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ADMINISTRATIVE SUPPORT AND TEACHERS' USE OF EMERGING DIGITAL TOOLS IN CLASSROOM INSTRUCTION

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ABSTRACT

This study examined the influence of administrative support on teachers' use of emerging digital tools in classroom instruction at Quiot Elementary School, Cebu City Division, School Year 2025–2026, as a basis for an action plan to enhance digital integration in teaching and learning. The study employed a descriptive-correlational research design involving 30 teacher-respondents. Data were gathered using a structured survey questionnaire adapted from related studies. Frequency and percentage, weighted mean and standard deviation, and Pearson Product-Moment Correlation Coefficient were used for analysis. Findings showed that respondents were mostly female, in the early to middle adult age range, and largely holding or pursuing graduate studies. They had varied teaching experience and were assigned to different grade levels. Trainings were mostly school-based, with limited exposure to external digital training programs. Teachers commonly utilized Microsoft PowerPoint, Canva, ChatGPT, and other AI-based tools, while interactive assessment tools were less frequently used. The level of administrative support was generally perceived as supportive, particularly in professional development, encouragement, and policy direction, while technical and resource support was the weakest area. Teachers' use of emerging digital tools was generally frequent, especially AI-powered and general instructional tools, but less evident in interactive assessment applications. A significant positive relationship was found between administrative support and teachers' use of emerging digital tools. In conclusion, administrative support significantly influences teachers' integration of digital tools in teaching. It is recommended that an action plan be implemented to strengthen technical support, improve resource availability, and enhance continuous training and monitoring to further improve digital instructional practices.

Keywords: *Administrative Support, Emerging Digital Tools, AI Integration, Descriptive-Correlational Design, Classroom Instruction, Action Plan*

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INTRODUCTION

Background of the Study

Digital technologies are increasingly being integrated into contemporary education, influencing the ways in which teachers plan lessons, teach, assess learning, and engage learners. Teachers have opportunities to design instructional materials, generate ideas, design interactive learning activities, support assessment, and address the needs of diverse learners through emerging online resources like ChatGPT, Gemini, CiCi, Kahoot, Lumi, Wayground, and Educaplay. But increasing access to these technologies doesn't necessarily mean they are being meaningfully integrated into classrooms. Teachers must have the right knowledge, skills, resources, and institutional support to make decisions about the appropriateness of digital resources for specific instructional purposes and how to use them responsibly and effectively. According to UNESCO (2021), technology plays an important role in strengthening education and equipping learners for changing needs. The Philippine education system has consistently promoted the use of digital technologies in teaching and learning. Therefore, the role of school administrators has become increasingly important, as teachers' ability to translate available technologies into meaningful instructional practices depends partly on the guidance, training, resources, and organizational conditions provided within the school.

The increasing availability of educational technologies does not mean the effective integration of such technologies into classroom instruction comes easily. Teachers may have poor training, limited technical support, unreliable internet access, lack of devices and digital content, limited access to appropriate platforms, and inconsistent administrative support. Differences in teachers' digital competence, confidence, prior experience, and familiarity with emerging technologies may also help explain differences in technology use. Atilano and Cirilo (2023) identified barriers to ICT integration among teachers in Zamboanga City, Philippines, such as poor internet connectivity, inadequate training, and lack of administrative support. Likewise, Abella and Rosa (2023) highlighted the relationship between teachers' digital proficiency and the institutional conditions available to support the use of technology. According to Del Mundo (2022), the teachers' ability to use digital resources in teaching may be limited by a lack of ICT training and little administrative support. Likewise, Orbigoso and Pontillas (2024) found that lack of technical assistance, lack of confidence, and limited opportunities for continuous professional development are challenges affecting technology-supported instruction. Likewise, Mananay et al. (2024) highlighted that inconsistent institutional support and limited access to digital resources can affect teachers' ability and willingness to integrate technology into their classroom instruction.

These concerns suggest that the presence of digital technologies in schools does not necessarily mean they are being used consistently, appropriately, and purposefully in instruction. If these challenges are not addressed, schools may see a disconnect between the availability of emergent technologies and their actual use for instruction. This could result in teachers using the digital applications they are comfortable with rather than searching for tools that could meet particular teaching needs. Useful technologies may not be fully utilized because of lack of training, technical problems, or lack of clarity on how to use the technology in the classroom. Lack of support can also lead to fragmented technology practices, with teachers varying widely in their frequency and intentionality of digital tool use. Such conditions may also further restrict opportunities to employ technology for differentiated instruction, interactive assessment, content creation, learner engagement, and other instructional purposes. More critically, without ongoing support and professional learning opportunities, teachers may not be able to move from simple exposure to more deliberate and pedagogically appropriate integration of emerging digital technologies.

The emergence of artificial intelligence has added another dimension to teaching. AI-powered tools such as CiCi, Gemini, and Chatbot can assist teachers in generating lesson ideas, developing instructional materials, adapting learning activities, and facilitating differentiated instruction. However, the inclusion of AI also means that teachers need to use their professional judgment in evaluating the content generated by AI, ensuring its accuracy,

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safeguarding learners' information, identifying its limitations, and ensuring that the materials supported by AI are aligned with curriculum standards and learning objectives. The increasing presence of generative AI therefore presents opportunities, but also new responsibilities, for teachers and school leaders. Teachers need to be familiar with AI applications and need help on how to use them effectively in their teaching. Administrative support is particularly important in this area. Clear guidance at the school level, professional development, responsible-use practices, and opportunities for teachers to share their experiences can help promote more purposeful approaches to AI-assisted instruction. ElSayary (2024) noted that teachers tend to view emerging AI tools such as ChatGPT in a positive light, emphasizing their possible contribution to current teaching and learning. However, positive perceptions do not necessarily translate into sustained and appropriate classroom use, and hence teacher readiness and institutional support are important considerations in AI integration.

Administrative support has been identified in previous studies as an important condition for successful technology integration. Continuous administrative support through mentoring, structured training, instructional supervision, and provision of resources resulted in teachers' adoption of innovative instructional practices that involve the use of digital resources (Esmane, 2025). Similarly, Ramos (2024) found that teachers who were more supported by their institutions were more confident and willing to use digital technologies in their classroom instruction. Ertmer and Ottenbreit-Leftwich (2010) found that technology by itself was not enough if teachers were not encouraged, given technical assistance, and provided with ongoing professional support. Tondeur et al. (2012) also highlighted that school leadership, collaborative school culture, and professional development, in addition to teachers' technological competencies, influenced technology integration. Other studies have looked at teacher digital competence, technology acceptance, training experience, and barriers to ICT integration. These studies provide a useful basis for understanding conditions under which educational technology is used.

Research Gap

However, there is a gap in the localized study of administrative support and the actual use of a range of emerging digital resources among teachers in a particular Philippine elementary school setting. Most of the studies in the literature have focused on the general integration of ICT, digital competence, technology readiness, or barriers to the use of technology, while fewer of them have examined administrative support within specific dimensions such as professional development and training, technical and resource support, instructional leadership and monitoring, encouragement and motivation, and school policies and collaboration, as well as teachers' use of emerging tools for AI-powered instruction, interactive assessment and engagement, digital content creation, and general classroom utilization.

This gap is particularly pertinent considering the fast-paced development of AI-assisted technologies, which teachers may have access to but not necessarily in their classroom application. Therefore, an investigation of the link between administrative support and teachers' use of emerging digital resources could help develop a more context-specific understanding of the relationship between school-level support and technology integration in practice.

This concern is more relevant at Quiot Elementary School, Cebu City, where teachers have been exposed to and have used different digital technologies in their instructional practices. Some teachers have been introduced to new tools such as CiCi, Gemini, Lumi, Wayground, Educaplay, and Kahoot through professional learning and In-Service Training activities. Teachers have also had opportunities to become familiar with digital platforms and resources through previous experience with technology-supported instruction, including during distance and blended learning. However, teachers may differ in their training, digital skills, experience in teaching, confidence, availability of resources, and frequency of use of technology. These differences offer a practical ground to investigate the association of administrative support with the actual use of emerging digital resources in classroom instruction.

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Purpose of the Study

The study aimed to determine the level of administrative support extended to teachers in the use of emerging digital resources and the level of utilization of these technologies by the teachers in teaching at Quiot Elementary School. It also explored the relationship between administrative support and teachers' use of emerging digital resources. The study could respond to the concerns and identify the areas of administrative support that were adequately established and those that needed to be further strengthened, especially regarding training, technical resources, instructional guidance, motivation, collaboration, and technology-related policies. The results may provide context-specific evidence for school administrators to improve professional development activities, strengthen technical and instructional support, and develop more responsive mechanisms for technology integration.

The research may also inform the school's work toward developing a more holistic strategy for integrating emerging digital technology and AI. The research focused on the organizational factors that supported teachers in utilizing digital tools in the classroom, not on access to the tools. The findings can serve as a basis for an action agenda addressing the identified needs in teacher training, technical assistance, instructional guidance, and the responsible use of emerging digital technologies.

In particular, the findings regarding AI-powered instructional tools could inform professional learning activities designed to build teacher capacity to use AI appropriately while maintaining curriculum alignment, instructional quality, professional judgment, and responsible technology practices. The results could help give the school a clearer basis to identify teachers' specific needs in leveraging AI tools like ChatGPT, Gemini, and CiCi for lesson planning, instructional material development, differentiated instruction, and other classroom-related tasks. They could also help address concerns about the accuracy and appropriateness of content produced by AI, the responsible use of technology, data privacy, and the need for teachers to critically evaluate AI-generated outputs before integrating them into instruction. In this sense, the study could contribute to closing the gap between teachers' exposure to emerging artificial intelligence (AI) technologies and their actual capacity to use these tools purposefully and effectively in the curriculum.

