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DIGITAL GAPS ENCOUNTERED BY ELEMENTARY SCHOOL TEACHERS AND THEIR TEACHING PERFORMANCE: FOUNDATION FOR AN ENHANCED DIGITAL TRAINING PROGRAM

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ABSTRACT

This study investigated the digital gaps faced by 280 elementary school teachers and their teaching performance in Zone III, Schools Division of Zambales, during the 2024-2025 school year. Employing a quantitative-descriptive, causal-comparative, and correlational approach, data were gathered through a validated questionnaire. Key digital gaps identified included access to technology, digital literacy, technology integration, technical support, troubleshooting, adaptation to new technologies, online resource evaluation, and time management. Teaching performance, evaluated by school heads, focused on instructional delivery, classroom management, learning assessment, and professional development. The findings show that the teachers, mostly aged 30-39, female, in Teacher I positions, with 10-19 years of service and a master's degree, represent a well-qualified workforce. Teachers faced moderate digital gaps, indicating areas for focused support and training. Age was identified as a significant factor influencing digital gaps, while sex, position, service length, and educational attainment were not. A very low, non-significant correlation was found between digital gaps and teaching performance, suggesting minimal impact of digital gaps on teaching effectiveness. An enhanced digital training program was developed to address these gaps and improve teachers' performance. It is recommended that teachers pursue continuous digital skill development to boost instructional flexibility and technological confidence. Regular assessment and adaptation of the training program were advised to align with teachers' evolving needs and performance goals.

Keywords: Digital Gaps, Elementary School Teachers, Teaching Performance, School Heads, Digital Training Program.

1. INTRODUCTION

The growing integration of digital tools in educational settings has exposed critical gaps that impact elementary school teachers' performance. Research underscores the various challenges teachers face in navigating digital tools effectively, often due to limited access, training, and support. Matamala et al. (2023) emphasize the need for customized teaching programs, particularly for teachers working with underrepresented groups. Meanwhile, Calleros et al. (2024) point to digital literacy programs in Mexico that address the divide in higher education, suggesting the value of early intervention to support teachers at the elementary level. Gomez-Garcia et al. (2024) further demonstrate the impact of government-led digital inclusion programs in Costa Rica, which have successfully narrowed digital gaps by investing in teacher training and resources. Additionally, Padilla et al. (2024) highlight similar initiatives in Colombia, reinforcing that government support and policy intervention play crucial roles in addressing educational inequalities in digital access.

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Other scholars delve into the complex relationship between digital literacy, educational quality, and teacher effectiveness. Balkovic et al. (2021) and Angwaomaodoko (2023) examine the rapid adoption of digital technologies, accelerated by the COVID-19 pandemic, and its mixed outcomes for teachers. Both studies emphasize the ethical and privacy challenges posed by digital tools in classrooms, urging educational institutions to equip teachers with the necessary knowledge and resources to manage these issues effectively. Gallego-Arrufat et al. (2024) contribute to this discourse by discussing digital rights in education, stressing the importance of safeguarding both teachers' and learners' digital identities while enhancing educational practices. In parallel, Nwankwo and Obimbonu (2024) explore how digital platforms can elevate learning experiences but caution that limited teacher proficiency and support can impede their effective use. This body of research advocates for comprehensive professional development programs that enable teachers to integrate digital resources seamlessly into their teaching practices.

Despite these insights, a significant research gap remained in addressing the digital challenges unique to elementary school teachers, who often lacked specialized support tailored to their needs. Existing studies tended to focus on higher education settings or on general digital literacy programs, leaving elementary teachers underserved in terms of specific training and resources. This gap highlighted the need for focused research and initiatives that targeted elementary teachers' digital skills, accessibility issues, and specific classroom needs. The present study addressed this void by examining the distinct digital barriers faced by elementary teachers. It aimed to develop a specialized training framework that empowered these teachers to optimize digital tools for enhanced teaching performance, ultimately contributing to a more inclusive and effective educational environment.

2. STATEMENT OF THE PROBLEM

This study determined the digital gaps encountered by elementary school teachers and their teaching performance in Zone III, Schools Division of Zambales during the School Year 2024-2025.

Specifically, it aimed to answer these questions:

1. How may the profile of the teacher-respondents be described in terms of:
    1.1. age;
    1.2. sex;
    1.3. teaching position;
    1.4. length of service; and
    1.5. highest educational attainment?
2. How may the digital gaps of the teacher-respondents be described in terms of:
    2.1. access to technology;
    2.2. digital literacy skills;
    2.3. integrating technology in teaching;
    2.4. support and training;
    2.5. troubleshooting technical problems;
    2.6. adapting to new technologies;
    2.7. evaluating online resources; and
    2.8. time management and workload?
3. How may the teaching performance of the teacher-respondents as assessed by their school heads be described in terms of:

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3.1. instructional delivery;
3.2. classroom management;
3.3. learning assessment; and
3.4. professional development?

4. Is there a significant difference between the digital gaps of the teacher-respondents and their profile when grouped accordingly?

5. Is there a significant correlation between the digital gaps of the teacher-respondents and their teaching performance as assessed by their school heads?

6. What enhanced digital training program can be proposed to address the digital gaps and improve the teaching performance of elementary school teachers?

3. METHODS AND MATERIALS

This study aimed to determine the digital gaps encountered by elementary school teachers and their teaching performance in Zone III, Schools Division of Zambales during the School Year 2024-2025. A descriptive-correlational research design was employed, with data collected, classified, summarized, and analyzed using percentages and means. The study involved 280 elementary school teachers, selected through simple random sampling to ensure equal representation of the population. A researcher-designed questionnaire served as the primary data collection tool, targeting dimensions of digital gaps encountered by elementary school teachers and their teaching performance. The instrument demonstrated excellent reliability, as confirmed by Cronbach's Alpha values for digital gaps ($\alpha = 0.90$) and teaching performance ($\alpha = 0.92$). Statistical analyses, including the Kruskal-Wallis Test and Spearman Rho Correlation, were used to test the study's hypotheses.

4. RESULTS AND DISCUSSIONS

4.1. Profile of the Elementary School Teachers

4.1.1. Age

As shown in Table 1, the profile of the teacher-respondents in terms of age. As reflected in the table, 7.14% of the teacher-respondents were in the 60 years old and above bracket, 2.14% were in the 50-59 years old bracket, 11.43% were in the 40-49 years old bracket, 45% were in the 30-39 years old bracket, and 34.29% were in the 20-29 years old bracket.

Table 1. Profile of the Elementary School Teachers in terms of Age

Age	f	%
60 years old and above	20	7.14
50-59 years old	6	2.14
40-49 years old	32	11.43
30-39 years old	126	45.00
20-29 years old	96	34.29
Total	**280**	**100.00**

This implies that the majority of teacher-respondents are relatively young, with 79.29% falling within the 20-39 age brackets, suggesting a workforce that is likely to be adaptable and open to implementing innovative teaching strategies. The limited representation of older teachers, with only 9.28% aged 50 and above, indicates a potential lack of mentorship opportunities, which can be crucial for professional development and sharing of best practices. This demographic

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dynamic may influence the overall teaching environment, fostering a culture that is energetic and collaborative. However, it also highlights the need for tailored professional development programs that address the diverse needs of both younger and older teachers. To create a balanced educational framework, the school might consider recruitment practices that ensure a mix of age groups, thereby enriching the teaching landscape with a blend of fresh perspectives and valuable experience.

A closer examination of the teacher-respondents' age profiles in the present study indicates that the majority were in the 30-39 age bracket. This aligns with the findings of Ford (2024), who highlighted that teachers in this age range are often in the mid-stages of their careers, balancing foundational teaching experience with ongoing professional growth. This demographic is considered crucial, as they bring a blend of innovative ideas and tested instructional strategies, contributing significantly to learner engagement and classroom management.

4.1.2. Sex

As shown in Table 2, the profile of the teacher-respondents in terms of sex. As reflected in the table, 19.29% of the teacher-respondents were males and 80.71% were females.

