), with a p-value of 0.006. Similarly, teachers with shorter service lengths (mean rank = 61.19) viewed their schools as more prepared than those with longer service (mean rank = 44.75), also with a p-value of 0.006. Differences in perceptions based on plantilla position were not significant, as indicated by a p-value of 0.061.

The significant differences by age suggest that younger teachers have a more optimistic view of their schools' readiness for computer system servicing. This may be due to younger teachers' greater familiarity with modern technologies and their ability to adapt to new tools and systems more quickly. Their recent training and exposure to the latest advancements in educational technology could contribute to a higher confidence level in the school's readiness. Younger teachers might also bring fresh perspectives and innovative approaches to integrating technology into the classroom, enhancing their perception of readiness.

Similarly, the significant differences based on length of service indicate that teachers with shorter tenures perceive their schools as more prepared for computer systems servicing. Newer teachers, who may have received more recent and relevant training, could be more confident in their schools' ability to handle technological challenges. Additionally, these teachers might not have experienced historical shortcomings in technological support that longer-serving teachers might remember, leading to a more positive perception of readiness. On the other hand, teachers with longer service may have encountered periods of insufficient resources or support, resulting in a more critical assessment of current readiness.

The lack of significant differences by plantilla position suggests that organizational rank does not substantially influence teachers' perceptions of school readiness for computer system servicing. This implies that perceptions of readiness are more closely tied to personal experience and recent training rather than to formal position within the school hierarchy.

These results are supported by Za'ba, Ismail, and Abdullah (2020) who found that recent training and exposure to updated technological practices significantly impact teachers' perceptions of their school's readiness for technology integration. The study emphasizes the importance of continuous professional development and training programs to enhance teachers' confidence and preparedness, irrespective of their hierarchical position.

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Table 13
Difference in the Level of School Readiness in Computer Systems Servicing According to Tools, Equipment and Materials When Grouped According to Age, Length of Service and Plantilla Position

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	*Sig. level*	Interpretation
Age	Younger	48	60.79	754.00	0.001		Significant
	Older	52	41.00				
Length of Service	Shorter	35	63.44	684.50	0.001	0.05	Significant
	Longer	65	43.53				
Plantilla Position	Lower	38	53.92	1048.00	0.354		Not Significant
	Higher	62	48.40				

Table 13 assesses the differences in school readiness for computer systems servicing based on the availability of tools, equipment, and materials, using the Mann-Whitney U test with an alpha level of 0.05. The analysis reveals significant differences in the level of school readiness for computer system servicing based on age and length of service, but not by plantilla position. Younger teachers, with a mean rank of 60.79, perceived higher readiness compared to older teachers, who had a mean rank of 41.00, and this difference is statistically significant with a p-value of 0.001. Similarly, teachers with shorter service lengths (mean rank = 63.44) viewed their schools as more prepared than those with longer service (mean rank = 43.53), also with a p-value of 0.001. Differences based on plantilla position were not significant, as indicated by a p-value of 0.354.

The significant differences by age could be attributed to several factors. Younger teachers may have more recent training and education in current technological trends, making them more familiar and comfortable with new systems. They may also be more adaptable and open to learning new technologies compared to their older counterparts, who might have established teaching methods less reliant on modern technologies. This generational gap in technological familiarity can lead younger teachers to perceive their schools as more ready for computer system servicing.

Similarly, teachers with shorter service lengths might perceive higher readiness due to their recent induction into the profession, where they are more likely to receive up-to-date training and support in integrating technology into their teaching. These teachers are often more exposed to contemporary educational technologies and practices during their initial training and professional development programs, which can positively influence their perceptions of school readiness.

The implications of these findings are significant for school administrators and policymakers. To bridge the perception gap, it is essential to provide continuous professional development and training for all teachers, especially older and more experienced ones, to ensure they are up-to-date with the latest technological advancements. This can help in leveling the field and improving overall perceptions of school readiness across all age groups and service lengths. Additionally, focusing on maintaining and upgrading technological resources and infrastructure in schools can further enhance the readiness perceived by teachers, leading to more effective integration of technology in education.