Theoretical Framework

This study provided a thorough framework for analyzing administrative support and teachers' use of new digital technologies in classroom instruction. It was based on well-established theories and legislative provisions. While the legal bases outlined the institutional framework and policy that supported curriculum implementation, sound school governance, quality education, and technology integration in basic education, the theoretical foundations explained how innovation adoption, teachers' self-efficacy, and instructional leadership could impact the integration of digital technologies. In particular, Rogers' Diffusion of Innovations Theory (2003), Hallinger's Instructional Leadership Theory (2003), Bandura's Self-Efficacy Theory (1977), Republic Act No. 10533, also known as the Enhanced Basic Education Act, Republic Act No. 9155, also known as the Governance of Basic Education Act of 2001, and DepEd Order No. 21, s. 2019 provided the relevant legal and policy underpinnings for comprehending the duties of educational leaders and schools in assisting teachers and improving teaching methods via the use of suitable educational technologies. Together, these legal rules and theoretical stances offered an explanatory and policy-oriented foundation for analyzing the factors impacting educators' use of new digital tools.

Figure 1 presents the theoretical and legal bases of the study.

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Figure 1. Theoretical Framework of the Study

THEORIES	LEGAL BASES
Instructional Leadership Theory (Hallinger, 2003) **Self-Efficacy Theory** (Bandura, 1977) **Diffusion of Innovations Theory** (Rogers, 2003)	**Republic Act No. 10533** The Enhanced Basic Education Act of 2013 **Republic Act No. 9155** Governance of Basic Education Act of 2001 **DepEd Order No. 21, s. 2019** Policy Guidelines on the K to 12 Basic Education Program
↓	
ADMINISTRATIVE SUPPORT IN THE USE OF EMERGING DIGITAL TOOLS AND ITS INFLUENCE ON TEACHERS' CLASSROOM INSTRUCTION	
↓	
ACTION PLAN	

Instructional Leadership Theory

Hallinger's (2003) Instructional Leadership Theory was developed before the advent of modern digital and AI-assisted educational tools. However, the principles are very relevant in today's technology-driven learning environment, as instructional leadership now incorporates supporting teachers in the integration of emerging digital technologies in classroom instruction. Research indicates that teachers perform better when school leaders provide consistent mentoring, feedback, and professional development opportunities. For example, in their study on instructional leadership and teacher performance in Tayabas City, Suson and Capuno (2021) found that teachers who received continuous guidance from school heads became more confident, innovative, and effective in their instructional practices. The independent variable within the framework of this study is administrative support, which influences teachers' use of emerging online resources for classroom instruction.

At Quiot Elementary School, the school administrators play a critical role in establishing the conditions for teachers to adopt, implement, and sustain the meaningful integration of digital resources in teaching and learning.

Self-Efficacy Theory

In support of this perspective, Bandura (1977) Self-Efficacy Theory posits that the effectiveness of individuals in executing specific tasks and responsibilities is based on their faith in their own abilities. In the educational context, teachers' belief in their ability to use digital and AI-assisted tools has a substantial impact on their willingness to explore, adopt, and consistently integrate these technologies into classroom instruction. Although Self-Efficacy Theory was developed before the advent of modern educational technologies such as ChatGPT, Gemini, Lumi, and other AI-assisted tools, the theory is still very relevant because teachers' confidence and perceived competence continue to impact the integration of technology in teaching. Teachers with high self-efficacy are more willing to try new instructional methods, embrace technological innovations, and leverage new digital resources to improve learning experiences. Studies in the Philippines have indicated that administrative support in the form of mentoring, professional training, and provision of resources promotes teachers' self-efficacy, leading to better instructional performance and willingness to adopt innovative teaching methods. According to Ramos (2024), teachers who had institutional support felt more confident when employing digital technologies in instruction. Self-Efficacy Theory offers a lens that guides this study to understand how administrative support

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(independent variable) influences teachers' confidence and competence in using emerging digital resources and, therefore, their actual adoption of these technologies in their teaching.

Diffusion of Innovations Theory

Furthermore, the study is underpinned by the Diffusion of Innovations Theory by Rogers (2003), which describes the process of adoption of new ideas, practices, or technologies in a social system over time. In the education context, uptake of new digital and AI-assisted tools varies, to a large extent, depending on how these innovations are introduced, supported, and communicated within the school environment. Although the theory predates the rise of modern AI-based educational technologies such as Gemini, Lumi, and others, its principles remain highly relevant as schools keep evolving to incorporate technological innovations that enhance the teaching and learning processes. The theory suggests that proper support, training, encouragement, and opportunities to work together can encourage people to adopt innovations more readily. School leaders are critical change agents and instructional leaders in the midst of integrating technology in schools. At Quiot Elementary, school leaders ensure emerging digital resources are more consistently and effectively adopted across grade levels by providing structured support, professional development opportunities, and peer collaboration activities. In a study in the Santa Maria Schools District in Laguna, Esmane (2025) also found that teachers' use of digital resources was more effective when administrative support was intentional, structured, and aligned with ongoing professional development. In relation to this study, Diffusion of Innovations Theory describes how administrative support affects teachers' willingness to adopt and sustain the use of emerging digital resources in classroom instruction. The theory complements Instructional Leadership Theory and Self-Efficacy Theory by suggesting that effective technology integration depends on more than leadership and teacher confidence alone; it relies on a supportive school environment that encourages innovation and collaboration.

Legal Bases

The study is firmly based on law, as Philippine educational policies stress the importance of both administrative support and teachers' utilization of emerging digital resources in classroom instruction. Republic Act No. 10533 or the Enhanced Basic Education Act of 2013 (K to 12 Law) emphasizes the continuous improvement of teacher competencies and instructional quality, as well as the integration of innovative and technology-based teaching strategies that respond to the evolving needs of learners in the 21st century. This policy is in support of the integration of digital and AI-powered educational tools such as Chatbot, CiCi, Gemini, Lumi, Wayground, Educaplay, and Kahoot to make teaching and learning more interactive, engaging, and learner-centered. In relation to the variables of this study, the law emphasizes the need for the provision of administrative support in providing training, mentoring, instructional guidance, technical assistance, and resources to enable teachers to effectively incorporate technology. This legal basis supports the Instructional Leadership Theory, Self-Efficacy Theory, and Diffusion of Innovations Theory by emphasizing the significance of strong school leadership and support systems in motivating teachers to confidently embrace and maintain the use of emerging digital resources in instruction at Quiot Elementary School. Republic Act No. 10533 enhances the accountability of school administrators to provide a conducive learning environment that allows teachers to develop the knowledge, skills, and confidence to effectively incorporate these technologies into their classroom practice. The policy, therefore, directly supports the study's examination of how administrative support affects teachers' uptake and use of emergent digital resources in classroom instruction.

This study is further strengthened by the legal basis provided by Republic Act No. 9155, otherwise known as the Governance of Basic Education Act of 2001, which identifies the essential roles and responsibilities of school heads in ensuring quality education. The law emphasizes the responsibilities of school leaders in instructional supervision, resource management, teacher development, and the promotion of effective teaching and learning practices in schools. In light of this study's variables, Republic Act No. 9155 emphasizes the need for

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administrative support to empower teachers to effectively embed and employ emerging digital and AI-based tools such as ChatGPT, CiCi, Gemini, Lumi, Wayground, Educaplay, and Kahoot in classroom teaching. This legal basis aligns with Instructional Leadership Theory, as effective school leadership is critical in guiding teachers and providing them with the necessary resources and a supportive learning environment to foster innovation and technology integration. At Quiot Elementary School, this law reaffirms the responsibility of school administrators to provide ongoing guidance, mentoring, technical support, and professional development opportunities that enhance teachers' confidence and competence in effectively utilizing digital tools. Republic Act No. 9155 is therefore consistent with the study's emphasis on the effect of administrative support on teachers' application of emerging digital resources in classroom instruction.

This study is also supported by Department of Education Order No. 21, s. 2019, which promotes the use of Information and Communication Technology (ICT) in classroom instruction and highlights the significant role of school administrators in guiding teachers to effectively use technology. The policy stresses that school heads and principals should not only provide access to technological resources but also ensure continuous supervision, mentoring, and professional support to help teachers integrate digital and AI-based tools effectively in teaching and learning. The policy emphasizes the significance of administrative support in enhancing teachers' capacity, confidence, and readiness to incorporate new digital resources such as ChatGPT, CiCi, Gemini, Lumi, Wayground, Educaplay, and Kahoot into classroom instruction, as per the variables of this study. This legal basis is consistent with the Instructional Leadership Theory, Self-Efficacy Theory, and Diffusion of Innovations Theory, as it emphasizes the importance of effective leadership, ongoing mentorship, and supportive learning environments in helping teachers to adopt and maintain the use of innovative educational technologies.

At Quiot Elementary School, teachers have been exposed to emerging digital and AI-based tools, especially during the recent In-Service Training (INSET) sessions. Some teachers have successfully incorporated these tools into their teaching practices, while others continue to struggle due to differences in training, guidance, technical support, and confidence in using technology. These differences emphasize the need for robust administrative support to help teachers effectively integrate and maximize the use of new digital instructional resources. Structured training, mentoring, monitoring, and access to resources could assist school administrators in bridging these gaps and creating a supportive environment that will motivate teachers to integrate technology meaningfully into teaching and learning. Good administrative support can result in improved teaching, higher levels of student participation, and better learning outcomes.