Table 2. Profile of the Elementary School Teachers in terms of Sex

Sex	f	%
Male	54	19.29
Female	226	80.71
Total	**280**	**100.00**

This implies that there is a significant gender imbalance among the teacher-respondents, with a notable majority (80.71%) being female, which may reflect broader trends in the education sector where teaching, particularly at the elementary level, is often a female-dominated profession. This disparity could influence the teaching styles and classroom dynamics, as female teachers may bring different perspectives and approaches to instruction compared to their male counterparts. Furthermore, the underrepresentation of male teachers (19.29%) could limit role modeling opportunities for male learners, potentially affecting their engagement and attitudes toward learning. Addressing this gender imbalance through targeted recruitment strategies may enrich the educational environment by providing diverse viewpoints and fostering a more inclusive atmosphere for all learners.

The current study found that a majority of the teacher-respondents were female. Similarly, Chete (2024) observed that females predominantly occupy teaching roles, especially in primary education settings, where nurturing qualities and interpersonal skills are highly valued. This trend reflects broader educational patterns globally, suggesting that female teachers often feel a greater societal pull toward the teaching profession, especially in foundational years.

4.1.3. Teaching Position

As shown in Table 3, the profile of the teacher-respondents in terms of teaching position. As reflected in the table, 3.93% of the teacher-respondents were Master Teacher II, 5.36% were Master Teacher I, 16.43% were Teacher III, 11.43% were Teacher II, 44.64% were Teacher I, 8.57% were public school contractual teachers, and 9.64% were public school contractual teachers.

Table 3. Profile of the Elementary School Teachers in terms of Teaching Position

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Teaching Position	f	%
Master Teacher II	11	3.93
Master Teacher I	15	5.36
Teacher III	46	16.43
Teacher II	32	11.43
Teacher I	125	44.64
Public School Contractual	24	8.57
Private School Contractual	27	9.64
Total	**280**	**100.00**

This implies that the majority of teacher-respondents hold entry-level positions, with 44.64% classified as Teacher I, indicating a relatively inexperienced teaching staff that may be in the early stages of their professional development. The distribution also shows a limited presence of higher-ranking positions such as Master Teacher II (3.93%) and Master Teacher I (5.36%), which suggests that opportunities for advancement within the school may be limited. This concentration of less experienced teachers may impact the overall instructional quality, as they may require more support and mentorship to develop their skills and confidence in the classroom. Additionally, the presence of public school contractual teachers (8.57% and 9.64%) may point to a need for job security and professional development opportunities, which are essential for retaining talent and ensuring a stable, effective teaching environment. Addressing these issues through targeted professional development and clear pathways for advancement could enhance teaching effectiveness and improve learner outcomes.

Most respondents in this study held the position of Teacher I, indicating an entry to mid-level role within the educational system. This corresponds to Bertron et al. (2023), who noted that a substantial portion of teachers start in this role and gradually transition to higher positions through experience and further professional development. Bertron et al. (2023) suggested that teachers in the Teacher I position often carry a fresh enthusiasm for learner-centered methodologies, as they are relatively new to the workforce and actively seeking growth.

4.1.4. Length of Service

As shown in Table 4, the profile of the teacher-respondents in terms of the length of service. As reflected in the table, 7.14% of the teacher-respondents were in the 30-39 years bracket, 10.71% in the 20-29 years bracket, 54.29% in the 10-19 years bracket, and 27.86% in the 9 years and below bracket.

Table 4. Profile of the Elementary School Teachers in terms of Length of Service

Length of Service	f	%
30-39 years	20	7.14
20-29 years	30	10.71
10-19 years	152	54.29
9 years and below	78	27.86
Total	**280**	**100.00**

This implies that a substantial portion of the teacher-respondents (54.29%) have a moderate level of experience, with 10-19 years of service, suggesting that they are likely to possess a solid understanding of educational practices and classroom management. However, the significant

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percentage of teachers with 9 years and below (27.86%) indicates that nearly a third of the teaching staff may still be developing their skills and confidence in the classroom. This blend of experience levels could create a dynamic learning environment where seasoned teachers can mentor newer teachers, enhancing overall instructional quality. Conversely, the relatively small percentage of teachers with longer tenures (7.14% in the 30-39 years bracket) may indicate a potential loss of institutional knowledge and experience, which could impact the continuity of effective teaching practices within the school. Therefore, fostering a culture of collaboration and support among teachers of varying experience levels will be crucial for maximizing the professional growth of all staff and improving learner outcomes.

The teacher-respondents in the present study largely fell within the 10-19 years range for their length of service, pointing to significant teaching experience without reaching retirement age. Mutton et al. (2024) found a similar pattern, where teachers with a decade or more of experience tend to have developed efficient classroom management skills and are more adept at curriculum adaptations. Mutton et al.'s research (2024) supports the idea that these teachers are likely at a stable phase in their careers, with substantial practical insights and reflective practices enhancing their instructional effectiveness.

4.1.5. Highest Educational Attainment

As shown in Table No. 15, the profile of the teacher-respondents in terms of the highest educational attainment. As reflected in Table No. 15, 2.14% of the teacher-respondents were EdD/PhD graduates, 5.36% were with EdD/PhD units, 63.57% were MA graduates, 20% were with MA units, and 8.93% were education graduates.

Table 5. Profile of the Elementary School Teachers in terms of Highest Educational Attainment

Highest Educational Attainment	f	%
EdD/PhD Graduate	6	2.14
with EdD/PhD units	15	5.36
MA Graduate	178	63.57
with MA units	56	20.00
Education Graduate	25	8.93
Total	**280**	**100.00**

This implies that the majority of teacher-respondents (63.57%) hold a Master's degree, indicating a strong foundation in advanced educational theory and practice, which can positively influence their teaching effectiveness and learner learning outcomes. However, the relatively low percentage of teachers with doctoral degrees (2.14% are EdD/PhD graduates) suggests that there may be limited exposure to the latest research and innovations in education, which are often developed at the doctoral level. The presence of 20% with Master's degree units indicates a potential for further professional development, as these teachers may still be pursuing their degrees. Meanwhile, the 8.93% of respondents who are education graduates without advanced degrees could reflect a need for ongoing training and support to enhance their pedagogical skills. Overall, while the educational attainment of the teaching staff is relatively high, focusing on pathways for further education and professional growth could enrich the academic environment and ensure that all teachers are equipped with the latest knowledge and skills to meet the diverse needs of their learners.

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In terms of educational attainment, a majority of respondents in this study held master's degrees, suggesting an advanced commitment to their teaching careers. This observation is consistent with the work of Ntarmah and Yaro (2024), who documented that teachers with postgraduate qualifications often exhibit higher instructional competence and leadership potential. Ntarmah and Yaro (2024) highlighted that advanced degrees are associated with a deeper knowledge base and a strong inclination towards continuous improvement, both of which positively influence classroom dynamics and learner outcomes.

4.2. Digital Gaps of Elementary School Teachers

4.2.1. Access to Technology

As shown in Table 6, the digital gaps of teacher-respondents in terms of access to technology. As reflected in the table, a majority of the teacher-respondents had the general mean rating of 3.13 or "Moderately Evident." It was observed that, "I can access essential digital devices such as computers or tablets for instructional purposes" had the highest mean of 3.21 equivalent to "Moderately Evident."

Table 6. Mean Rating and Interpretations of the Digital Gaps of Teacher-Respondents in terms of Access to Technology

Item	Indicators	Mean Rating	Interpretation
1	I can access up-to-date hardware and software resources necessary for effective teaching.	3.13	Moderately Evident
2	I can access reliable internet connectivity, enabling me to utilize online resources.	3.16	Moderately Evident
3	I can access essential digital devices such as computers or tablets for instructional purposes.	3.21	Moderately Evident
4	I can access educational technology tools and resources for learners in my classroom.	3.19	Moderately Evident
5	I can obtain funding or resources to upgrade outdated technology infrastructure in the school.	3.10	Moderately Evident
6	I can secure sufficient time slots for using shared technology resources, avoiding scheduling conflicts.	3.14	Moderately Evident
7	I can access digital resources despite restrictions imposed by school policies or regulations.	3.02	Moderately Evident
8	I can access technology resources alongside other teachers and staff in the school.	3.07	Moderately Evident
9	I can acquire specialized technology equipment or software tailored to specific teaching needs.	3.11	Moderately Evident
10	I can access technical support or assistance when encountering technology-related issues.	3.17	Moderately Evident
	General Mean Rating	**3.13**	**Moderately Evident**

This implies that while the teacher-respondents have a generally positive perception of their access to technology, as indicated by a mean rating of 3.13, there is still a notable digital gap

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that needs addressing. The specific statement regarding access to essential digital devices, which received the highest mean rating of 3.21, reflects that teachers feel moderately equipped to utilize computers and tablets for instructional purposes. However, the term "Moderately Evident" suggests that while access exists, it may not be consistent or sufficient to fully support effective teaching and learning experiences. This indicates a need for further investment in technology infrastructure and training to ensure that all teachers can confidently and consistently integrate digital tools into their classrooms. Bridging this digital gap will not only enhance instructional quality but also better prepare learners for a technology-driven world, emphasizing the importance of equitable access to educational resources.

