

Teachers' ICT Competence and their Challenges on Learner Information System in Elementary Grades

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Abstract

The rapid integration of ICT in basic education requires teachers to be digitally competent for effective Learner Information System (LIS) utilization despite persistent data management challenges. This study aimed to determine the teachers' ICT competence and their challenges on Learner Information System in elementary grades during the School Year 2025-2026. Specifically, it described the respondents' profile; found out the respondents' level of ICT competence; examined the respondents' extent of LIS challenges; determined whether the respondents' ICT competence significantly relates to their LIS challenges; and tested whether the respondents' profile moderated this relationship. The study employed a quantitative descriptive-correlational research design involving 180 public elementary grade teachers from selected schools in Villanueva Districts, Misamis Oriental, using universal sampling. Data were gathered through a researcher-made questionnaire. Statistical tools used were frequency and percentage, weighted mean, standard deviation, Pearson product-moment correlation, and Z-test.

Results revealed that most respondents were 30 years old and below, Teacher I, had 6-10 years of teaching experience, possessed a master's degree, and attended district/ school-level trainings. Teachers demonstrated a competent level of ICT competence, with system management rated as highest and data analysis as lowest. LIS challenges were evident to some extent, with data management as the greatest concern, and technical as the lowest. Findings further showed a significant relationship between ICT competence and LIS challenges, while respondents' profiles significantly moderated this relationship. The study concluded that teachers are generally ICT-competent, but data management issues still affect LIS implementation. It is recommended that teachers pursue graduate studies, while education leaders provide targeted training on data analysis and LIS utilization, strengthen data quality assurance practices, and implement profile-responsive professional development and support programs to enhance effective LIS management.

Keywords: ICT competence, challenges, Learner Information System

1. Introduction

The Learner Information System was introduced by the Department of Education to centralize learner records, assign unique Learner Reference Numbers, improve data accuracy, and support school planning and decision making. However, public elementary schools, including those in Villanueva District,

Misamis Oriental, continue to experience challenges such as delayed and inaccurate learner records, difficulties in correcting mismatched or duplicate Learner Reference Numbers, unstable internet connectivity, limited technical assistance, and varying levels of teachers' ICT competence. These concerns may cause delays in reporting, increase teachers' administrative workload, and affect the accuracy, completeness, and timeliness of learner information. Recent studies indicate that teachers' digital competence involves not only basic computer skills but also the ability to navigate digital systems, manage electronic data, and resolve technical problems, while limited competence may reduce efficiency and confidence in using technology. Philippine studies also highlight the influence of digital readiness, infrastructure, professional development, and institutional support on the effective use of digital platforms and the Learner Information System. In response to these concerns, the study aims to assess teachers' ICT competence and the challenges they encounter in using the Learner Information System in selected public elementary schools in Villanueva District, determine how their digital skills relate to their experiences in managing the system, and identify areas where additional training and technical support are needed to promote accurate, efficient, and data driven educational management.

Research Questions

This study aimed to determine the teachers' ICT competence and their challenges on Learner Information System in elementary grades during the school year 2025-2026.

It specifically answered the following questions:

1. What is the respondents' profile in terms of age, position, teaching experience, highest educational attainment, and highest level of related trainings/seminars attended?
2. What is the respondents' level of ICT competence considering navigation, data encoding, system management, troubleshooting, and data analysis?
3. What is the respondents' extent of LIS challenges with regard to technical, data management, and training and support?
4. Does the respondents' ICT competence significantly relate to their LIS challenges?
5. Does the respondents' profile moderate the relationship between their ICT competence and LIS challenges?

Significance

This study is significant because it provides information on the ICT competence of public elementary school teachers and the challenges, they encounter in using the Learner Information System. The findings may help DepEd officials develop appropriate policies, training programs, and support initiatives to strengthen teachers' ICT competence and improve the quality and reliability of learner data. School heads may use the results to identify teachers' training needs, plan interventions, allocate resources, and strengthen the implementation and monitoring of LIS activities. Teachers may gain a better understanding of their ICT strengths and challenges, encouraging continuous professional development, collaboration, and effective practices in managing learner information. Learners may benefit from more accurate, timely, and reliable school records and improved delivery of educational services. The study may also provide useful information for future researchers interested in ICT competence, digital transformation, educational information systems, and the implementation of the Learner Information System in basic education.