To summarize, the theories and legal bases discussed in this study indicate the need for effective administrative support to enhance teachers' capacity and confidence to use new digital and AI-powered tools in classroom teaching. Instructional Leadership Theory emphasizes the role of strong school leadership, Self-Efficacy Theory explains the impact of support on teacher confidence and competence, and Diffusion of Innovations Theory describes how new technologies are successfully adopted in traditional educational environments. These theories are still relevant when considering modern AI-driven educational tools such as Chatbot, CiCi, Gemini, Lumi, Wayground, Educaplay, and Kahoot, as schools constantly evolve with technological innovations in teaching and learning. Likewise, Republic Act No. 10533, Republic Act No. 9155, and DepEd Order No. 21, s. 2019 provide legal basis for the inclusion of technology and the promotion of continuous teacher development through effective instructional leadership. Based on these theoretical and legal foundations, this study intends to examine the role of administrative support in the use of emerging digital resources in classroom instruction among teachers at Quiot Elementary School.

Statement of the Problem

This study aimed to examine the influence of administrative support on teachers' use of emerging digital tools and its effect on classroom instruction at Quiot Elementary School, S.Y. 2025-2026.

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Specifically, it sought to answer the following questions:

1. What is the demographic profile of the respondents?
    a. Age and Gender,
    b. Educational Attainment,
    c. Teaching Experience,
    d. Grade Level Currently Teaching,
    e. Types of Digital Tools Utilized in Classroom Instruction, and
    f. Trainings and Seminars Attended Related to Digital Tools?
2. What is the extent of administrative support provided to teachers in the use of emerging digital tools in classroom instruction in terms of:
    a. Professional Development and Training,
    b. Technical and Resource Support,
    c. Instructional Leadership and Monitoring,
    d. Encouragement and Motivation, and
    e. Policies, Collaboration, and Technology Integration?
3. What is the level of teachers' use of emerging digital tools in classroom instruction in terms of:
    a. AI-Powered Instructional Tools (e.g., ChatGPT, Cici, Gemini)
    b. Interactive Assessment and Engagement Tools (e.g., Kahoot, Educaplay),
    c. Digital Content Creation Tools (e.g., Lumi, Wayground), and
    d. General Utilization of Digital Tools?
4. Is there a significant relationship between administrative support and teachers' use of emerging digital tools in classroom instruction?
5. Based on the findings of the study, what action plan may be proposed?

Statement of the Null Hypothesis

H0: There is no significant relationship between administrative support and teachers' use of emerging digital tools (ChatGPT, CiCi, Gemini, Lumi, Wayground, Educaplay, and Kahoot) at Quiot Elementary School.

Significance of the Study

This study was important because it explored the impact of administrative support on teachers' use of emerging digital resources and its effect on classroom instruction at Quiot Elementary School.

Department of Education. The findings of this study could have provided a basis for the Department of Education to create stronger policies, design professional development programs, and improve strategies that contribute to the successful incorporation of new digital resources into teaching and learning.

School and Division Officials. The study provided a reference for school and division leaders in evaluating policies, planning professional development, and designing programs to support technology integration in schools.

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School Administrators. Findings provided school heads with insights into how leadership practices, including resource provision, training, supervision, and encouragement, affected teachers' use of digital tools. This could have guided administrators in improving support systems and fostering a more innovative and effective teaching environment.

Teachers. The study helped teachers understand the role of administrative support in their use of digital tools, encouraging them to reflect on their practices, identify areas for growth, and build confidence in integrating technology to enhance student learning.

Students. While not direct respondents, students benefited from more engaging, interactive, and meaningful lessons when teachers were effectively supported in using digital tools, leading to improved conceptual understanding and learning outcomes.

Parents and the Community. Enhanced teaching and learning outcomes positively affected parents and the community, as students who were confident and skilled in their learning contributed to family well-being and community development, promoting a culture of lifelong learning.

Researcher. This study greatly benefited the researcher by enhancing knowledge and understanding of the role of administrative support in the use of emerging digital tools in teaching. It also helped develop research skills, critical thinking, and professional growth. Moreover, the findings served as a valuable reference for the researcher in future academic and professional endeavors, particularly in improving teaching practices and supporting technology integration in education.

Future Researchers. This study served as a foundation for future research on instructional leadership, technology integration, and emerging digital tools in education, and informed comparative studies in other schools or districts.

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METHODS

This section presents the methodology utilized in the study. It describes the research design, the flow of the study, the locale of the study, the respondents and the sampling technique, the research instrument and the scoring procedure, the data-gathering procedure, the data analysis, the operational definition of terms, and the ethical considerations. Each methodological component was carefully outlined to ensure that the findings of the study were valid, reliable, and consistent with the stated research objectives.

Research Design

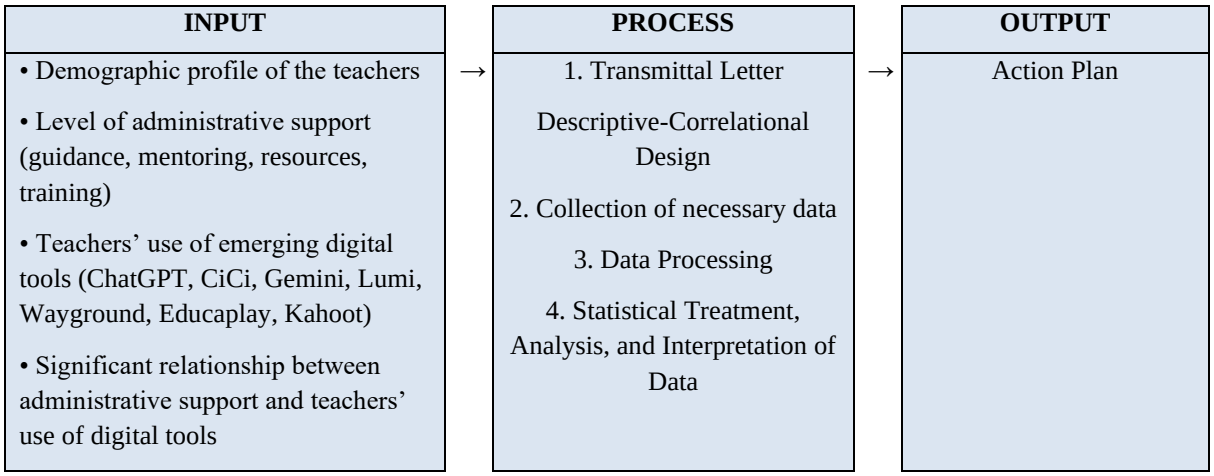
The descriptive–correlational research design was employed to establish the relationship between administrative support and the utilization of emerging online resources such as ChatGPT, CiCi, Gemini, Lumi, Wayground, Educaplay, and Kahoot among teachers at Quiot Elementary School. This design was appropriate because it allowed the researcher to examine the relationship between two or more variables without controlling or manipulating them. The independent variable in this study was the level of administrative support rendered by school administrators, and the dependent variable was the adoption and use of emerging digital resources by teachers. The study was designed to find out whether there is a connection between greater administrative support and more effective and frequent use of digital resources in teaching using this methodology. Descriptive–correlational designs are frequently employed in educational research to explore naturally occurring relationships and patterns within classrooms (Calderon & Gonzales, 2020). This method offered a systematic way to describe current conditions and to measure the relationship between the variables.

Flow of the Study

The Input–Process–Output (IPO) model was used as the framework of the study. This model categorized complex phenomena into three interconnected components: inputs, processes, and outputs (McGrath, 2019).

Figure 2 presents the flow of the study.

Figure 2. Flow of the Study



Input. The input focused on the demographic profile of the respondents, including their gender, age, educational attainment, teaching experience, grade level taught, and subject area taught. It also considered the teachers' use of emerging digital tools and their exposure to relevant training or seminars. Furthermore, it included the level of

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administrative support provided by school administrators through guidance, mentoring, and the provision of necessary resources.

Process. The process involved systematic steps undertaken at Quiot Elementary School. First, a transmittal letter and formal request for approval were prepared and submitted to the Schools Division Office and the school head. Upon approval, the researcher distributed survey questionnaires to thirty (30) purposively selected teachers. The objectives of the study were explained to the respondents, and informed consent was obtained. Statistical analysis included the use of frequency and percentage to describe the demographic profile of the respondents, weighted mean and standard deviation to assess the level of administrative support and teachers' use of emerging digital tools, and the Pearson Product-Moment Correlation Coefficient to determine the significance of the relationship between administrative support and teachers' use of digital tools.

Output. The output of this study was an action plan designed to address gaps in administrative support and enhance the effective use of emerging digital tools.

Locale of the Study

The study was conducted at Quiot Elementary School, an urban public school located in Sitio Bogo, Barangay Quiot, Cebu City, under the Cebu City Division. The school served a diverse student population and emphasized literacy, numeracy, and technology integration in teaching. The institution had actively introduced digital tools during INSET sessions; however, the degree of administrative support varied, creating a gap that the study examined. The school provided an ideal environment for the research because it represented a setting where technology adoption depended not only on teacher initiative but also on the guidance, resources, and supervision provided by administrators. Furthermore, the school environment reflected the ongoing transition toward modernized instruction, where teachers were encouraged to adopt innovative practices while addressing the varied needs of learners. The availability of technological resources, access to training, and continuous administrative guidance played a crucial role in shaping teachers' use of digital tools in the classroom.

Figure 3 presents the location map of the study.

Figure 3. Location Map of the Study





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Respondents and Sampling

The respondents of the study consisted of thirty (30) teachers from Quiot Elementary School out of a total population of seventy (70) teachers. The respondents were selected through purposive sampling, a non-probability sampling technique in which participants were chosen based on specific characteristics relevant to the objectives of the study. According to Palinkas et al. (2015), purposive sampling is appropriate when the researcher intends to identify information-rich participants who can provide in-depth and meaningful insights regarding the phenomenon being investigated. In this study, the inclusion criteria focused on teachers who were directly involved in classroom instruction and who had exposure to emerging digital tools such as ChatGPT, CiCi, Gemini, Lumi, Wayground, Educaplay, and Kahoot. Teachers who did not have experience in using these digital tools or who were unavailable during the data collection period were excluded. The selection of respondents ensured that the participants were capable of providing relevant, reliable, and experience-based information on both the use of emerging digital tools and the administrative support provided by the school. This approach allowed the study to focus on the relationship between administrative support and teachers' use of emerging digital tools in classroom instruction.