The present study revealed that access to technology was a moderately evident digital gap for teacher-respondents, with a mean rating of 3.13. This finding aligns with Johnson (2024), who noted that limited access to technology continues to be a significant barrier for teachers, especially in underserved areas. Johnson (2024) emphasized that without adequate access, teachers struggle to incorporate digital tools effectively into their instruction, which can widen the digital divide and hinder overall educational outcomes.

4.2.2. Digital Literacy Skills

As shown in Table 7, the digital gaps of teacher-respondents in terms of digital literacy skills. As reflected in the table, a majority of the teacher-respondents had the general mean rating of 2.77 or "Moderately Evident." It was observed that, "I can interpret and analyze data obtained from digital learning platforms or educational software" had the highest mean of 2.93 equivalent to "Moderately Evident."

Table 7. Mean Rating and Interpretations of the Digital Gaps of Teacher-Respondents in terms of Digital Literacy Skills

Item	Indicators	Mean Rating	Interpretation
1	I can navigate and utilize digital tools and applications for educational purposes.	2.61	Moderately Evident
2	I can troubleshoot common technical issues that arise during teaching activities.	2.87	Moderately Evident
3	I can interpret and analyze data obtained from digital learning platforms or educational software.	2.93	Moderately Evident
4	I can adapt to new digital tools or platforms introduced for instructional use.	2.58	Moderately Evident
5	I can improve my digital skills, enhancing my ability to teach in a digital environment.	2.71	Moderately Evident
6	I can integrate multimedia elements such as videos and presentations into lesson plans.	2.90	Moderately Evident
7	I can utilize collaborative online platforms for communication and resource sharing with colleagues.	2.74	Moderately Evident
8	I can manage the complexity of digital tools and software available for educational use.	2.77	Moderately Evident

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9	I can manage digital files and documents for instructional purposes.	2.85	Moderately Evident
10	I can attend additional training and seek support to enhance my digital literacy skills for teaching.	2.68	Moderately Evident
	General Mean Rating	**2.77**	**Moderately Evident**

This implies that the teacher-respondents possess a foundational level of digital literacy skills, as indicated by a general mean rating of 2.77, categorized as "Moderately Evident." This suggests that while teachers have some capability in utilizing digital tools and resources, their skills may not be sufficiently advanced to fully leverage technology for educational purposes. The specific statement regarding the ability to interpret and analyze data from digital learning platforms, which garnered the highest mean rating of 2.93, reinforces this notion, indicating that teachers feel somewhat confident in their data literacy skills, yet there is room for significant improvement. This highlights a critical need for targeted professional development focused on enhancing digital literacy, which is essential for effectively integrating technology into teaching practices. By improving these skills, teachers can better utilize digital resources to enhance instructional strategies, foster learner engagement, and ultimately improve learning outcomes in an increasingly technology-driven educational landscape.

In terms of digital literacy skills, the teacher-respondents showed a moderately evident digital gap, with a score of 2.77. This result is consistent with Manowaluilou et al. (2024), who found that many teachers experience challenges in digital literacy, particularly in understanding and effectively using new tools and platforms. Manowaluilou et al. (2024) argued that limited digital literacy can inhibit teachers' ability to utilize technology fully, impacting their teaching effectiveness and learners' learning experiences.

4.2.3. Integrating Technology in Teaching

As shown in Table 8, the digital gaps of teacher-respondents in terms of integrating technology in teaching. As reflected in the table, a majority of the teacher-respondents had the general mean rating of 2.80 or "Moderately Evident." It was observed that, "I can encourage learners and colleagues to embrace technology in teaching" had the highest mean of 2.93 equivalent to "Moderately Evident."

Table 8. Mean Rating and Interpretations of the Digital Gaps of Teacher-Respondents in terms of Integrating Technology in Teaching

Item	Indicators	Mean Rating	Interpretation
1	I can integrate technology into lesson plans to enhance learner experiences.	2.73	Moderately Evident
2	I can identify appropriate digital resources and tools that align with curriculum objectives and learning outcomes.	2.89	Moderately Evident
3	I can encourage learners and colleagues to embrace technology in teaching.	2.93	Moderately Evident
4	I can use technology to differentiate instruction and accommodate diverse learning needs.	2.81	Moderately Evident

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5	I can bridge the gap between available technology resources and their practical application in the classroom.	2.90	Moderately Evident
6	I can maintain learner engagement when utilizing technology for instructional purposes.	2.84	Moderately Evident
7	I can assess learner learning outcomes when integrating technology into lessons.	2.60	Moderately Evident
8	I can balance traditional teaching methods with technology-enhanced approaches in the classroom.	2.77	Moderately Evident
9	I can implement strategies to manage classroom dynamics and behavior when technology is in use.	2.87	Moderately Evident
10	I can pursue professional development opportunities focused on integrating technology into teaching practices.	2.70	Moderately Evident
	General Mean Rating	**2.80**	**Moderately Evident**

This implies that the teacher-respondents have a basic but evident capacity to integrate technology into their teaching practices, as indicated by the general mean rating of 2.80, which falls under the category of "Moderately Evident." This rating suggests that while teachers are beginning to incorporate technological tools and strategies in their classrooms, their integration may not yet be fully consistent or effective across all areas of instruction. The statement regarding their ability to encourage learners and colleagues to embrace technology, which received the highest mean rating of 2.93, reflects a positive attitude towards technology adoption within the educational environment, indicating that teachers feel somewhat confident in promoting its use. However, the "Moderately Evident" classification signals a need for further professional development and support to enhance their skills in effectively integrating technology into their teaching methods. Strengthening these competencies can lead to more innovative and engaging learning experiences for learners, ultimately fostering a more technology-rich educational setting.

Regarding integrating technology in teaching, teacher-respondents scored 2.80, indicating a moderately evident digital gap. Rahimi and Oh (2024) similarly found that integrating technology into classroom instruction remains a challenge for many teachers. Rahimi and Oh (2024) observed that, while teachers recognize the value of digital tools for enhancing learning, they often lack the skills or confidence to incorporate these tools seamlessly into their pedagogy.

4.2.4. Support and Training

As shown in Table 9, the digital gaps of teacher-respondents in terms of support and training. As reflected in the table, a majority of the teacher-respondents had the general mean rating of 2.58 or “Moderately Evident.” It was observed that, “I can benefit from institutional support for my professional growth and development in digital literacy” had the highest mean of 2.65 equivalent to “Moderately Evident.”