Scope and Limitations

This study focused on determining the teachers' ICT competence and their challenges on Learner Information System (LIS) in elementary grades during the School Year 2025–2026. The respondents were the one hundred eighty (180) elementary grade teachers from selected public schools in the Villanueva North and Villanueva South Districts in the Division of Misamis Oriental.

The independent variables were limited only to teachers' ICT competence in terms of navigation, data encoding, system management, troubleshooting, and data analysis, based on DepEd Order No. 11, s. 2015. The dependent variables were also limited to the challenges they experience in using the LIS, with regard to technical, data management, and training and support, based on DepEd Memorandum No. 173, s. 2017. Moreover, the moderating variables were limited to the respondents' age, position, teaching experience, highest educational attainment, and highest level of related training or seminars attended.

Literature Review**Respondents' Profile**

Teachers' ICT competence may be influenced by demographic and professional factors such as age, position, teaching experience, educational attainment, and participation in ICT related trainings and seminars. Aydin and Yildirim (2024) found that younger teachers generally demonstrate higher technological competence and adaptability due to greater exposure to digital technologies, while Chen et al. (2024) noted that older teachers may experience challenges in adapting to rapid technological changes, which can be addressed through appropriate support and professional development. Garrido (2024) reported that teachers in higher positions tend to demonstrate stronger ICT competence because of greater involvement in administrative and management tasks requiring digital technologies. Chen, Wu, and Chuang (2023) further explained that teaching experience contributes to teachers' ability to manage ICT related responsibilities through accumulated practical knowledge, although continuous learning remains important. In addition, Silao and Luciano (2024) found that teachers with higher educational qualifications tend to demonstrate greater ICT competence, while Dela Fuente (2020) emphasized that participation in ICT related training improves teachers' technical skills, system utilization, and confidence. Overall, these findings suggest that teachers' demographic characteristics, professional experience, educational background, and exposure to relevant training may contribute to differences in their ICT competence and their ability to effectively use the Learner Information System.

Teachers' ICT Competence

ICT competence is essential for the effective use of the Learner Information System, as teachers need adequate technological skills to perform digital, administrative, and data related tasks efficiently. Balaba (2022) found that teachers generally demonstrate relatively high ICT competence in basic computer operations and data management, although differences may occur based on factors such as age, educational background, and ICT related training. Lituañas and Ferenal (2025) likewise reported that teachers can perform basic ICT tasks but may experience challenges related to workload, equipment limitations, and insufficient practical training. In terms of navigation, Matias and Timosan (2021) emphasized that clear system interfaces and guided practice improve teachers' ability to access and use digital platforms efficiently. For data encoding and system management, the Department of Education (2020) highlighted the importance of accurate data validation and proper encoding practices, while

adequate infrastructure and technical support remain necessary for effective system operations. Xue et al. (2022) further found that continuous ICT training strengthens teachers' confidence and ability to troubleshoot technical problems independently. Overall, these findings indicate that ICT competence across navigation, data encoding, system management, troubleshooting, and data analysis is important for accurate, efficient, and sustained utilization of the Learner Information System.

Challenges in Learners Information System

The Learner Information System serves as an important platform for managing learner records, supporting educational planning, and facilitating data driven decision making in schools. Lopez and Lorejo (2023) emphasized that the system improves the consolidation, storage, reporting, and accessibility of learner information, although challenges such as internet connectivity and platform usability continue to affect its implementation. Technical concerns, including system downtime, limited server capacity, and difficulties in updating records, may delay transactions and increase teachers' administrative workload. Bete and Collera (2024) noted that time pressure during reporting periods can contribute to data entry errors, while Lopez et al. (2022) highlighted concerns regarding confidentiality and access control in managing learner information. In terms of training and support, the Department of Education (2021) identified gaps in post implementation training, while Hidayah et al. (2023) emphasized the importance of practical and continuous training to strengthen teachers' confidence and competence in using digital systems. Overall, the findings indicate that technical reliability, accurate and secure data management, and sustained training and support are essential for improving the effective implementation and utilization of the Learner Information System.