The distribution of the respondents is shown in Table 1.

Table 1. Distribution of the Respondents

Respondents	**f**	**%**
Teachers	30	100.00
Total	**30**	**100.00**

Research Instrument

This study utilized an adapted survey questionnaire as the primary data-gathering instrument at Quiot Elementary School in Cebu City. The instrument was structured into three parts: the demographic profile of the respondents, the level of administrative support, and teachers' use of emerging digital tools. A total of thirty (30) purposively selected general education teachers from Quiot Elementary School were asked to accomplish the questionnaire.

Part I focused on the demographic profile of the respondents. This section collected the teachers' personal and professional information, including gender, age, educational attainment, teaching experience, grade level taught, subject area, and prior exposure to digital tools. These variables were included to describe the characteristics of the respondents and to determine whether demographic factors were related to the variables examined in the study.

Part II measured the level of administrative support as perceived by the teachers. This section assessed the extent to which school administrators provided guidance, mentoring, training opportunities, and necessary resources that supported teachers in integrating digital tools into their instruction. It consisted of twenty (20) statements, four for each of the five dimensions of administrative support, describing different forms of administrative support. Respondents indicated their level of agreement using a four-point Likert scale, where 1 – Not Supportive, 2 – Slightly Supportive, 3 – Supportive, and 4 – Very Supportive.

Part III examined the teachers' use of emerging digital tools in classroom instruction. This section evaluated how frequently and effectively teachers integrated tools such as ChatGPT, CiCi, Gemini, Lumi, Wayground, Educaplay, and Kahoot to enhance teaching and learning. Similar to the previous section, this part included twelve statements. Respondents rated each statement using a four-point Likert scale, where 1 – Never, 2 – Sometimes, 3

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– Often, and 4 – Always, indicating the extent to which they utilized these digital tools in their instructional practices.

Scoring Procedure

The scoring procedure in this study was used to interpret the responses of the teachers regarding the level of administrative support and their use of emerging digital tools in classroom instruction.

Level of Administrative Support (Guidance, Mentoring, Resources, Training)

Scale	Interpretation	Description
3.25–4.00	Very Supportive	School administrators consistently provide strong support in terms of training, resources, guidance, monitoring, and policy implementation related to digital tool integration.
2.50–3.24	Supportive	School administrators provide adequate support in the integration of digital tools, although certain areas may still need improvement.
1.75–2.49	Slightly Supportive	Administrative support for digital tool integration is limited or inconsistent.
1.00–1.74	Not Supportive	School administrators rarely provide support, guidance, or resources for digital tool integration.

Teachers' Use of Emerging Digital Tools (ChatGPT, CiCi, Gemini, Lumi, Wayground, Educaplay, Kahoot)

Scale	Interpretation	Description
3.25–4.00	Always	Teachers consistently and effectively use emerging digital tools in classroom instruction.
2.50–3.24	Often	Teachers regularly use emerging digital tools, although usage may vary depending on instructional needs.
1.75–2.49	Sometimes	Teachers occasionally use emerging digital tools but not on a consistent basis.
1.00–1.74	Never	Teachers rarely or never use emerging digital tools in classroom instruction.

Data Gathering Procedure

Preliminary Stage. The data collection process was initiated with scrupulous adherence to ethical standards and proper authorization. The researcher first prepared a formal letter of request for permission to conduct the study. The letter was forwarded to the Cebu City Schools Division Office for approval, as the office has jurisdiction over the implementation of research activities in the public schools of the division. The researcher obtained permission at the division level and subsequently sought the consent and support of the principal of Quiot Elementary School, where the study was conducted. The research site was Quiot Elementary School, where teachers had been exposed to various emerging digital resources and were actively seeking ways to integrate the technologies into classroom

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instruction. The researcher coordinated with the school head in identifying the teacher-respondents who participated in the study with the approval of the school administration. The respondents were eligible teachers who met the established inclusion criteria and were directly involved in classroom instruction and had varying levels of administrative support and opportunities to use digital resources in their teaching practices.

Data Gathering Stage. The researcher selected the respondents and conducted a short orientation with the participating teachers regarding the purpose and procedures of the study. At this point in the session, the researcher explained the purpose of the research, the format of the questionnaire, and how the information gained would contribute to the understanding of the relationship of administrative support to teachers' use of emerging digital resources in instruction. The researcher also mentioned that participation in the study was voluntary and that the answers of the participants would be kept confidential and used only for the purpose of research. After the orientation, the survey questionnaires were distributed to the teacher-respondents of Quiot Elementary School. The instrument was composed of three parts: the demographic profile of teachers, their perception of administrative support, and their use of emerging online resources like ChatGPT, CiCi, Gemini, Lumi, Wayground, Educaplay and Kahoot. The teachers were given adequate time, about one to two weeks, to fill out the questionnaire so as to be able to answer the items in the questionnaire thoughtfully without neglecting their regular teaching duties.

Post-Data Gathering Stage. At the end of the agreed time for completion, the researcher collected the completed questionnaires from the participating teachers. All questionnaires were carefully checked to ensure all responses were complete and clearly marked. When there were missing or unclear responses, the researcher politely asked the concerned respondents for clarification so that the data collected were accurate. The questionnaires were edited, and the responses were coded and arranged for analysis. The data were treated with utmost confidentiality, and the identities of the respondents were kept anonymous during the entire research process. The data were encoded and subjected to proper statistical treatment, analysis, and interpretation. The findings served as a basis to understand the relationship between administrative support and teachers' use of emerging digital resources and to develop a proposed action plan to strengthen administrative support and enhance the effective integration of digital resources in classroom instruction at Quiot Elementary School.

Data Analysis

The data gathered from the completed survey questionnaires were carefully organized, encoded, and analyzed using appropriate statistical tools. Both descriptive and inferential statistics were utilized to ensure that the results were clearly presented and accurately interpreted. These statistical methods were selected to address the specific objectives and sub-problems of the study.

Frequency and Percentage. To describe the demographic profile of the respondents, frequency counts and percentages were used. These statistical measures helped summarize important characteristics of the teachers, such as their age, gender, educational attainment, teaching experience, grade level taught, subject area, and prior exposure to digital tools.

Weighted Mean and Standard Deviation. To determine the level of administrative support perceived by the teachers, weighted mean and standard deviation were computed. These measures were used to summarize the responses to the Likert-scale statements that described the guidance, mentoring, training opportunities, and resources provided by school administrators. Similarly, weighted mean and standard deviation were also applied to assess the extent of teachers' use of emerging digital tools, including ChatGPT, CiCi, Gemini, Lumi, Wayground, Educaplay, and Kahoot, in classroom instruction. These statistical tools helped determine how frequently teachers integrated these technologies into their teaching practices.

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Pearson Product-Moment Correlation Coefficient (Pearson r). To examine the relationship between administrative support and teachers' use of emerging digital tools, the Pearson Product–Moment Correlation Coefficient (Pearson r) was used. This statistical test determined whether a significant relationship existed between the two variables and measured the strength and direction of their association.

All statistical results were then analyzed and interpreted to provide a clear understanding of how administrative support related to teachers' use of emerging digital tools in classroom instruction at Quiot Elementary School. The findings also served as the basis for the development of a proposed action plan aimed at strengthening administrative support and enhancing the effective integration of digital tools in teaching and learning.

Operational Definition of Terms

To ensure clarity and consistency in understanding the key concepts used in this study, the following terms are operationally defined.

Administrative Support. Refers to the level of guidance, mentoring, monitoring, provision of resources, technical assistance, and training provided by school administrators to teachers in relation to the use of emerging digital tools in instruction.

Artificial Intelligence Tools (AI Tools). Refers to digital applications such as ChatGPT and Gemini that assist teachers in lesson planning, content creation, instructional delivery, and classroom activities.

Classroom Instruction. Refers to the teaching and learning process where teachers deliver lessons and facilitate learning activities with the integration of emerging digital tools.

Digital Competence. Refers to the teachers' ability to effectively and confidently use digital tools in planning, delivering, and assessing instruction.

Digital Literacy. Refers to the ability of teachers to locate, evaluate, use, and create instructional materials using digital technologies.

Emerging Digital Tools. Refers to digital applications and platforms such as ChatGPT, Gemini, Lumi, Kahoot, Wayground, and Educaplay used to enhance teaching, learning, and assessment.

ICT Integration. Refers to the extent to which Information and Communication Technology tools are incorporated into classroom and modular instruction to improve teaching effectiveness.

Instructional Content Tools. Refers to digital platforms used by teachers to create, design, and deliver learning materials such as presentations, quizzes, activities, and interactive lessons (e.g., Educaplay, Wayground, Kahoot).

In-Service Training (INSET). Refers to structured professional development activities conducted by the school or division to enhance teachers' competencies in using digital tools for instruction.

Instructional Practices. Refers to the methods and strategies used by teachers in delivering lessons with the integration of digital tools.

Learning Outcomes. Refers to the measurable knowledge, skills, and competencies acquired by learners after instruction using digital tools.

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Modular Distance Learning (MDL). Refers to a learning modality where students use printed or digital modules supported by teacher guidance and digital tools when necessary.

Professional Development. Refers to continuous training and learning opportunities aimed at improving teachers' instructional skills, particularly in digital integration.

Proposed Action Plan. An organized program of measures designed to achieve a specific goal based on the findings of the study.