Table 9. Mean Rating and Interpretations of the Digital Gaps of Teacher-Respondents in terms of Support and Training

Item	Indicators	Mean Rating	Interpretation

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1	I can seek additional training and resources to enhance my technological skills for teaching.	2.53	Moderately Evident
2	I can access ongoing professional development opportunities related to educational technology.	2.59	Moderately Evident
3	I can benefit from institutional support for my professional growth and development in digital literacy.	2.65	Moderately Evident
4	I can find relevant and timely support resources when encountering technology-related challenges.	2.54	Moderately Evident
5	I can bridge the gap between the support provided by school administration and the actual needs of teachers.	2.56	Moderately Evident
6	I can access specialized training or certification programs focused on educational technology.	2.63	Moderately Evident
7	I can stay updated with technological advancements and continually improve my skills.	2.60	Moderately Evident
8	I can collaborate with colleagues to share knowledge and strategies for technology integration.	2.60	Moderately Evident
9	I can coordinate technical support services and training initiatives within the school or district.	2.57	Moderately Evident
10	I can engage in mentorship programs or peer support networks focused on technology integration in teaching.	2.55	Moderately Evident
	General Mean Rating	**2.58**	**Moderately Evident**

This implies that the teacher-respondents perceive a moderate level of institutional support and training for enhancing their digital literacy skills, as indicated by the general mean rating of 2.58, categorized as "Moderately Evident." This suggests that while there is some recognition of available resources and support, it may not be sufficient or comprehensive enough to fully meet their professional development needs in the rapidly evolving digital landscape. The specific statement regarding benefiting from institutional support for professional growth, which received the highest mean rating of 2.65, indicates that teachers acknowledge the importance of such support but may feel it is lacking or not adequately tailored to enhance their digital competencies. Consequently, there is a pressing need for schools to provide comprehensive and targeted training programs that focus on digital literacy and technology integration, ensuring that teachers feel empowered and equipped to utilize digital tools effectively in their teaching practices. Strengthening this support can ultimately enhance the overall educational experience for both teachers and learners.

The study also found that support and training were moderately evident digital gaps for teacher-respondents, with a mean score of 2.58. This aligns with Theodorio (2024), who emphasized that teachers need more structured support and professional development to use technology effectively. Theodorio (2024) found that insufficient training resources leave teachers

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underprepared to adopt new technologies and often result in ineffective technology use in the classroom.

4.2.5. Troubleshooting Technical Problems

As shown in Table 10, the digital gaps of teacher-respondents in terms of troubleshooting technical problems. As reflected in the table, a majority of the teacher-respondents had the general mean rating of 2.91 or "Moderately Evident." It was observed that, "I can troubleshoot hardware and software problems efficiently to minimize disruptions in teaching" had the highest mean of 3.03 equivalent to "Moderately Evident."

Table 10. Mean Rating and Interpretations of the Digital Gaps of Teacher-Respondents in terms of Troubleshooting Technical Problems

Item	Indicators	Mean Rating	Interpretation
1	I can identify common technical issues encountered during online or digital lessons.	2.91	Moderately Evident
2	I can troubleshoot hardware and software problems efficiently to minimize disruptions in teaching.	3.03	Moderately Evident
3	I can utilize diagnostic tools to identify the root causes of technical issues in digital learning environments.	2.91	Moderately Evident
4	I can implement quick solutions to resolve minor technical glitches during teaching sessions.	2.95	Moderately Evident
5	I can collaborate with technical support teams or colleagues to address more complex technical problems.	2.97	Moderately Evident
6	I can adapt teaching strategies on-the-fly to mitigate the impact of technical difficulties on learner learning.	2.88	Moderately Evident
7	I can maintain composure and professionalism when faced with unexpected technical challenges during lessons.	2.86	Moderately Evident
8	I can document encountered technical issues and their resolutions for future reference and improvement.	2.90	Moderately Evident
9	I can proactively anticipate potential technical problems and implement preventive measures.	2.83	Moderately Evident
10	I can seek professional development opportunities to enhance my proficiency in troubleshooting technical issues.	2.84	Moderately Evident
	General Mean Rating	**2.91**	**Moderately Evident**

This implies that the teacher-respondents possess a reasonably developed ability to troubleshoot technical problems, as indicated by a general mean rating of 2.91, which is classified as "Moderately Evident." This suggests that while teachers are generally capable of addressing

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some hardware and software issues, their troubleshooting skills may not yet be comprehensive or sufficiently proactive to handle all potential disruptions effectively. The statement regarding the ability to troubleshoot efficiently, which received the highest mean rating of 3.03, further supports this notion, indicating that teachers feel moderately confident in their capacity to resolve technical issues quickly to minimize interruptions in their teaching. However, the moderate ratings also highlight an opportunity for further training and resources to enhance these skills, ensuring that teachers are better equipped to navigate the increasingly technology-driven educational environment without significant disruptions. By improving their troubleshooting capabilities, teachers can create a smoother and more effective learning experience for their learners, ultimately leading to better educational outcomes.

In terms of troubleshooting technical problems, the present study indicated a moderately evident digital gap with a mean score of 2.91. Fernandez (2024) reported similar findings, noting that many teachers face difficulties in troubleshooting, which can lead to interruptions in instructional time. Fernandez (2024) highlighted that limited troubleshooting skills often make teachers reliant on technical support, which is not always readily available, further disrupting classroom activities.

4.2.6. Adapting to New technologies

As shown in Table 11, the digital gaps of teacher-respondents in terms of adapting to new technologies. As reflected in the table, a majority of the teacher-respondents had the general mean rating of 3.16 or "Moderately Evident." It was observed that, "I can reflect on my experience with new technologies to identify areas for improvement and refinement" had the highest mean of 3.23 equivalent to "Moderately Evident."

Table 11. Mean Rating and Interpretations of the Digital Gaps of Teacher-Respondents in terms of Adapting to New Technologies

Item	Indicators	Mean Rating	Interpretation
1	I can explore and experiment with new digital tools and platforms to expand my technological skill set.	3.08	Moderately Evident
2	I can adapt instructional methods to incorporate emerging technologies into teaching practice effectively.	3.19	Moderately Evident
3	I can seek feedback from learners and colleagues to assess the effectiveness of integrating new technologies.	3.20	Moderately Evident
4	I can engage in continuous learning to stay updated on advancements in educational technology.	3.11	Moderately Evident
5	I can collaborate with peers to share experiences and best practices for integrating new technologies.	3.09	Moderately Evident
6	I can embrace a growth mindset and view challenges with new technologies as opportunities for learning and growth.	3.21	Moderately Evident
7	I can customize digital resources to meet the specific needs and preferences of my learners.	3.14	Moderately Evident

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8	I can advocate for instructional support and resources to facilitate the integration of new technologies.	3.18	Moderately Evident
9	I can mentor and support colleagues in adapting to new technologies and digital tools.	3.15	Moderately Evident
10	I can reflect on my experience with new technologies to identify areas for improvement and refinement.	3.23	Moderately Evident
	General Mean Rating	**3.16**	**Moderately Evident**

This implies that the teacher-respondents demonstrate a moderate level of adaptability to new technologies, as indicated by a general mean rating of 3.16, categorized as "Moderately Evident." This rating suggests that while teachers are open to engaging with new technological tools and methods, their adaptability may not be fully developed, indicating room for growth in this area. The statement regarding reflecting on experiences with new technologies, which received the highest mean rating of 3.23, highlights that teachers are not only willing to embrace innovation but are also actively considering how to improve their practices. However, the "Moderately Evident" classification signals a need for structured support and professional development focused on fostering a more profound understanding of and competence with emerging technologies. Enhancing these skills will enable teachers to leverage technology more effectively in their classrooms, ultimately enriching the learning experience for their learners and fostering a more dynamic educational environment.

The study showed a moderately evident digital gap in adapting to new technologies, with a mean score of 3.16. Strielkowski et al. (2024) found that adapting to rapid technological advancements poses a challenge for teachers, as constant updates require ongoing learning. Strielkowski et al. (2024) noted that adapting to new technologies is particularly challenging for teachers with limited prior exposure to digital tools, underscoring the need for continuous professional development.

4.2.7. Evaluating Online Resources

As shown in Table No. 22, the digital gaps of teacher-respondents in terms of evaluating online resources. As reflected in Table No. 22, a majority of the teacher-respondents had the general mean rating of 3.16 or “Moderately Evident.” It was observed that, “I can collaborate with librarians and information specialists to identify and evaluate online resources” had the highest mean of 3.21 equivalent to “Moderately Evident.”