These findings are corroborated by the research of Brown and Wilson (2017), which highlighted that access to adequate tools and materials significantly influences teachers' perceptions of school readiness for technology integration. Younger and less experienced teachers, who may benefit from more recent updates in school resources, often rate their schools higher in readiness. This underscores the need for regular updates and investments in educational tools and resources to ensure all teachers, regardless of their experience, can effectively integrate technology into their teaching practices.

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Table 14
Relationship Between the Teacher's Level of Difficulties in Computer Systems Servicing and the Level of Learners' Performance During the First and Second Quarters of the School Year 2022-2023

Correlates	N	*r*	*p*-value	Level of Sig	Interpretation
Teacher's Level of Difficulties in Computer System Servicing	100	-0.111	0.272	0.05	Not Significant
Level of Learners' Performance	3124				

Table 14 reveals that there is no significant relationship between teachers' level of difficulties in computer systems servicing and learners' performance during the first and second quarters of the school year 2022-2023. The correlation coefficient (r) is -0.111, and the p-value is 0.272, which is higher than the significance level of 0.05. This indicates that the difficulties faced by teachers in computer system servicing do not have a statistically significant impact on students' academic performance.

The implications of these findings suggest that while teachers may experience challenges in computer systems servicing, these difficulties do not directly translate into lower student performance. This could be due to several factors, such as the ability of teachers to manage and mitigate these difficulties effectively or the presence of other support systems within the school that help maintain student performance despite these challenges. It also implies that interventions aimed solely at reducing teachers' difficulties in this area may not directly influence student outcomes and should be part of a broader strategy.

Spathis and Dey (2021) found no significant direct correlation between teachers' technical difficulties and student performance but highlighted the importance of a supportive school environment and robust infrastructure in maintaining educational outcomes. This study underlines the need for comprehensive support systems that include but are not limited to addressing teachers' technical challenges.

Conclusions:

The study's findings underscore several critical insights into the alignment between teacher challenges and institutional readiness. Firstly, teachers face a high level of difficulty in computer systems servicing, particularly in curriculum design, training design, and equipment and materials, whereas schools demonstrate a high level of readiness in these areas. This discrepancy indicates a misalignment between teacher needs and institutional preparedness, suggesting that schools may need to better align their support mechanisms with the practical challenges faced by teachers. Furthermore, the impact of age and experience on perceived difficulty is evident, as younger teachers report a very high level of difficulty in curriculum design compared to older teachers, who rate it as high. Both age groups, regardless of length of service, consistently rate difficulties in training design and equipment and materials as high. Additionally, teachers with shorter lengths of service perceive greater difficulty in curriculum design than their more experienced peers, underscoring the need for targeted support for younger and less experienced teachers in this area.

Moreover, the perception of school readiness varies by demographics. Younger teachers perceive school readiness as very high in curriculum and training design, while older teachers rate these areas as high. Both groups, however, rate readiness in equipment and materials as high, suggesting a generally positive perception of school preparedness in this area. Similarly, less experienced teachers rate readiness in curriculum and training design very high compared to their experienced counterparts, who rate these areas as high. This suggests that younger and less experienced teachers are more optimistic or perceive greater institutional support in curriculum and training design, highlighting the need for ongoing institutional support across all experience levels.

Despite these challenges, the learners' academic performance is rated as very satisfactory, indicating that teachers are effectively translating their efforts into positive student outcomes even in the face of significant difficulties. Additionally, significant differences were found in the levels of difficulty encountered by teachers in curriculum design, training design, and equipment and materials when analyzed based on age and length of service, with younger and less experienced teachers reporting higher difficulty levels. However, no significant differences were noted when comparing teachers based on plantilla positions. This indicates that age and experience are critical factors in perceived difficulties, emphasizing the need for differentiated support based on these demographics. Similarly, significant differences in school readiness in curriculum and training design based on age and length of service were observed, with younger and less experienced teachers perceiving higher readiness levels. Comparisons based on plantilla positions did not show significant differences in any area of school readiness, suggesting that younger and less experienced teachers may feel better supported by their institutions or have different expectations and perceptions compared to their older and more experienced counterparts.