School Environment. Refers to the physical, technological, and administrative conditions that influence the use of digital tools in teaching and learning.

Teaching Effectiveness. Refers to the level of success of teachers in delivering instruction and engaging learners using digital tools.

Technology Integration. Refers to the extent and manner in which digital tools are incorporated into teaching to enhance instruction and learner engagement.

Ethical Considerations

Ethical principles were strictly followed. Informed consent was obtained, confidentiality was maintained, and participation was voluntary. Data were anonymized and stored securely. Respondents were assured that the results were used solely for academic purposes.

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RESULTS AND DISCUSSION

This section presents, analyzes, and interprets the data gathered from the respondents regarding the use of emerging digital tools in classroom instruction and the level of administrative support provided by school leaders. Specifically, it discusses the emerging digital tools utilized by teachers and their demographic profile in terms of age, gender, educational attainment, teaching experience, grade level currently taught, and trainings or seminars attended related to digital tools. It also presented the level of administrative support in terms of professional development and training, technical and resource support, instructional leadership and monitoring, encouragement and motivation, and school policy and administrative guidance. Furthermore, this section examines the extent of teachers' use of emerging digital tools and determines the significant relationship between administrative support and teachers' utilization of emerging digital tools in classroom instruction.

Demographic Profile of the Respondents

The demographic profile of the respondents was presented in this section to provide a clearer understanding of their personal and professional characteristics. Specifically, the profile included age, gender, educational attainment, teaching experience, grade level currently taught, and trainings or seminars attended related to digital tools.

Age and Gender of the Respondents

The table presented the age and gender distribution of the respondents. It showed the frequency and percentage distribution of the respondents in terms of their demographic profile, specifically age and gender.

Table 2. Age and Gender of the Respondents

Age	**f**	**%**
20–29	8	26.67
30–39	10	33.33
40–49	6	20.00
50 and above	6	20.00
Total	**30**	**100.00**
Gender of the Respondents	**f**	**%**
Male	3	10.00
Female	27	90.00
Total	**30**	**100.00**

Table 2 displayed the age and gender profile of the respondents in terms of frequency and percentage distribution. In terms of age, the respondents were distributed across four groups: 20–29 years with 26.67%, 30–39 years with 33.33%, 40–49 years with 20.00%, and 50 years and above with 20.00%. In terms of gender, the data showed that 90.00% of the respondents were female, while 10.00% were male. These results indicated that the teaching workforce was largely composed of relatively young to middle-aged teachers and was predominantly female.

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The age distribution showed that the majority of the respondents were in the early and middle stages of their professional careers, with the majority concentrated in the 30-39 age group. This suggested a workforce that was generally active, developmentally oriented, and still building long-term instructional experience. The majority of respondents in the 20-29 age group also represented early career teachers who were likely to be more exposed to contemporary instructional approaches including digital integration. However, the representation of teachers aged 40–49 and 50 years and above, suggested the presence of experienced teachers who contributed stability and institutional knowledge in classroom instruction.

The gender distribution revealed a very strong dominance of female teachers, which means that given the context of the study, classroom instruction was predominantly carried out by women, and male teachers constituted a small proportion of the workforce. This implied that instructional practices, classroom management styles, and professional development needs were largely shaped within a female-majority teaching environment.

In administrative support terms, the demographic profile meant that leadership systems needed to be responsive to a workforce with mixed levels of teaching experience and a strong female majority. Hallinger's (2003) Instructional Leadership Theory posits that effective school leadership is about providing direction, support and resources that meet the instructional needs of teachers. This was supported by Shogbesan et al. (2024) who revealed that administrative support significantly impacted teachers' effectiveness through improved access to resources and improved instructional practice. Similarly, Teixeira (2023) stated that the overall quality of instruction was due to the teachers' adaptation to technology-enhanced teaching, which was made possible by well-organized administrative support systems in digital and educational ecosystems.

The age distribution showed differences in confidence levels of using instructional technologies based on Bandura's Self-Efficacy Theory (1977). Younger teachers were more likely to show higher familiarity with digital resources. Older teachers relied more on established instructional practices developed through experience. This suggested that age and exposure to the digital teaching environment affected emerging technology integration self-efficacy.

The demographic profile indicated different rates of adoption of instructional innovations (Rogers' Diffusion of Innovations Theory, 2003). Digital resources were easier for younger teachers to adopt, while older teachers were more likely to adopt innovations at a slower pace. The findings also indicated that administrative support systems had to be structured in such a way that they catered for the different needs of teachers of different age groups. Early-career teachers need ongoing support for instructional development, and more experienced teachers benefit from targeted training in digital pedagogy and new educational technologies.

Educational Attainment of the Respondents

The table presents the educational attainment of the respondents.

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Table 3. Educational Attainment of the Respondents

Educational Attainment	f	%
Doctoral Degree	0	0.00
With Doctorate Units	0	0.00
Master's Degree	9	30.00
With MA/MS Units	18	60.00
Bachelor's Degree	3	10.00
Total	**30**	**100.00**

Table 3 displays the educational attainment of the respondents in terms of frequency and percentage distribution. The results showed that 60.00% of the respondents had earned Master's units, 30.00% had completed a Master's degree, and 10.00% were bachelor's degree holders. No respondents had obtained doctoral degrees or doctoral units. These findings indicated that the teaching workforce was largely composed of graduate-level professionals, with most either completing or actively pursuing advanced academic studies.

The distribution indicated a strong orientation toward professional growth and academic advancement for teachers. The relatively high proportion of respondents with Master's units pointed to many still being involved in continuing education, while the existence of full Master's degree holders reflected a high level of academic maturity in the workforce. The smaller proportion of teachers with bachelor's degrees suggested that most teachers had moved beyond entry-level credentials, which suggested a mostly well-educated teaching force with exposure to sophisticated pedagogical ideas and research-based instructional methods.

Regarding administrative support, the findings indicated that institutional mechanisms probably supported ongoing teacher professional development. Hallinger's Instructional Leadership Theory (2003) highlighted the important role of school leaders in enhancing the capacity of teachers through formal support, learning opportunities, and instructional guidance. This was further validated by Shogbesan et al. (2024), who found that administrative support played a significant role in enhancing teachers' effectiveness by improving access to resources and enhancing instructional practices. Teixeira (2023) also stressed the importance of solid administrative support systems within digital and educational ecosystems to sustain teacher development and adapt to changing teaching needs.

Bandura's Self-Efficacy Theory (1977) argued that the prevalence of graduate-level education meant that teachers were more likely to demonstrate higher levels of instructional confidence because of higher academic training. Mastery of teaching strategies was positively related to teachers' belief that they were capable of performing instructional tasks effectively, which, in turn, was positively related to educational attainment. But the difference in academic levels still implied a difference in confidence to work with emerging technologies and innovative instructional approaches.

The educational profile of the respondents indicated a conducive environment for the adoption of instructional innovations based on Rogers' Diffusion of Innovations Theory (2003). Teachers with graduate-level training were more likely to engage with new pedagogical approaches and to incorporate research-based practices into their teaching. Continuing higher education also meant continued exposure to new ideas, which helped spread innovations slowly within the educational setting.

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The results were also consistent with ElSayary (2024), who stated that teachers generally perceived the emerging online tools such as ChatGPT as supportive resources in teaching and learning in the digital era. This supported the suggestion that teachers with higher educational attainment were more open to incorporating AI-based tools and digital innovations into their teaching practices, especially those tools that improved efficiency, lesson preparation, and classroom engagement. Higher levels of education could also provide more opportunities for teachers to encounter new teaching methods, evaluate digital resources, and integrate emerging technologies with established teaching practices. In this regard, ongoing professional learning can complement formal educational qualifications by enabling teachers to develop the practical knowledge to use AI-based tools appropriately and purposefully. Thus, the integration of these technologies requires that teachers have access to emerging tools, as well as the ability to determine their relevance and utilize them in ways that are aligned with particular instructional goals.

Teaching Experience of the Respondents

The table presented the teaching experience of the respondents. It showed the frequency and percentage distribution of the respondents in terms of their length of teaching service

Table 4. Teaching Experience of the Respondents

Years of Experience	f	%
1–5 years	8	26.67
6–10 years	10	33.33
11–15 years	6	20.00
16 years and above	6	20.00
Total	**30**	**100.00**

Table 4 displays the teaching experience of the respondents in terms of frequency and percentage distribution. The results showed that 33.33% of the respondents had 6–10 years of teaching experience, 26.67% had 1–5 years, while both the 11–15 years and 16 years and above categories obtained 20.00% each. These figures indicated that the respondents were distributed across different stages of professional practice, with a slight concentration in the mid-range teaching experience bracket.

The distribution suggested a teaching workforce with a range of professional experience from the early years of their career to very experienced teachers. The majority of respondents were teachers with 6–10 years of experience, representing a strong contingent of practitioners who had gained sufficient instructional competence and were still amenable to instructional refinement and innovation. Newer teachers, with 1–5 years of experience, were developing their classroom expertise, while veteran educators, with 11–15 years and 16 years and above, brought depth of experience, instructional stability, and classroom management proficiency.

In terms of administrative support, the results suggested that leadership interventions should be differentiated by teachers' different experience levels. Hallinger's Instructional Leadership Theory (2003) demonstrated the significance of school leaders in improving instruction by offering direction, resources, and professional support that address the needs of teachers. This meant that administrative support should take into account the teachers' developmental stage in an effort to enhance instructional effectiveness and technology integration.

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According to Bandura's Self-Efficacy Theory (1977), there was a significant positive association between instructional confidence and teaching experience. The more years of service teachers have, the more likely they are to exhibit a higher level of self-efficacy because of the accumulated mastery experiences in classroom instruction. However, early-career teachers may still be building confidence, particularly in terms of handling instructional demands and integrating emerging digital resources into their teaching practice.