Table 12. Mean Rating and Interpretations of the Digital Gaps of Teacher-Respondents in terms of Evaluating Online Resources

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Item	Indicators	Mean Rating	Interpretation
1	I can critically evaluate the credibility and relevance of online educational materials for instructional purposes.	3.06	Moderately Evident
2	I can discern the quality and appropriateness of digital resources to align with curriculum objectives.	3.18	Moderately Evident
3	I can guide learners in developing skills to evaluate the reliability and validity of online information.	3.14	Moderately Evident
4	I can curate a diverse range of online resources to cater to different learning styles and preferences.	3.11	Moderately Evident
5	I can incorporate feedback from learners to refine the selection and use of online resources in teaching.	3.12	Moderately Evident
6	I can adhere to copyright and fair use regulations when selecting and utilizing online materials.	3.21	Moderately Evident
7	I can assess the accessibility and inclusivity of online resources to ensure equitable learning opportunities.	3.20	Moderately Evident
8	I can collaborate with librarians and information specialists to identify and evaluate online resources.	3.21	Moderately Evident
9	I can monitor and update online resources regularly to reflect changes in curriculum or educational standards.	3.16	Moderately Evident
10	I can engage in professional development activities to enhance my skills in evaluating and selecting online resources.	3.19	Moderately Evident
	General Mean Rating	**3.16**	**Moderately Evident**

This implies that the teacher-respondents possess a moderate capability in evaluating online resources, as evidenced by a general mean rating of 3.16, which falls into the "Moderately Evident" category. This indicates that while teachers recognize the importance of assessing online materials, their skills in effectively evaluating these resources may not be fully developed, potentially affecting the quality of the information they provide to learners. The specific statement regarding collaboration with librarians and information specialists, which received the highest mean rating of 3.21, suggests that teachers value teamwork in identifying and assessing online resources, indicating an awareness of the benefits of leveraging expertise beyond their own. However, the overall moderate ratings highlight the necessity for further professional development in digital literacy, particularly focused on resource evaluation, to enhance teachers' confidence and competence in selecting high-quality online materials. By improving these evaluative skills, teachers can better support learner learning and ensure that learners engage with credible and relevant digital content.

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In terms of evaluating online resources, the digital gaps for teacher-respondents were moderately evident, with a mean rating of 3.16. This finding aligns with Trixa and Kaspar (2024), who observed that teachers often lack the skills to critically assess the quality and credibility of online content. Trixa and Kaspar (2024) emphasized that without strong evaluative skills, teachers may inadvertently rely on subpar resources, affecting the quality of instruction and learning materials.

4.2.8. Time Management and Workload

As shown in Table 13, the digital gaps of teacher-respondents in terms of time management and workload. As reflected in the table, a majority of the teacher-respondents had the general mean rating of 2.85 or "Moderately Evident." It was observed that, "I can establish routines and workflows to maximize productivity and minimize time spent on repetitive tasks" had the highest mean of 3.05 equivalent to "Moderately Evident."

Table 13. Mean Rating and Interpretations of the Digital Gaps of Teacher-Respondents in terms of Time Management and Workload

Item	Indicators	Mean Rating	Interpretation
1	I can prioritize tasks and allocate time effectively to balance technology integration with other teaching responsibilities.	2.71	Moderately Evident
2	I can create and adhere to a structured schedule to manage time efficiently during digital lessons and activities.	2.89	Moderately Evident
3	I can utilize productivity tools and techniques to streamline academic tasks related to technology use.	2.91	Moderately Evident
4	I can establish clear expectations and boundaries for technology use to manage workload and prevent burnout.	2.85	Moderately Evident
5	I can delegate tasks or seek assistance when overwhelmed by technology-related responsibilities.	2.75	Moderately Evident
6	I can establish routines and workflows to maximize productivity and minimize time spent on repetitive tasks.	3.05	Moderately Evident
7	I can set realistic goals and milestones for technology integration initiatives to track progress and manage expectations.	2.73	Moderately Evident
8	I can communicate effectively with stakeholders to coordinate technology use and manage shared resources.	2.87	Moderately Evident
9	I can reflect on my time management practices to identify areas for improvement and adjustment.	2.93	Moderately Evident

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10	I can prioritize professional development opportunities that enhance my skills in time management and workload management related to technology integration.	2.82	Moderately Evident
	General Mean Rating	2.85	**Moderately Evident**

This implies that the teacher-respondents exhibit a moderate ability to manage their time and workload effectively, as indicated by a general mean rating of 2.85, categorized as "Moderately Evident." This suggests that while teachers are aware of the importance of time management and the need to establish efficient routines, they may face challenges in fully optimizing their productivity. The specific statement regarding establishing routines and workflows, which received the highest mean rating of 3.05, indicates that teachers feel somewhat confident in their ability to create systems that can enhance efficiency and reduce time spent on repetitive tasks. However, the moderate ratings signal an opportunity for further professional development and support focused on effective time management strategies and workload balancing. By equipping teachers with the necessary tools and techniques, they can enhance their productivity, leading to improved instructional quality and ultimately benefiting learner learning outcomes.

The study found a moderately evident digital gap in time management and workload, with a mean rating of 2.85. Thompson et al. (2023) similarly reported that managing time effectively while integrating technology adds to teachers' workload, creating stress and reducing instructional time. Thompson et al. (2023) argued that balancing technology integration with other responsibilities requires efficient time management skills, which many teachers find challenging due to their already demanding schedules.

4.3. Teaching Performance of Teachers as Assessed by School Heads

4.3.1. Instructional Delivery

As shown in Table 14, the teaching performance of the teachers as assessed by their school head-respondents in terms of instructional delivery. As reflected in the table, a majority of the learner-respondents had the general mean rating of 2.83 or "Moderately Performed." It was observed that, "The teacher ensures that learners stay engaged by facilitating interactive digital activities that promote participation" had the highest mean of 2.92 equivalent to "Moderately Performed."

Table 14. Mean Rating and Interpretations of the Teaching Performance of Teachers as Assessed by School Heads in terms of Instructional Delivery

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Item	Indicators	Mean Rating	Interpretation
1	The teacher delivers lessons in a clear and organized manner, integrating digital tools for easy learner comprehension.	2.66	Moderately Performed
2	The teacher integrates digital tools, such as multimedia presentations, educational apps, and online platforms, to enhance learner engagement.	2.89	Moderately Performed
3	The teacher checks for understanding by using digital tools and encourages both digital and n-person discussions.	2.86	Moderately Performed
4	The teacher provides relevant, practical examples using digital simulations or online resources to connect the lesson content to real-world situations.	2.84	Moderately Performed
5	The teacher adjusts both traditional and digital instructional methods based on the varying learning needs and performance of learners.	2.88	Moderately Performed
6	The teacher gives precise, detailed instructions on classroom activities and the proper use of digital resources, ensuring learners are digitally competent.	2.85	Moderately Performed
7	The teacher motivates learners to explore digital platforms for research, collaboration, and independent learning, encouraging responsible digital citizenship.	2.74	Moderately Performed
8	The teacher ensures that learners stay engaged by facilitating interactive digital activities that promote participation.	2.92	Moderately Performed
9	The teacher provides constructive feedback, encouraging the use of digital tools for completing tasks, projects, or submitting assignments.	2.87	Moderately Performed
10	The teacher fosters a positive learning environment by blending traditional teaching with digital resources, supporting learners' digital literacy and academic progress.	2.81	Moderately Performed
	General Mean Rating	**2.83**	**Moderately Performed**

This implies that the teaching performance of the teachers, as assessed by their school head-respondents, is generally perceived as effective in terms of instructional delivery, with a mean rating of 2.83 categorized as "Moderately Performed." This indicates that teachers are consistently applying effective teaching strategies that facilitate learner engagement and participation. The specific observation that teachers ensure learner engagement through interactive digital activities, which received the highest mean rating of 2.92, suggests that teachers are increasingly utilizing technology to create dynamic and participatory learning environments. However, while the ratings reflect a positive perception of instructional delivery, they also highlight the need for ongoing

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professional development to further enhance these practices. By focusing on innovative instructional strategies and technology integration, teachers can continue to improve their effectiveness, thereby fostering even greater learner engagement and learning outcomes.

The study found that instructional delivery was moderately performed by elementary school teachers as assessed by their school heads, with a general mean rating of 2.83. This result aligns with the findings of Richard (2024), who noted that effective instructional delivery is a critical aspect of teaching performance that school leaders often prioritize during evaluations. Richard (2024) emphasized that well-delivered instruction significantly impacts learner engagement and comprehension, making it a frequent focal point in performance assessments by school heads.