2. Methodology

Research Design

This study utilized a descriptive-correlational research design to determine the ICT competence of teachers and the challenges they encounter in using the Learner Information System (LIS). Specifically, the descriptive component was used to gather data on the respondents' profile and assess their ICT competence in terms of system navigation, data encoding, system management, troubleshooting, and data analysis, as well as the challenges they experience related to technical issues, data management, and training and support. The correlational component examined the relationship between teachers' ICT competence and the challenges they encounter in using the LIS. This design was considered appropriate because it allows the researcher to describe existing conditions and determine the degree of relationship between variables without manipulating them. As emphasized by Wubante (2020), descriptive-correlational research is effective in identifying relationships among variables in their natural setting, making it suitable for achieving the objectives of the present study.

Participants

The study involved 180 public elementary school teachers who used the Learner Information System in their teaching and administrative tasks across Villanueva North and South Districts, Division of Misamis Oriental, during School Year 2025 to 2026. The respondents came from 11 public elementary schools, with four schools from Villanueva North District and seven schools from Villanueva South District. They were selected because of their direct involvement in managing learner data, generating reports, and performing school administrative tasks through the system. Their experiences and ICT competence

provided relevant information for examining the relationship between teachers' ICT competence and the challenges they encountered in using the Learner Information System, allowing the study to reflect actual system use in public elementary schools.

Data Collection

The study used a three-part questionnaire to gather data from the respondents. Part I focused on the respondents' profile in terms of age, position, teaching experience, highest educational attainment, and highest level of related training or seminars attended. Part II assessed teachers' ICT competence in navigation, data encoding, system management, troubleshooting, and data analysis through 50 items based on the relevant Department of Education guidelines on the use and implementation of the Learner Information System. Part III examined the challenges encountered by teachers in using the system, particularly in terms of technical concerns, data management, and training and support, through 30 items. The questionnaire was carefully developed and aligned with relevant Department of Education issuances governing the implementation and utilization of the Learner Information System.

Data Analysis

The data gathered in the study were organized, summarized, and analyzed using descriptive and correlational statistical tools consistent with the descriptive correlational research design. Frequency and percentage were used to describe the respondents' profile in terms of age, position, teaching experience, highest educational attainment, and related training or seminars attended. Mean and standard deviation were used to determine the level of teachers' ICT competence and the level of challenges encountered in using the Learner Information System, with the mean describing the overall level based on the Likert scale and the standard deviation showing the consistency or variation of responses. Pearson Product Moment Correlation was used to determine the strength, direction, and significance of the relationship between teachers' ICT competence and LIS challenges. Moderation analysis using the Z test was applied to determine whether the respondents' profile variables significantly affected the relationship between ICT competence and LIS challenges. All results were presented in tables and interpreted using appropriate verbal descriptions, with a 0.05 level of significance used to determine statistically significant findings.

3. Results and Discussions

Problem 1. What is the respondents' profile in terms of age, position, teaching experience, highest educational attainment, and highest level of related trainings/seminars attended?

Table 1
Distribution of Respondents' Profile in terms of Age

Category	Frequency	Percentage
51 years old and above	38	21.10
41-50 years old	40	22.20
31-40 years old	45	25.00

30 years old and below	57	31.70
Total	180	100.00

Table 1 shows the distribution of respondents according to age, with teachers aged 30 years and below having the highest frequency at 57 or 31.7 percent, while those aged 51 years and above had the lowest frequency at 38 or 21.1 percent. The larger representation of younger teachers suggests that many respondents have greater familiarity and comfort with digital technologies, which may support their adaptation to educational systems such as the Learner Information System, including system navigation, data management, and troubleshooting. Younger teachers may also serve as informal sources of technical assistance during enrollment, data validation, and report generation, although this may add to their workload. Meanwhile, senior teachers may require additional time, training, and technical support when adapting to digital systems because of differences in their exposure to technology, but their extensive teaching experience and professional knowledge remain valuable in curriculum implementation, learner management, data validation, and decision making. Overall, the findings suggest that age may influence teachers' experiences with digital technologies, while appropriate professional development and institutional support can help teachers across age groups effectively use the Learner Information System.