According to Rogers' Diffusion of Innovations Theory (2003), teaching experience influenced the speed of implementation of instructional innovations. More experienced teachers tended to rely on established instructional practices, whereas younger and mid-career teachers were generally more open to new technologies and innovative teaching strategies. This showed that the diffusion of innovations in the school context occurred at different rates according to professional tenure.

The findings were corroborated by Oguguo et al. (2023), who observed that teachers' use of digital resources for instructional delivery and assessment was more evident during a time of increased dependence on technology-based instruction. This suggested that teachers' readiness to embrace instructional technologies was affected by their exposure to digital teaching environments, but the extent of use still depended on experience and familiarity. Continued exposure to technology-supported instruction could provide teachers opportunities to become more comfortable with digital platforms, applications, and online resources that could be applied to classroom activities. This experience may also enhance teachers' capacity to identify appropriate digital resources for lesson delivery, assessment, communication, and learner engagement.

However, exposure alone was not enough to guarantee consistent and extensive technology integration, as teachers still needed adequate skills, access to suitable resources, and opportunities to practice utilizing digital tools in meaningful instructional contexts. Therefore, the findings indicated that sustained exposure, combined with professional learning and supportive school conditions, was important for enhancing teachers' ability to integrate emerging digital technologies into regular classroom instruction. Regular opportunities to apply newly acquired digital skills could also support teachers in transferring training experiences into real classroom practices.

Grade Level Currently Taught by the Respondents

The table presented the grade level currently taught by the respondents. It showed the frequency and percentage distribution of the respondents according to the grade level assignment in their respective schools.

Table 5. Grade Level Currently Taught by the Respondents

Grade Level	f	%
Grade 1	6	20.00
Grade 2	1	3.33
Grade 3	4	13.33
Grade 4	3	10.00
Grade 5	6	20.00
Grade 6	8	26.67
Total	**30**	**100.00**

Table 5 displayed the grade level currently taught by the respondents in terms of frequency and percentage distribution. The results showed that Grade 6 obtained the highest proportion at 26.67%, followed by Grade 1 and

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Grade 5, both at 20.00%. Grade 3 accounted for 13.33%, Grade 4 for 10.00%, and Grade 2 obtained the lowest proportion at 3.33%. These figures indicated that the respondents were distributed across all elementary grade levels, with a noticeable concentration in both the entry-level and upper elementary grades.

The distribution showed that respondents mostly came from Grade 6, Grade 1, and Grade 5, which implies that teachers more often dealt with both the foundational and culminating phases of elementary education. The high percentage in Grade 6 indicated that many teachers were working with learners who needed more advanced instruction and preparation for transition to the higher grade levels. Furthermore, many Grade 1 teachers reported participation in the early development of literacy and numeracy skills. The lower representation in Grades 2, 3, and 4 indicated a less concentrated group of respondents at the middle level but still included all grade levels in the data.

Findings suggest that leadership practices should be mindful of the instructional demands of various grade levels regarding administrative support. Hallinger's (2003) Instructional Leadership Theory highlighted the responsibility of school leaders to ensure that teachers are given adequate guidance, resources, and support that correspond to their instructional duties. This implies that differentiated support may be necessary to address the unique needs of early-grade and upper-grade teachers in an effort to strengthen instructional delivery.

According to Bandura's Self-Efficacy Theory (1977), teachers' confidence in delivering instruction may be affected by the grade levels in which they are placed. Teachers teaching lower grades may feel more confident teaching basics, while teachers teaching higher grades may feel more confident handling more complex content and learners' expectations. This variation suggested that instructional self-efficacy is influenced by the particular demands of the grade level taught, in addition to experience.

Adoption of instructional innovations may also be influenced by grade level taught, in relation to Rogers' Diffusion of Innovations Theory (2003). Upper grade teachers may be more open to utilizing online tools to facilitate complex learning tasks, while lower grade teachers may favor structured and guided instructional methods. This suggested that diffusion of innovations in teaching practices may be dependent on classroom context and learner developmental needs.

The results also confirmed that teachers' digital competencies are important for the successful integration of technology in education, as argued by Demissie et al. (2022). This suggested that the teachers' capacity to effectively utilize digital resources was related to their competency independent of the grade level designation, and this competency ultimately affected the use of instructional technologies in different classroom settings. Teachers at different grade levels experienced different instructional demands, learner characteristics, and classroom activities, but digital competence was still relevant to their ability to select, operate, and apply appropriate technologies for instruction. Utilizing digital tools effectively involved more than knowing how to use specific applications; it also involved teachers determining how technology could be used to support lesson objectives, learner participation, assessment, and the development of instructional materials.

Therefore, the findings point to the importance of developing transferable digital competencies teachers can use at different grade levels and in different teaching contexts. Practical application and ongoing professional development opportunities could further enhance teachers' ability to adapt emerging digital resources to the specific needs of their learners and classroom environments.

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Types of Digital Tools Utilized in Classroom Instruction

The table presented the emerging digital tools utilized by the respondents in classroom instruction. It showed the frequency and percentage distribution of the digital tools used to support instructional delivery, classroom engagement, assessment, and the preparation of learning materials.

Table 6. Types of Digital Tools Utilized in Classroom Instruction

Types of Digital Tools	f	%
ChatGPT	24	80.00
Gemini	8	26.67
Kahoot	9	30.00
Cici	4	13.33
Lumi	5	16.67
Educaplay	4	13.33
Wayground	4	13.33
Canva	25	83.33
Microsoft PowerPoint	29	96.67

Table 6 displays the emerging digital tools utilized in classroom instruction by the teacher-respondents and their corresponding percentage distribution. The data showed that Microsoft PowerPoint was the most utilized tool with 96.67%, followed by Canva with 83.33% and ChatGPT with 80.00%. Other tools were also utilized but at comparatively lower rates, including Kahoot with 30.00%, Gemini with 26.67%, Lumi with 16.67%, Cici with 13.33%, Educaplay with 13.33%, and Wayground with 13.33%. These results indicated that teachers had a very high reliance on traditional presentation tools while also integrating selected AI-powered and interactive digital platforms in classroom instruction.

The pattern of utilization showed that teachers' use of emerging digital resources was most prominent in general instructional applications and AI-powered tools, particularly Microsoft PowerPoint, Canva, and ChatGPT. These tools were used to help with lesson preparation, content delivery, and instructional design, which shows that teachers already incorporated digital technologies into regular classroom practices. However, the relatively lower utilization of interactive assessment tools such as Kahoot and Educaplay, and digital content development platforms like Lumi and Wayground, indicated that these were not yet fully maximized in the instructional implementation.

Regarding administrative support, the results indicated that leadership practices may have enabled teachers' access to and use of electronic tools by providing resources, guidance, and encouragement for innovation. Hallinger's Instructional Leadership Theory (2003) emphasized that effective school leadership should involve guiding instructional improvement and assisting teachers in using appropriate resources to achieve better learning outcomes. The usage observed showed that such support from leadership had helped teachers to engage with commonly used digital resources. This was supported by the findings of Shogbesan et al. (2024), who reported that administrative support was a significant predictor of secondary school teachers' effectiveness by improving access to instructional resources and improving implementation of innovative teaching practices.

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The high use of Microsoft PowerPoint, Canva, and ChatGPT was based on Bandura's Self-Efficacy Theory (1977), which showed that the teachers had a high level of confidence regarding the use of general and AI-based instructional resources. This implied that teachers were confident in their ability to incorporate technology into their lesson planning and delivery. Conversely, the less frequent use of tools like Gemini, Kahoot, Educaplay, Lumi, Cici, and Wayground revealed that trust levels were dependent on the familiarity, complexity, and ease of use of specific platforms. Teachers were more likely to adopt tools that aligned with their competence and instructional comfort.

The results were consistent with Rogers' Diffusion of Innovations Theory (2003), which describes that the process of adopting an innovation occurs gradually within a social system. Microsoft PowerPoint and Canva were well-established innovations that had already gained widespread acceptance by teachers. ChatGPT was an innovation that was quickly adopted because it was seen as useful in providing instructional support. At the same time, Gemini, Kahoot, Educaplay, Lumi, Cici, and Wayground were in the early to moderate stages of adoption, indicating that these tools were still undergoing the process of diffusion within instructional practice. In terms of the study variables, the extent to which readily available electronic resources were used, especially those that directly supported the delivery of instruction, appeared to be indicative of the degree of administrative support. Teachers' use of new digital resources showed a stronger orientation toward general and AI-powered applications than toward tools for interactive assessment and specialized content development. It implies that teachers favored tools that were directly linked to instruction and efficiency, and that more complex or less familiar platforms were used less frequently.

Trainings and Seminars Attended Related to Digital Tools of the Respondents

The table presented the trainings and seminars attended by the respondents related to digital tools. It showed the frequency and percentage distribution of the respondents based on the types of professional development activities they had participated in.

Table 7. Trainings and Seminars Attended Related to Digital Tools of the Respondents

Trainings and Seminar	f	%
School-Based Training/INSET	20	66.67
Online Webinars/Workshops	8	26.67
SparkeD	1	3.33
Division Training	1	3.33
Total	**30**	**100.00**

Table 7 presents the trainings and seminars attended by the respondents related to digital tools, shown in terms of frequency and percentage distribution. The results indicated that School-Based Training/INSET accounted for the highest proportion at 66.67%, followed by Online Webinars/Workshops at 26.67%. SparkeD and Division Training both recorded the lowest proportion at 3.33% each. These figures showed that teachers' professional development was largely grounded in school-initiated training activities, with comparatively limited participation in external or specialized programs.