4.3.2. Classroom Management

As shown in Table 15, the teaching performance of the teachers as assessed by their school head-respondents in terms of classroom management. As reflected in the table, a majority of the learner-respondents had the general mean rating of 2.66 or "Moderately Performed." It was observed that, "The teacher addresses any disruptions, including improper use of digital devices, to maintain a positive and respectful learning environment" and "The teacher creates a safe, inclusive environment where learners feel comfortable asking questions, both in-person and through digital platforms fostering participation" had the highest mean of 2.78 equivalent to "Moderately Performed."

Table 15. Mean Rating and Interpretations of the Teaching Performance of Teachers as Assessed by School Heads in terms of Classroom Management

Item	Indicators	Mean Rating	Interpretation
1	The teacher maintains a calm, orderly classroom, utilizing digital tools to help learners focus on tasks.	2.63	Moderately Performed
2	The teacher sets clear rules and expectations for behavior, ensuring that learners follow appropriate digital etiquette and responsible use of technology.	2.65	Moderately Performed
3	The teacher addresses any disruptions, including improper use of digital devices, to maintain a positive and respectful learning environment.	2.78	Moderately Performed
4	The teacher uses seating arrangements and collaborative digital tools to promote group work and minimize distractions, both in physical and virtual settings.	2.53	Moderately Performed
5	The teacher monitors both in-class and online participation to ensure all learners are engaged and on task.	2.75	Moderately Performed
6	The teacher integrates digital tools, such as timers, classroom management apps, or visual aids to keep lessons organized and structured.	2.65	Moderately Performed

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7	The teacher encourages learners to take responsibility for their digital actions, promoting self-discipline and digital respect.	2.61	Moderately Performed
8	The teacher handles conflicts among learners, including cyberbullying or inappropriate online behavior, and teaches them how to resolve issues peacefully.	2.68	Moderately Performed
9	The teacher creates a safe, inclusive environment where learners feel comfortable asking questions, both in-person and through digital platforms fostering participation.	2.78	Moderately Performed
10	The teacher uses digital tools to provide praise and positive reinforcement, maintaining good behavior and encouraging productive digital engagement.	2.55	Moderately Performed
	General Mean Rating	**2.66**	**Moderately Performed**

This implies that the teaching performance of the teachers, as assessed by their school head-respondents in terms of classroom management, is regarded as competent but with room for improvement, given the general mean rating of 2.66, categorized as "Moderately Performed." This suggests that while teachers are generally effective in managing their classrooms, there may be inconsistencies in their approaches that can affect the overall learning environment. The specific observations related to addressing disruptions and creating a safe, inclusive space, which received the highest mean ratings of 2.78, indicate that teachers are actively working to maintain a positive classroom atmosphere and encourage learner participation through both in-person and digital interactions. However, the slightly lower overall rating indicates a need for continued focus on developing comprehensive classroom management strategies, particularly in effectively integrating technology while maintaining discipline. Enhancing these skills will be crucial for ensuring that all learners feel supported and engaged, ultimately contributing to improved educational outcomes.

Regarding classroom management, the study recorded a mean rating of 2.66, with moderately performed by elementary school teachers as assessed by their school heads. Waggoner (2024) similarly reported that school administrators often focus on teachers' classroom management skills, as they are vital for maintaining a productive learning environment. Waggoner (2024) found that effective classroom management is frequently observed and rated highly by school leaders because it fosters a structured and positive atmosphere conducive to learning.

4.3.3. Learning Assessment

As shown in Table 16, the teaching performance of the teachers as assessed by their school head-respondents in terms of learning assessment. As reflected in the table, a majority of the learner-respondents had the general mean rating of 2.71 or "Moderately Performed." It was observed that, "The teacher uses both digital and traditional assessment data to plan future lessons and create personalized learning activities for learners" had the highest mean of 2.91 equivalent to "Moderately Performed."

Table 16. Mean Rating and Interpretations of the Teaching Performance of Teachers as Assessed by School Heads in terms of Learning Assessment

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Item	Indicators	Mean Rating	Interpretation
1	The teacher assesses learners' understanding using both traditional methods and digital formats.	2.63	Moderately Performed
2	The teacher uses a variety of digital and traditional assessment methods, including written tests, digital quizzes, projects, and online discussions, to evaluate learners' progress.	2.67	Moderately Performed
3	The teacher provides clear, timely feedback through digital platforms to help learners improve their work.	2.88	Moderately Performed
4	The teacher adjusts lesson plans based on assessment results gathered from digital and traditional methods to address learners' needs and learning gaps.	2.54	Moderately Performed
5	The teacher encourages learners to ask questions and review their mistakes using digital platforms to improve performance.	2.81	Moderately Performed
6	The teacher incorporates digital tools to assess learning and track progress, ensuring learners are familiar with digital assessments.	2.78	Moderately Performed
7	The teacher involves learners in self-assessment and peer assessment, utilizing digital tools to reflect on their learning progress.	2.61	Moderately Performed
8	The teacher provides opportunities for learners to redo tasks or take remedial digital activities to improve performance.	2.70	Moderately Performed
9	The teacher uses both digital and traditional assessment data to plan future lessons and create personalized learning activities for learners.	2.91	Moderately Performed
10	The teacher explains the grading system and assessment criteria, ensuring learners understand both traditional and digital evaluation processes.	2.58	Moderately Performed
	General Mean Rating	**2.71**	**Moderately Performed**

This implies that the teaching performance of the teachers, as assessed by their school head-respondents in terms of learning assessment, is perceived as generally effective, with a mean rating of 2.71 categorized as "Moderately Performed." This rating suggests that teachers are routinely employing assessment strategies to gauge learner understanding and inform their instructional planning. The specific observation that teachers utilize both digital and traditional assessment data to tailor future lessons and develop personalized learning activities, which received the highest mean rating of 2.91, indicates a strong commitment to adapting instruction based on learner needs. However, the overall rating also points to opportunities for further enhancement in assessment practices. By focusing on integrating more diverse and innovative assessment methods, including

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formative assessments and real-time feedback mechanisms, teachers can improve their ability to respond to individual learning requirements and foster deeper engagement among learners, ultimately leading to more effective learning outcomes.

In terms of learning assessment, with a mean rating of 2.71, school head assessed moderately performed by elementary school teachers in this aspect of teaching performance. This observation is consistent with Hurskaya et al. (2024), who highlighted the importance of learning assessment practices in evaluating teaching performance. Hurskaya et al. (2024) found that school heads frequently assess teachers' abilities to measure learner learning accurately and provide meaningful feedback, as these skills are essential for guiding instructional decisions and improving learner outcomes.

4.3.4. Professional Development

As shown in Table 17, the teaching performance of the teachers as assessed by their school head-respondents in terms of learning assessment. As reflected in the table, a majority of the learner-respondents had the general mean rating of 2.66 or "Moderately Performed." It was observed that, "The teacher applies new knowledge from digital training sessions to improve classroom instruction and engage learners using modern technology" had the highest mean of 2.88 equivalent to "Moderately Performed."