Table 2
Distribution of Respondents' Profile in terms of Position

Category	Frequency	Percentage
Master Teacher II	40	22.20
Master Teacher I	27	15.00
Teacher III	30	16.70
Teacher II	38	21.10
Teacher I	45	25.00
Total	180	100.00

Table 2 shows that Teacher I has the highest frequency, with 45 or 25 percent of the respondents, indicating that a substantial portion of the teaching workforce consists of entry level teachers who are directly involved in learner records, enrollment activities, data encoding, and other Learner Information System tasks. Their frequent exposure to learner information management allows them to develop practical ICT skills through regular system use, although the combination of instructional responsibilities and LIS tasks may contribute to additional workload, particularly during enrollment and reporting periods. In contrast, Master Teacher I has the lowest frequency, with 27 or 15 percent of the respondents, reflecting the smaller number of teachers occupying instructional leadership positions. Master Teachers generally focus more on mentoring, coaching, instructional supervision, curriculum support, data quality monitoring, and teacher development than on routine LIS activities such as data encoding and record updating. Overall, the findings indicate that teaching position is associated with differences in the nature and frequency of LIS related responsibilities, with classroom teachers handling more operational tasks while instructional leaders provide guidance, monitoring, and professional support.

Table 3
Distribution of Respondents Profile in terms of Teaching Experience

Table 3 shows that teachers with 6 to 10 years of teaching experience had the highest frequency, with 52 or 28.9 percent of the respondents, indicating that a considerable portion of the teachers are mid-career educators who have gained substantial experience in classroom instruction, learner management, school policies, administrative responsibilities, and technology related tasks. Their professional experience and continued exposure to digital systems such as the Learner Information System may help them manage

Category	Frequency	Percentage
21 years and above	28	15.60
16-20 years	42	23.30
11-15 years	37	20.50
6-10 years	52	28.90
5 years and below	21	11.70
Total	180	100.00

learner data more confidently and adapt to technological changes, while also allowing them to support less experienced colleagues. In contrast, teachers with 5 years and below of teaching experience had the lowest frequency, with 21 or 11.7 percent, indicating a smaller proportion of novice teachers who are still developing their instructional, classroom management, administrative, and technology related skills. Although beginning teachers may be comfortable with digital tools, their limited experience in applying these tools within actual school processes may require additional guidance, mentoring, technical assistance, and professional support. Overall, the findings highlight the value of teaching experience in developing familiarity with school systems and emphasize the importance of support mechanisms for teachers at different stages of their careers.

Table 4
Distribution of Respondents Profile in terms of Highest Educational Attainment

Category	Frequency	Percentage
Doctorate Degree	41	22.80
With Doctorate Units	36	20.00
Master`s Degree	46	25.60
With MA units	28	15.60
Bachelor`s Degree	29	16.00
Total	180	100.00

Table 4 shows that teachers holding a Master's Degree had the highest frequency, with 46 or 25.6 percent of the respondents, indicating that a substantial number of teachers have completed postgraduate education and developed advanced knowledge and professional competencies. Their educational preparation may support their ability to analyze information, apply research-based practices, manage educational records, validate learner data, and use digital systems such as the Learner Information System effectively. In contrast, teachers with Master's Degree units had the lowest frequency, with 28 or 15.6 percent, indicating that a smaller proportion are currently pursuing graduate studies without yet completing their degree. These teachers manage academic requirements alongside teaching and administrative responsibilities,

which may create competing demands on their time and energy. Nevertheless, their continued pursuit of higher education reflects commitment to professional development and lifelong learning. Overall, the findings suggest that educational attainment contributes to teachers' professional growth and may support effective data management and technology use, while teachers pursuing advanced studies may benefit from appropriate support in balancing their academic and professional responsibilities.