A further analysis of the distribution of professional development experiences revealed that most were associated with school-based INSET sessions, which were largely aligned to the immediate instructional needs and

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institutional priorities. The high level of participation in online webinars and workshops suggested that teachers had also engaged with flexible, technology-enabled learning opportunities that facilitated their exposure to emerging digital resources. However, participation in division-level training and specialized programs like SparkeD was very limited, which meant that access to more advanced and structured capacity-building activities in digital instruction was also limited.

In terms of administration, the pattern indicated that school leadership initiatives were the main drivers of teacher training and development. Hallinger's (2003) Instructional Leadership Theory highlighted the significance of school leaders in enhancing the quality of instruction through specific professional development, resource provision, and ongoing support for teachers. In this situation, school-based INSET activities seemed to be the main avenue for improving teachers' digital competence and instructional readiness.

Regarding implications for teacher capability, attendance at training and seminars seemed to be strongly related to confidence in incorporating digital resources into teaching. Mastery experiences and guided practice are crucial in enhancing people's beliefs in their capabilities, according to Bandura's Self-Efficacy Theory (1977). Therefore, teachers who participated in INSET and online webinars were more likely to show increased confidence in the utilization of digital resources, while the lack of access to more advanced training opportunities might have hindered the development of more complex skills within platforms.

In considering the broader pattern of innovation uptake, the pre-eminence of school-based training implied that the adoption of digital resources was predominantly being driven within institutional contexts. Rogers' Diffusion of Innovations Theory (2003) describes how innovations spread through communication channels over time, with exposure and reinforcement. In this case, online webinars helped to disseminate digital practices more broadly. However, the limited scope of division-level and specialized training suggested a slower diffusion of more advanced instructional technologies.

Finally, this pattern of training exposure was consistent with Moorhouse (2023), who found that teachers' continued use of digital technologies is very much related to their prior experience of technology-rich learning environments, particularly after periods of online teaching. This indicated that continuous exposure through training and practice was critical for teachers to sustain and enhance the integration of digital resources in classroom instruction. Relevant training should be attended regularly by teachers for the purpose of updating their knowledge, exploring new applications, and developing practical strategies for the application of digital resources to various instructional needs. Such ongoing learning could help teachers move beyond basic familiarity with technology and develop more intentional and sustained digital teaching practices.

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Extent of Administrative Support Provided to Teachers in the Use of Emerging Digital Tools in Classroom Instruction

The extent of administrative support provided to teachers in the use of emerging digital tools in classroom instruction.

Level of Administrative Support in Terms of Professional Development and Training

The data present the level of administrative support provided through professional development and training related to the use of emerging digital tools.

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Table 8. Level of Administrative Support in Terms of Professional Development and Training

S/N	Indicators	WM	SD	Verbal Description
1	The school administration provides regular training on the use of emerging digital tools.	2.93	0.64	Supportive
2	Professional development activities on digital tools are relevant and responsive to teachers' instructional needs.	3.20	0.55	Supportive
3	The school administration provides opportunities for teachers to attend training related to emerging digital tools.	3.05	0.61	Supportive
4	The school administration supports teachers in participating in professional development activities on digital technology.	3.12	0.58	Supportive
Aggregate Mean		**3.08**		**Supportive**
Aggregate Standard Deviation			**0.60**	
Legend: 3.25–4.00 – Very Supportive; 2.50–3.24 – Supportive; 1.75–2.49 – Slightly Supportive; 1.00–1.74 – Not Supportive.				

Table 8 displayed the level of administrative support in terms of professional development and training. The findings revealed an aggregate mean of 3.08 with an aggregate standard deviation of 0.60, which was verbally described as Supportive. Among the indicators, the highest weighted mean was obtained by the statement that professional development activities on digital tools were relevant and responsive to teachers' instructional needs, which obtained a weighted mean of 3.20 and a standard deviation of 0.55. This was followed by the administration's support for teachers' participation in professional development activities on digital technology, which obtained a weighted mean of 3.12 and a standard deviation of 0.58. The provision of opportunities for teachers to attend training related to emerging digital tools obtained a weighted mean of 3.05 and a standard deviation of 0.61, while the provision of regular training on the use of emerging digital tools obtained the lowest weighted mean of 2.93 and a standard deviation of 0.64. All indicators were verbally described as Supportive.

The results showed that the school administration offered professional development opportunities that were generally relevant to teachers' instructional needs and supportive of digital technology integration. The highest rating was given to the relevance and responsiveness of the professional development activities, indicating that the training was, in general, relevant to teachers' classroom needs. The rating for administrative support for participation in professional development activities also indicated that teachers had the opportunity to participate in learning activities related to digital technology. However, the comparatively low rating for regular provision of training showed that the frequency or continuity of training on technology use could still have been improved. What this implied was that there was administrative support for professional development, but ongoing and regularly scheduled training could have furthered teachers' capacity to use the emerging digital resources in classroom instruction.

Standard deviations ranged from 0.55 to 0.64, suggesting relatively consistent responding across participants. The least variability was recorded for relevance and responsiveness of professional development activities with a standard deviation of 0.55, while the highest variability was recorded for regular provision of training with a

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standard deviation of 0.64. This variation suggests that teachers had slightly different experiences of training opportunities, but their responses were still in the Supportive range.

The findings were consistent with Hallinger's Instructional Leadership Theory (2003), which emphasized the role of school leaders in facilitating instructional improvement through professional development and teacher support. The findings also aligned with Alenezi (2023), who emphasized the significance of ongoing professional development in improving teachers' preparedness to utilize digital technologies in teaching. Findings thus showed that administrative support for professional development and training was evident and generally responsive to teachers' needs, although increased regularity and continuity of training could have further enhanced the effective use of emerging digital resources in classroom instruction.

Level of Administrative Support in Terms of Technical and Resource Support

The findings show the extent of administrative support in providing digital resources, technical assistance, and access to necessary platforms for instruction.

Table 9. Level of Administrative Support in Terms of Technical and Resource Support

S/N	Indicators	WM	SD	Verbal Description
5	The school provides adequate digital resources such as devices, internet access, and software to support instruction.	2.23	0.77	Slightly Supportive
6	Technical assistance is readily available when teachers encounter difficulties in using digital tools.	2.43	0.82	Slightly Supportive
7	The school provides access to digital platforms and applications needed for classroom instruction.	2.31	0.70	Slightly Supportive
8	The school provides timely technical support when digital resources or applications encounter problems.	2.38	0.75	Slightly Supportive
Aggregate Mean		**2.34**		**Slightly Supportive**
Aggregate Standard Deviation			**0.76**	
Legend: 3.25–4.00 – Very Supportive; 2.50–3.24 – Supportive; 1.75–2.49 – Slightly Supportive; 1.00–1.74 – Not Supportive.				

Table 9 displayed the level of administrative support in terms of technical and resource support. The findings revealed an aggregate mean of 2.34 with an aggregate standard deviation of 0.76, which was verbally described as Slightly Supportive. Among the indicators, technical assistance being readily available when teachers encountered difficulties in using digital tools obtained the highest weighted mean of 2.43 and a standard deviation of 0.82. This was followed by the provision of timely technical support when digital resources or applications encountered problems, which obtained a weighted mean of 2.38 and a standard deviation of 0.75. The provision of access to digital platforms and applications needed for classroom instruction obtained a weighted mean of 2.31 and a standard deviation of 0.70, while the provision of adequate digital resources such as devices, internet access, and software to support instruction obtained the lowest weighted mean of 2.23 and a standard deviation of 0.77. All indicators were verbally described as Slightly Supportive.

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The results indicated that administrative support in terms of technical and resource support was limited. The highest rating was recorded for the availability of technical assistance when teachers encountered difficulties in using digital tools, suggesting that some form of assistance was accessible when technical problems arose. Similarly, the rating for timely technical support indicated that assistance was provided when digital resources or applications experienced problems. However, these forms of support were still within the Slightly Supportive range, indicating that technical assistance may not have been consistently available or sufficient to address teachers' needs.

The relatively low rating for the provision of adequate digital resources indicated that access to devices, internet connectivity, and software had been a concern. The provision of access to digital platforms and applications also received a Slightly Supportive rating, suggesting that teachers may have experienced limitations in accessing the digital platforms and applications needed for classroom instruction. These findings indicated that limitations in both physical resources and technical assistance may have affected teachers' ability to use emerging digital tools consistently and effectively in their instructional practices.

This suggested that teachers may have had differing experiences regarding the accessibility of technical assistance. The lowest variability was recorded for access to digital platforms and applications, with a standard deviation of 0.70, indicating relatively more consistent perceptions among the respondents.

The findings were consistent with Rogers' Diffusion of Innovations Theory (2003), which emphasized that the adoption and implementation of innovations were influenced by the conditions and resources available to support their use. The results also supported Almufarreh and Arshad (2023), who emphasized the importance of institutional readiness and adequate infrastructure in facilitating the effective integration of emerging technologies in education. The findings therefore indicated that technical and resource support had been an area that required greater administrative attention, particularly in ensuring adequate digital resources, reliable access to platforms and applications, and timely technical assistance for teachers.

The findings further suggested that technical and resource support was not limited to the availability of physical equipment but also involved the reliability, accessibility, and usability of digital infrastructure within the school. Teachers required functional devices, stable internet connectivity, accessible platforms and applications, and responsive assistance when technical difficulties occurred. When these conditions were inconsistent, teachers could experience interruptions in lesson preparation, delivery, and technology-supported activities.

Level of Administrative Support in Terms of Instructional Leadership and Monitoring

The data describe the level of administrative guidance, monitoring, and feedback concerning teachers' use of emerging digital tools in classroom instruction.