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Recommendations:

The following recommendations are proposed based on the major concerns identified in each area of the study. To address the high level of difficulty teachers face in accommodating diverse learning styles and abilities, it is imperative to implement a range of strategies to support differentiated instruction. Specifically, schools should provide professional development workshops focused on differentiated teaching techniques and Universal Design for Learning (UDL) principles. Additionally, integrating adaptive learning technologies that tailor content to individual student needs can help bridge gaps in understanding. Collaborative planning time should also be allocated for teachers to share best practices and develop inclusive lesson plans catering to varied learning styles.

Moreover, to mitigate the difficulties associated with resistance to new teaching techniques and tools, schools should foster a culture of continuous professional growth and innovation. This can be achieved by involving teachers in the selection and implementation process of new tools, ensuring they feel a sense of ownership and engagement. Regular training sessions that highlight the benefits and practical applications of new techniques, coupled with success stories and peer-led sessions, can help ease apprehensions. Furthermore, providing ongoing support and creating a mentorship program where experienced teachers guide their peers in adopting new methods will also be beneficial.

In addition, given the high level of difficulty in ensuring the availability of adequate safety equipment and measures, it is imperative for schools to prioritize the procurement and maintenance of safety tools and protocols. Conducting regular safety audits to identify gaps and needs in safety equipment is essential. Schools should allocate a specific budget for safety equipment and ensure timely updates and replacements. Additionally, comprehensive safety training for both teachers and students should be conducted regularly to ensure everyone is well-versed in safety protocols and emergency procedures. Establishing a dedicated safety committee can help monitor compliance and promptly address safety concerns.

Regarding the readiness of schools, it is critical to enhance the integration of technology in the curriculum. Schools should invest in advanced educational technologies and provide ongoing training for teachers on how to effectively utilize these tools. Incorporating interactive software, virtual labs, and simulation tools can make learning more engaging and practical. Moreover, establishing a robust IT support system is necessary to ensure the smooth operation and maintenance of technological resources. Regular feedback sessions with teachers and students can help identify areas for improvement and ensure the technology being used aligns with educational goals and enhances the learning experience.

Furthermore, given the importance of promoting independent learning, training programs should include activities that encourage self-directed learning. Schools can provide access to online learning platforms and digital libraries, allowing students to explore topics at their own pace. Encouraging project-based learning and research assignments can also foster independence. Teachers should be trained to guide students in setting personal learning goals and developing effective study habits. Additionally, incorporating reflective practices, such as learning journals or self-assessment tools, can help students monitor their progress and become more autonomous learners.

Finally, to ensure the proper handling and maintenance of tools and equipment, schools should establish comprehensive maintenance protocols and schedules. Regular inspections and preventive maintenance can help identify potential issues before they become major problems. Training sessions for both staff and students on the proper use and care of equipment are essential. Schools should also create a detailed inventory system to track the condition and usage of tools and equipment. Allocating a specific budget for maintenance and repairs will ensure that resources are available when needed, thereby minimizing downtime and ensuring a safe learning environment.

Acknowledgment

Foremost, I would like to express my sincere gratitude to my adviser, Dr. Virginia Mananquil, for her continuous support, guidance, advice, patience, motivation, enthusiasm, and vast knowledge. Her constant follow-ups propelled me forward at a steady pace. To all panel members, families, friends, co-teacher and everyone who help me in any way, THANK YOU. Lastly, I offer my thanks to God for the wisdom, knowledge, guidance, strength, and provision bestowed upon us to reach the goal of this research study.

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