Table 5
Distribution of Respondents' Profile in terms of Highest Level of Related Trainings/Seminars Attended

Category	Frequency	Percentage
International	32	17.80
National	30	16.70
Regional	34	18.90
Division	33	18.30
District/School	51	28.30
Total	180	100.00

Table 5 shows that teachers who attended District or School Level trainings had the highest frequency, with 51 or 28.3 percent of the respondents, indicating that local professional development activities are the primary source of ICT and Learner Information System related training among teachers in Villanueva District. These trainings provide accessible and context-based learning opportunities that address practical concerns such as system operations, learner record management, data validation, report generation, and compliance requirements, allowing teachers to immediately apply their acquired skills in their daily responsibilities. In contrast, teachers who attended National Level training had the lowest frequency, with 30 or 16.7 percent, suggesting that only a limited number have access to broader professional development opportunities because of factors such as limited training slots, funding, travel requirements, and participant selection. Despite this limited participation, teachers who attend higher level trainings can contribute to school improvement by sharing their knowledge through cascading sessions, mentoring, and collaborative learning. Overall, the findings highlight the importance of accessible local training and effective knowledge sharing to strengthen teachers' ICT competence and support the effective implementation of the Learner Information System.

Problem 2. What is the respondents' level of ICT competence considering navigation, data encoding, system management, troubleshooting, and data analysis?

Table 6
Summary Distribution of Respondents' Level of ICT Competence

Variable	Mean	SD	Interpretation
Navigation Competence	2.77	0.76	Competent

Data Encoding Competence	2.73	0.76	Competent
System Management Competence	3.15	0.75	Competent
Troubleshooting Competence	2.67	0.76	Competent
Data Analysis Competence	2.51	0.76	Competent
Overall	2.77	0.76	Competent

Table 6 shows that the overall ICT competence of teachers in Villanueva District obtained a mean of 2.77 with a standard deviation of 0.76, interpreted as Competent, indicating that teachers generally possess the knowledge and skills needed to use the Learner Information System for navigation, data encoding, system management, troubleshooting, and data analysis. Their regular exposure to the system has strengthened their familiarity and confidence in performing routine digital tasks, although more complex functions may still require continuous training and technical support. Among the areas measured, System Management Competence obtained the highest mean of 3.15 with a standard deviation of 0.75, interpreted as Competent, suggesting that teachers are most capable in structured and procedural activities such as maintaining learner records, managing class information, and following established guidelines. This may be associated with their frequent involvement in routine record management and compliance activities, as well as their teaching experience and participation in local trainings. In contrast, Data Analysis Competence obtained the lowest mean of 2.51 with a standard deviation of 0.76, although it remained within the Competent level, indicating that teachers are less confident in interpreting trends, synthesizing information, and using data for broader planning and decision making. The findings suggest that teachers are generally more comfortable with operational ICT tasks than with higher order data analysis, highlighting the need for continuous professional development and targeted training in data interpretation, data literacy, and evidence-based decision making to further strengthen the effective use of the Learner Information System.

Problem 3. What is the respondents' extent of LIS challenges with regard to technical, data management, and training and support?

Table 7
Summary Distribution of the Respondents' Extent of LIS challenges

Variable	Mean	SD	Interpretation
Technical	3.04	0.77	Some extent
Data Management	3.26	0.75	Great extent
Training and Support	3.16	0.76	Some extent
Overall	3.15	0.76	Some extent

Table 7 shows that teachers in Villanueva District experienced LIS challenges to some extent, with an overall mean of 3.13 and a standard deviation of 0.76, indicating that challenges remain present despite teachers having adequate ICT competence. The difficulties involve technical concerns, data management, and training and support, suggesting that effective LIS utilization also depends on reliable infrastructure, technical assistance, professional development, and efficient procedures. Among the identified areas, Data