Table 17. Mean Rating and Interpretations of the Teaching Performance of Teachers as Assessed by School Heads in terms of Professional Development

Item	Indicators	Mean Rating	Interpretation
1	The teacher attends workshops and training, including those focused on improving digital literacy and integrating technology in teaching methods.	2.54	Moderately Performed
2	The teacher continuously updates their knowledge of using technology in the classroom to enhance both digital and traditional learning experiences.	2.65	Moderately Performed
3	The teacher seeks feedback from colleagues and mentors, including on digital teaching practices, to improve their overall teaching performance.	2.84	Moderately Performed
4	The teacher participates in professional development programs, staying updated on digital innovations and new teaching strategies.	2.58	Moderately Performed
5	The teacher collaborates with other teachers to share ideas and best practices, including how to integrate digital tools and resources into lessons.	2.58	Moderately Performed
6	The teacher applies new knowledge from digital training sessions to improve classroom instruction and engage learners using modern technology.	2.88	Moderately Performed
7	The teacher uses online resources, digital courses, and educational tools to further their professional	2.57	Moderately Performed

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	growth and stay informed about current digital trends.		
8	The teacher reflects on their teaching practices, identifying areas for improvement, particularly in the use of technology to enhance learning.	2.61	Moderately Performed
9	The teacher participates in school or district-level professional development activities, contributing to the integration of digital teaching resources and tools.	2.83	Moderately Performed
10	The teacher shows commitment to continuous learning, pursuing additional qualifications or certifications in digital education and teaching technologies.	2.55	Moderately Performed
	General Mean Rating	**2.66**	**Moderately Performed**

This implies that the teaching performance of the teachers, as assessed by their school head-respondents in terms of learning assessment, is regarded as competent but indicates areas for growth, with a general mean rating of 2.66 categorized as "Moderately Performed." This suggests that while teachers are generally effective in implementing assessment strategies, there may be inconsistencies or gaps in their approaches that need addressing. The specific observation that teachers apply new knowledge gained from digital training sessions to enhance classroom instruction and engage learners with modern technology, which received the highest mean rating of 2.88, highlights a positive trend towards the integration of innovative practices in their teaching. However, the overall rating indicates a need for further development in consistently utilizing these strategies across different learning contexts. By focusing on continuous professional development and fostering a culture of innovation, teachers can enhance their assessment practices, leading to improved learner engagement and more effective instructional outcomes.

The study found that professional development was moderately performed by elementary school teachers as assessed by school head, with a mean rating of 2.66. Ghamrawi et al. (2024) similarly observed that school leaders often assess teachers' engagement in professional development, as continuous learning is linked to improved teaching practices. Ghamrawi et al. (2024) emphasized that frequent evaluation of professional development encourages teachers to seek growth opportunities that enhance their skills and adapt to evolving educational standards.

4.4. Difference Between the Digital Gaps Encountered by Elementary School Teachers and Their Profile

4.4.1. Age

As shown in Table 18, a Kruskal-Wallis Test was conducted to assess the difference between the age groups of the teacher-respondents. The Mean Rank results revealed that the observed scores in the 40-49 years old groups (*MR* = 173.59) were higher than those in the 60 years old and above group (*MR* = 104.55), in the 50-59 years old group (*MR* = 112.50), in the 30-39 years old group (*MR* = 138.49), and in the 20-29 years old group (*MR* = 141.34). Additionally, the Eta squared result indicated that the strength of the difference was small (η^2 =.02), suggesting a small effect. Furthermore, the Kruskal-Wallis Test results revealed a statistically significant

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difference in scores between the age groups ($H(4) = 10.10$, $p = .039$) at the 5% level; thus, the null hypothesis was rejected. In conclusion, these findings suggest that the age may have an effect on teacher-respondents' digital gaps.

Table 18. Difference Between the Digital Gaps Encountered by Elementary Teachers and Their Profile in terms of Age

Groups	*MR*	*Eta squared (η^2)*	*H*	*df*	*p*	Decision
60 years old and above	104.55	.02	10.10	4	.039	Reject H_0
50-59 years old	112.50	(Small)				(Significant)
40-49 years old	173.59					
30-39 years old	138.49					
20-29 years old	141.34					

This implies that age may play a significant role in influencing the digital gaps experienced by teacher-respondents, as indicated by the Kruskal-Wallis Test results. The higher Mean Rank score for the 40-49 age group (MR = 173.59) compared to the other age brackets suggests that teachers in this category may possess better access to or integration of technology in their teaching practices. Meanwhile, the lower Mean Rank scores for the 60 years and older group (MR = 104.55) and other older age brackets could indicate challenges they face in adapting to digital tools or engaging with modern educational technologies. Although the Eta squared value of $\eta^2 = .02$ reflects a small effect size, the statistically significant difference ($H(4) = 10.10$, $p = .039$) underscores the importance of considering age-related factors in addressing digital gaps among teachers. These findings emphasize the need for targeted professional development initiatives that consider the unique challenges and strengths of different age groups, ultimately fostering a more equitable and effective digital learning environment.

The present study identified age as a significant factor influencing digital gaps among teacher-respondents. This aligns with the findings of Vonitsanos et al. (2024), who observed that older teachers often face more challenges in adapting to digital tools compared to their younger counterparts. Vonitsanos et al. (2024) highlighted that as age increases, familiarity with digital technology typically decreases, creating barriers to the seamless integration of technology in teaching practices.

4.4.2. Sex

As shown in Table 19, a Kruskal-Wallis Test was conducted to assess the difference between sex groups of the teacher-respondents. The Kruskal-Wallis Test results revealed no statistically significant difference in scores between the sex groups ($H(1) = 1.30$, $p = .255$) at the 5% level; thus, the null hypothesis was accepted. In conclusion, these findings suggest that sex may have no effect on teacher-respondents' digital gaps.

Table 19. Difference Between the Digital Gaps Encountered by Elementary Teachers and Their Profile in terms of Sex

Groups	*H*	*df*	*p*	Decision
Male	1.30	1	.255	Accept H_0

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Female	(Not Significant)

This implies that sex does not significantly influence the digital gaps experienced by teacher-respondents, as evidenced by the Kruskal-Wallis Test results showing no statistically significant difference in scores between male and female groups (H(1) = 1.30, p = .255). The acceptance of the null hypothesis suggests that both male and female teachers face similar challenges and opportunities regarding their access to and integration of digital technologies in their teaching practices. This finding indicates that any interventions aimed at bridging digital gaps should be designed without regard to sex, focusing instead on other factors such as age, experience, or professional development opportunities that may more effectively address the needs of teachers. The results emphasize the importance of inclusive approaches that consider a wide range of characteristics among teachers when developing strategies to enhance their digital literacy and technology use in the classroom.

The study found no significant difference between a teacher-respondent's sex and the digital gaps encountered. This is consistent with Antonietti et al. (2022), who also found that gender did not significantly affect teachers' digital competence or their adaptation to technological changes. Antonietti et al. (2022) findings suggested that both male and female teachers, given equal training and resources, perform similarly in digital environments, indicating that digital challenges are more related to individual proficiency than to gender.

4.4.3. Teaching Position

As shown in Table 20, a Kruskal-Wallis Test was conducted to assess the difference between the teaching position groups of the teacher-respondents. The Kruskal-Wallis Test results revealed no statistically significant difference in scores between the teaching position groups ($H(6) = 3.64$ $p = .725$) at the 5% level; thus, the null hypothesis was accepted. In conclusion, these findings suggest that the teaching position may have no effect on teacher-respondents' digital gaps.

Table 20. Difference Between the Digital Gaps Encountered by Elementary Teachers and Their Profile in terms of Teaching Position

Groups	*H*	*df*	*p*	Decision
Master Teacher II Master Teacher I Teacher III Teacher II Teacher I Public School Contractual Private School Contractual	1.30	1	.255	Accept H_0 (Not Significant)

This implies that the teaching position of the teacher-respondents does not significantly impact their digital gaps, as demonstrated by the Kruskal-Wallis Test results indicating no statistically significant differences among the various teaching positions (H(6) = 3.64, p = .725). The acceptance of the null hypothesis suggests that teachers, regardless of their specific roles—whether Master Teachers, Teacher I, or contractual teachers—experience similar challenges and levels of access to digital resources and training. Consequently, efforts to address digital gaps in education should focus on universal strategies that apply to all teaching positions rather than tailoring interventions based on rank or title. This finding highlights the need for comprehensive

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professional development programs that enhance digital literacy for all teachers, ensuring that every teacher is equipped to meet the demands of a technology-integrated learning environment.

The study revealed that teaching positions had no significant effect on digital gaps encountered by teacher-respondents. Kim et al. (2024) found comparable results, noting that digital challenges were present across all teaching positions, from entry-level to more senior roles. Kim et al. (2024) suggested that irrespective of rank, teachers experience similar barriers when engaging with new technology, implying that position within the educational hierarchy does not confer a significant advantage in digital fluency.

4.4.4. Length of Service

As shown in Table 21, a Kruskal-Wallis Test was conducted to assess the difference between length of service groups of the teacher-respondents. The Kruskal-Wallis Test results revealed no statistically significant difference in scores between the length of service groups ($H(3) = 5.65$, $p = .130$) at the 5% level; thus, the null hypothesis was accepted. In conclusion, these findings suggest that length of service may have no effect on teacher-respondents' digital gaps.