Management Challenges obtained the highest mean of 3.26 with a standard deviation of 0.75, interpreted as Great Extent, indicating that maintaining accurate, complete, and updated learner records is the most significant challenge encountered by teachers. Activities such as updating learner profiles, validating records, processing corrections, and ensuring data accuracy require considerable time and effort and may affect reporting, planning, and other school operations. In contrast, Technical Challenges obtained the lowest mean of 3.04 with a standard deviation of 0.77, interpreted as Some Extent, suggesting that although teachers encounter connectivity problems, system restrictions, and other operational concerns, they have developed ways to manage these difficulties through experience, ICT competence, collaboration, and continuous system use. Overall, the findings indicate that data management concerns require greater attention than routine technical issues, while continuous training, improved support, and efficient system procedures remain important for strengthening LIS implementation.

Problem 4. Does the respondents' ICT competence significantly relate to their LIS challenges?

Table 8
Result of the test on Relationship between the Respondents' ICT competence and their LIS challenges

ICT Competence	Learning Information System Challenges			Overall r-value p-value Interpretation
	Technical	Data Management	Training and Support	
	r-value p-value Interpretation	r-value p-value Interpretation	r-value p-value Interpretation	
Navigation	-0.80 0.01 S	-0.60 0.01 S	-0.70 0.03 S	-0.70 0.02 S
Data Encoding	-0.70 0.02 S	-0.79 0.04 S	-0.60 0.01 S	-0.70 0.03 S
System Management	-0.80 0.01 S	-0.50 0.01 S	-0.51 0.04 S	-0.60 0.02 S
Troubleshooting	-0.80 0.03 S	-0.71 0.03 S	-0.70 0.03 S	-0.74 0.03 S
Data Analysis	-0.70 0.01 S	-0.80 0.02 S	-0.60 0.02 S	-0.70 0.02 S

Table 8 shows a significant relationship between teachers' ICT competence and the challenges they encounter in using the Learner Information System, as all ICT competence areas have significant relationships with technical, data management, and training and support challenges based on their correlation and significance values. This led to the rejection of the null hypothesis, indicating that teachers' ICT competence is significantly associated with their LIS challenges. Navigation competence was

significantly related to all three challenge areas, suggesting that familiarity with system features and functions helps teachers manage LIS tasks more effectively. Data encoding competence was also significantly related to all challenge domains, particularly data management, indicating that accurate encoding and updating of learner records are important in minimizing difficulties in managing information. System management competence showed significant relationships with the different LIS challenges, suggesting that knowledge of system processes and workflows helps teachers respond to operational concerns. Troubleshooting competence was significantly associated with all challenge areas, indicating that teachers who can identify and resolve system problems can manage interruptions more effectively and reduce dependence on external assistance. Data analysis competence also showed significant relationships with technical, data management, and training and support challenges, suggesting that teachers who can interpret and utilize learner information are better able to maximize LIS data for monitoring, planning, and decision making. Overall, the findings indicate that ICT competence is an important factor associated with how teachers experience and manage LIS challenges, while continuous professional development and adequate technical support remain necessary to sustain effective system utilization.

Problem 5. Does the respondents' profile moderate the relationship between their ICT competence and their LIS Challenges?

Table 9
Moderation Test of Respondents' Profiles Between ICT competence and Learner Information Challenges

Respondents' Profile Variables		ICT Competence					Learner Information System Challenges					Overall
		Navigation	Data Encoding	System Management	Troubleshooting	Data Analysis	Overall	Technical	Data Management	Training and Support	Overall	
Age	Z-value	0.65	0.56	0.63	0.60	0.61	0.57	0.62	0.59	0.66	0.60	0.59
	P-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Interpretation	S	S	S	S	S	S	S	S	S	S	S
Position	Z-value	0.67	0.74	0.62	0.62	0.73	0.70	0.60	0.61	0.67	0.62	0.66
	P-value	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.01
	Interpretation	S	S	S	S	S	S	S	S	S	S	S
Teaching	Z-value	0.61	0.70	0.69	0.71	0.66	0.63	0.65	0.63	0.67	0.62	0.63
Experience	P-value	0.00	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
	Interpretation	S	S	S	S	S	S	S	S	S	S	S
Highest	Z-value	0.56	0.60	0.53	0.60	0.54	0.56	0.57	0.59	0.70	0.70	0.63
Educational	P-value	0.02	0.00	0.05	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.01
Attainment	Interpretation	S	S	S	S	S	S	S	S	S	S	S
Related	Z-value	0.62	0.59	0.57	0.65	0.66	0.64	0.61	0.66	0.64	0.62	0.63
Training/Seminars	P-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Attended	Interpretation	S	S	S	S	S	S	S	S	S	S	S

Legend: *Significant at $p < 0.05$ alpha level, S – significant, NS – not significant

Table 9 shows that all respondents' profile variables, including age, position, teaching experience, educational attainment, and related trainings or seminars attended, significantly moderated the relationship between teachers' ICT competence and their challenges in using the Learner Information System, as indicated by p values below 0.05 across the ICT competence and LIS challenge domains. This led to the rejection of the null hypothesis, indicating that the relationship between ICT competence and LIS challenges varies according to teachers' personal and professional characteristics. Age influences how teachers acquire and apply digital skills, with differences in technological exposure potentially affecting their ability to manage LIS concerns. Position may affect the extent of exposure to administrative and system related responsibilities, while teaching experience may provide familiarity with school procedures and learner information management while also requiring continuous adaptation to changing technologies. Educational attainment may contribute to stronger analytical, research, and problem-solving abilities that support effective system use. Meanwhile, related trainings and seminars provide teachers with updated knowledge, practical skills, and opportunities to become more familiar with system functions and requirements. Overall, the findings indicate that ICT competence alone does not fully determine how teachers manage LIS challenges, as its effectiveness is influenced by their personal and professional backgrounds. These results highlight the importance of differentiated training, contextualized professional development, and appropriate support mechanisms that consider teachers' varying characteristics and experiences.

4. Conclusion and Recommendations

Conclusion

The study concludes that teachers in the Villanueva District demonstrated a competent level of ICT competence in the Learner Information System (LIS), with system management identified as their strongest area of competence. This strength corresponds with the finding that technical concerns were the least encountered challenge, indicating that teachers are generally capable of operating and managing the system effectively. The typical respondent, characterized as a Teacher I, aged 30 years old and below, with 6 to 10 years of teaching experience, a master's degree, and district/school-level training exposure, appears to possess sufficient skills to handle the technical requirements of the LIS.

However, data analysis emerged as the area with the lowest competence, suggesting difficulties in interpreting and utilizing learner data for decision-making and reporting purposes. Consequently, data management was identified as the most significant challenge, highlighting the need for more intensive capacity-building programs focused on data analysis and the effective management of learner information system. Although competence alone does not eliminate challenges but rather it equips teachers with the needed skills to sustain the efficient use of LIS.

Recommendations

The following recommendations are hereby proposed:

1. Teachers are encouraged to pursue and complete graduate studies. Advanced academic preparation may further strengthen their analytical, technological, and problem-solving skills needed for effective LIS utilization and management of learner information.
2. Schools Division Office (SDO) and District ICT Coordinators should conduct regular capability-building programs, workshops, and hands-on training on data analysis, data interpretation, and

evidence-based decision-making to enhance teachers' ability to utilize LIS-generated data effectively.

3. School heads and Teachers should work collaboratively to strengthen data quality assurance mechanisms through periodic record validation, monitoring, and data-cleaning activities. Additional support should also be provided to teachers in maintaining accurate, complete, and updated learner records.
4. Schools Division Office, and District Supervisors should implement continuous professional development activities that specifically strengthen teachers' data analysis competencies, such as interpretation, organization, and utilization of learner data generated through the LIS. Enhancing teachers' data analysis skills may help them make informed decisions, improve the accuracy and quality of learner records, and maximize the effective use of the LIS in supporting educational planning and learner outcomes.
5. Human Resource Development Unit and School Heads should design and implement differentiated and profile-responsive interventions. Training programs, technical assistance, and support mechanisms should be tailored according to teachers' specific demographic and professional characteristics to maximize the effectiveness of ICT competence in addressing LIS-related challenges.

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