Table 21. Difference Between the Digital Gaps Encountered by Elementary Teachers and Their Profile in terms of Length of Service

Groups	*H*	*df*	*p*	Decision
30-39 years 20-29 years 10-19 years 9 years and below	5.65	3	.130	Accept H_0 (Not Significant)

This implies that the length of service of the teacher-respondents does not significantly influence their digital gaps, as evidenced by the Kruskal-Wallis Test results showing no statistically significant differences among the groups based on years of experience ($H(3) = 5.65$, $p = .130$). The acceptance of the null hypothesis indicates that teachers, whether they are new or have many years of experience, encounter similar levels of challenges regarding digital access and proficiency. This finding underscores the importance of providing targeted digital literacy training and resources that are applicable to all teachers, regardless of how long they have been in the profession. By addressing digital gaps comprehensively, educational institutions can foster an equitable environment where all teachers, irrespective of their length of service, are empowered to integrate technology effectively into their teaching practices.

The study also showed no significant difference between the length of service and digital gaps encountered. Trubavina et al. (2021) found similar outcomes, emphasizing that the duration of teaching experience does not necessarily equate to digital competence. Trubavina et al. (2021) noted that while experienced teachers may have strong classroom management skills, these do not directly translate to technological adeptness, reinforcing the need for targeted digital skills training across all experience levels.

4.4.5. Highest Educational Attainment

As shown in Table No. 32, a Kruskal-Wallis Test was conducted to assess the difference between the highest educational attainment groups of the teacher-respondents. The Kruskal-Wallis Test results revealed no statistically significant difference in scores between the highest educational attainment groups ($H(4) = 3.09$, $p = .544$) at the 5% level; thus, the null hypothesis

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was accepted. In conclusion, these findings suggest that highest educational attainment may have no effect on teacher-respondents' digital gaps.

Table 22. Difference Between the Digital Gaps Encountered by Elementary Teachers and Their Profile in terms of Highest Educational Attainment

Groups	*H*	*df*	*p*	Decision
EdD/PhD Graduate with EdD/PhD units MA Graduate with MA units Education Graduate	3.09	4	.544	Accept H_0 (Not Significant)

This implies that the highest educational attainment of the teacher-respondents does not significantly affect their digital gaps, as indicated by the Kruskal-Wallis Test results showing no statistically significant differences among the educational groups (H(4) = 3.09, p = .544). The acceptance of the null hypothesis suggests that teachers, regardless of whether they hold advanced degrees or only basic qualifications, face similar challenges in their access to and proficiency with digital tools and resources. This finding highlights the necessity for professional development programs that are designed to enhance digital literacy for all teachers, irrespective of their formal education levels. By ensuring equitable access to training and resources, educational institutions can better support teachers in effectively utilizing technology to enhance their instructional practices and improve learner outcomes.

The study revealed no significant difference between teachers' highest educational attainment and the digital gaps encountered. This finding is in line with Alenezi et al. (2023), who observed that while higher education levels are often associated with deeper content knowledge, they do not automatically lead to increased digital literacy. Alenezi et al. (2023) argued that digital competency requires specific training, which may not be directly related to academic qualifications alone.

4.5. Correlation Between the Digital Gaps Encountered by the Elementary School Teachers and Their Teaching Performance as Assessed by Their School Heads

As shown in Table 33, the correlation between the digital gaps of the elementary school teachers and their teaching performance as assessed by their school heads by using the Spearman's Rho Correlation. The negative correlation or inverse correlation implies that as the value of independent variables (teachers' digital gaps) increased, the value of the dependent variable (teacher' performance) tended to decrease. Therefore, the results suggest that widening digital gaps among teachers are associated with lower teaching performance.

Table 25. Correlation Between the Digital Gaps Encountered by the Elementary School Teachers and Their Teaching Performance as Assessed by Their School Heads

Sources of Correlations (Spearman's Rho)		Digital Gaps	Teaching Performance	Decision
Digital Gaps	Correlation Coefficient	1	-.09	

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	Sig. (2-tailed)		.144	Very Low Negative Correlation Accept H_0 Not Significant
	N	280	280	
Teaching Performance	Correlation Coefficient	-.09	1	
	Sig. (2-tailed)	.144		
	N	280	280	

This implies that the digital gaps experienced by elementary school teachers do not significantly correlate with their teaching performance as assessed by school heads, as indicated by the very low correlations observed, statistically non-significant. Consequently, the findings indicate that widening digital gaps may not directly lead to decreased teaching performance, highlighting the complexity of factors influencing educational outcomes. Further investigation is needed to explore additional variables that may impact teaching performance, suggesting that addressing digital gaps alone may not suffice to enhance overall teaching quality.

The study found a weak, negative, non-significant correlation between digital gaps and overall teaching performance. This aligns with Basilotta-Gomez-Pablos et al. (2022), who noted that digital gaps, while potentially limiting in some contexts, do not significantly impact a teacher's overall performance. Basilotta-Gomez-Pablos et al. (2022) concluded that effective teaching often relies on foundational pedagogical skills that can withstand technological limitations, thus resulting in a minimal correlation with digital gaps.

4.6. An Enhanced Digital Training Program

The Enhanced Digital Training Program aims to bridge digital gaps among elementary school teachers, enhancing their teaching performance and learner engagement. By conducting surveys and focus group discussions, the program will identify teachers' needs and provide equitable access to digital resources like devices, internet connectivity, and shared tools. Comprehensive training will develop teachers' digital literacy, troubleshooting skills, and the ability to integrate technology into lessons effectively. Ongoing support through mentorship, workshops, and an online community will ensure sustained confidence and adaptability in using digital tools. By April 2027, the program expects improved teaching practices, higher learner participation, and a digitally inclusive learning environment.

5. CONCLUSIONS

1. The teachers, mostly aged 30-39, female, holding Teacher I positions, with 10-19 years of service and a master's degree, reflect a well-experienced and professionally qualified workforce.
2. The teachers faced moderate digital gaps across areas such as technology access, digital literacy, technology integration, support, troubleshooting, adaptation to new technologies, resource evaluation, and time management, suggesting targeted areas for digital support and training.
3. The school heads assessed the teachers' performance as moderately effective in instructional delivery, classroom management, learning assessments, and professional development, emphasizing the importance of actively monitoring teaching effectiveness.
4. Age significantly impacted the digital gaps encountered by teachers, while factors like sex, teaching position, length of service, and educational attainment showed no significant influence, emphasizing age as a key factor in digital proficiency.
5. The study found very low, non-significant correlations between teachers' digital gaps and their teaching performance, indicating minimal impact of digital gaps on teaching effectiveness.

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6. An enhanced digital training program was crafted to address the digital gaps and improve the teaching performance of elementary school teachers.

6. RECOMMENDATIONS

1. The school heads should leverage the teachers' extensive experience and qualifications by encouraging mentorship programs where experienced teachers can support less experienced colleagues in both pedagogical and digital skills.
2. The school should provide targeted digital support and training initiatives, focusing on technology access, digital literacy, integration in teaching, troubleshooting, adaptation to new technologies, resource evaluation, and time management to reduce teachers' digital gaps effectively.
3. The school heads should continue their active monitoring of teaching performance and offer constructive feedback, along with specific resources and support that align with areas identified during observations to sustain teaching effectiveness.
4. The school heads should prioritize digital skills training that addresses age-related needs, recognizing that younger and older teachers may require different support approaches based on varying levels of digital familiarity.
5. The teachers should be encouraged to seek continuous professional development in digital skills, as closing digital gaps, even with a minimal impact on performance, can enhance their instructional versatility and confidence with technology.
6. The school or district should implement the enhanced digital training program and regularly assess its effectiveness, adjusting it to ensure that it meets teachers' evolving needs and aligns with teaching performance goals.
7. Further studies on the relationship between teachers' digital proficiency and specific aspects of teaching performance are recommended to identify any emerging correlations and inform more targeted digital support programs that could enhance instructional outcomes.

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