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Table 10. Level of Administrative Support in Terms of Instructional Leadership and Monitoring

S/N	Indicators	WM	SD	Verbal Description
9	School administrators provide clear guidance on the integration of digital tools in classroom instruction.	2.47	0.78	Slightly Supportive
10	Administrators monitor and support teachers in the use of digital tools.	2.57	0.86	Supportive
11	School administrators provide guidance on selecting appropriate digital tools for instructional purposes.	2.68	0.72	Supportive
12	Administrators provide feedback on teachers' use of digital tools in classroom instruction.	2.60	0.80	Supportive
Aggregate Mean		**2.58**		**Supportive**
Aggregate Standard Deviation			**0.79**	
Legend: 3.25–4.00 – Very Supportive; 2.50–3.24 – Supportive; 1.75–2.49 – Slightly Supportive; 1.00–1.74 – Not Supportive.				

Table 10 displayed the level of administrative support in terms of instructional leadership and monitoring. The findings revealed an aggregate mean of 2.58 with an aggregate standard deviation of 0.79, which was verbally described as Supportive. Among the indicators, the highest weighted mean was obtained by the statement that school administrators provided guidance on selecting appropriate digital tools for instructional purposes, which obtained a weighted mean of 2.68 and a standard deviation of 0.72. This was followed by the provision of feedback on teachers' use of digital tools in classroom instruction, which obtained a weighted mean of 2.60 and a standard deviation of 0.80. The monitoring and support of teachers in the use of digital tools obtained a weighted mean of 2.57 and a standard deviation of 0.86, while the provision of clear guidance on the integration of digital tools in classroom instruction obtained the lowest weighted mean of 2.47 and a standard deviation of 0.78. The latter was verbally described as Slightly Supportive, while the other indicators were described as Supportive.

The results revealed that administrative guidance and monitoring were present, but differed in specific areas of instructional technology integration. The highest rating for guidance in choosing suitable digital resources suggested that administrators gave some direction to teachers in identifying technologies appropriate to instructional purposes. Similarly, the feedback and monitoring scores suggested that administrators were involved in observing and supporting teachers' use of digital resources. These findings suggested that instructional leadership had been evident through guidance, monitoring, and feedback, but the level of support had not been consistently strong across all areas.

The lowest rating, in the Slightly Supportive range, was for giving clear guidance on how to integrate digital resources into classroom instruction. Thus, teachers may have needed more explicit and consistent guidance on how digital resources could be incorporated into real-world teaching practices. Although administrators monitored and supported teachers and provided feedback, the lower rating for clear instructional guidance indicates that more follow-through may have been needed to translate administrative direction into consistent classroom implementation.

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Standard deviations were between 0.72 and 0.86, indicating some variation in the respondents' perceptions of instructional leadership and monitoring. The greatest variability was found in the monitoring and support of teachers in the use of digital resources, with a standard deviation of 0.86, which indicates that teachers had different experiences in terms of the level of administrative monitoring and support. The smallest variation was in the guidance for selecting appropriate digital instruments, with a standard deviation of 0.72, indicating relatively more consistent responses for this aspect.

The results were in agreement with Hallinger's Instructional Leadership Theory (2003), which emphasized that effective instructional leadership consisted of providing direction, monitoring instructional practices, coordinating instructional activities, and supporting teachers to accomplish stated instructional goals. The results indicated that instructional leadership played an important role in creating conditions that enabled teachers to improve their instructional practices and make purposeful use of available digital resources. This was also supported by Zhang and Zhang (2024), who underlined the importance of instructional leadership in gaining the maximum educational benefits from digital and AI tools through persistent guidance, proper monitoring, and steady support.

Level of Administrative Support in Terms of Encouragement and Motivation

The results reflect the extent to which school administration encourages and motivates teachers to use and improve their application of emerging digital tools.

Table 11. Level of Administrative Support in Terms of Encouragement and Motivation

S/N	Indicators	WM	SD	Verbal Description
13	The school administration encourages teachers to use digital tools in teaching.	3.07	0.64	Supportive
14	Teachers' efforts in using digital tools are recognized by school leaders.	2.93	0.78	Supportive
15	School administrators encourage teachers to explore new digital tools that may enhance classroom instruction.	3.13	0.60	Supportive
16	School leaders motivate teachers to improve their skills in using digital tools for instruction.	3.00	0.69	Supportive
Aggregate Mean		**3.03**		**Supportive**
Aggregate Standard Deviation			**0.68**	
Legend: 3.25–4.00 – Very Supportive; 2.50–3.24 – Supportive; 1.75–2.49 – Slightly Supportive; 1.00–1.74 – Not Supportive.				

Table 11 displayed the level of administrative support in terms of encouragement and motivation. The aggregate mean of 3.03 and aggregate standard deviation of 0.68 showed that the level of support was Supportive. The highest rating was recorded for the statement that school administrators encouraged teachers to explore new digital tools that might enhance classroom instruction, which obtained a weighted mean of 3.13 and a standard deviation of 0.60. The administration's encouragement for teachers to use digital tools in teaching followed, with a weighted mean of 3.07 and a standard deviation of 0.64. Meanwhile, motivating teachers to improve their skills in using digital tools for instruction obtained a weighted mean of 3.00 and a standard deviation of 0.69. The lowest rating

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was obtained by the recognition of teachers' efforts in using digital tools, with a weighted mean of 2.93 and a standard deviation of 0.78. Despite having the lowest rating, this indicator remained within the Supportive range.

The response pattern indicated that administrative encouragement has played a greater role in stimulating teachers' willingness to explore and use digital resources than in recognizing their technology-related efforts. The most common response was that school leaders had prompted teachers to consider new digital applications that would enhance classroom instruction. The rating for direct encouragement to use digital resources likewise indicated that technology integration had been supported as part of teachers' instructional practices. The rating for improving teachers' digital skills also suggested that school leaders had encouraged teachers to further develop their technology-related skills.

The recognition of teachers' efforts, indicated by the relatively lower rating, appeared to be less salient than other types of motivational support. This distinction mattered because encouragement to use technology and recognition of actual efforts represented different aspects of administrative motivation. While teachers were encouraged to use digital resources, a more explicit recognition of their efforts might have given them another reason to keep up these practices.

The standard deviations ranged from .60 to .78, suggesting that responses were relatively close across the four indicators. The standard deviation of 0.60 for encouragement to explore new digital resources showed the most consistency in teachers' responses. The standard deviation of 0.78 for recognition of teachers' efforts showed more variation in their experiences.

The results showed that the prompt for digital exploration had been more uniformly experienced, whereas the recognition practices might have differed between teachers. This finding could be explained by Bandura's (1977) Self-Efficacy Theory, which recognized encouragement and social feedback as factors that could influence people's confidence to perform specific tasks. As for the current findings, administrative support may have influenced teachers' confidence in experimenting and enhancing their use of digital resources.

This finding also corroborates Khlaif et al. (2023), who emphasized the significance of motivational support in enabling teachers' engagement with emerging technologies and helping them overcome technology-related challenges. The findings revealed that encouragement and motivation added a supportive dimension to administrative support, particularly in promoting teachers' willingness to explore emerging digital tools and develop relevant technological skills. However, the recognition of teachers' efforts had been comparatively less visible, suggesting that while encouragement was present, opportunities to formally acknowledge and affirm teachers' initiatives in technology integration could still be strengthened. Such recognition may further encourage teachers to sustain their efforts and become more confident in experimenting with and applying emerging technologies in their instructional practices.

Level of Administrative Support in Terms of Policies, Collaboration, and Technology Integration

The data present the level of administrative support associated with policies, teacher collaboration, and the integration of emerging digital tools into instructional practices.

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Table 12. Level of Administrative Support in Terms of Policies, Collaboration, and Technology Integration

S/N	Indicators	WM	SD	Verbal Description
17	The school has clear policies regarding the use of digital tools in instruction.	2.53	0.78	Supportive
18	School leadership promotes collaboration among teachers in using digital tools.	2.87	0.73	Supportive
19	I feel adequately supported by the administration in improving my digital teaching skills.	2.63	0.81	Supportive
20	The school promotes technology integration as part of its instructional direction.	3.00	0.64	Supportive
Aggregate Mean		**2.76**		**Supportive**
Aggregate Standard Deviation			**0.74**	
Legend: 3.25–4.00 – Very Supportive; 2.50–3.24 – Supportive; 1.75–2.49 – Slightly Supportive; 1.00–1.74 – Not Supportive.				

Table 12 presented the level of administrative support in terms of school policies, collaboration, and technology integration. The aggregate mean of 2.76 and aggregate standard deviation of 0.74 indicated that the respondents perceived the administrative support as Supportive. The highest rating was recorded for the school's promotion of technology integration as part of its instructional direction, which obtained a weighted mean of 3.00 and a standard deviation of 0.64. The promotion of collaboration among teachers in using digital tools followed, with a weighted mean of 2.87 and a standard deviation of 0.73. Meanwhile, teachers' perception of receiving adequate administrative support in improving their digital teaching skills obtained a weighted mean of 2.63 and a standard deviation of 0.81. The lowest rating was obtained for the presence of clear school policies regarding the use of digital tools in instruction, with a weighted mean of 2.53 and a standard deviation of 0.78.

The findings were suggestive of an administrative climate in which technology integration was seen as part of the school's instructional direction. Technology integration had a rating of 3.00, indicating that the use of electronic devices had been integrated into the larger direction of instruction. The rating of teacher collaboration also showed that school leadership had fostered teacher collaboration in the use of digital resources. This could have offered opportunities for teachers to share experiences, strategies, and practical approaches to technology-supported teaching.

A different pattern was noted concerning policy clarity and the development of individual skills. Although still Supportive, the weighted mean of 2.53 for clear policies suggested that teachers may have had less consistent experiences with clearly defined expectations around digital tool use. Similarly, the weighted mean of 2.63 for support in improving digital teaching skills indicated the presence of administrative support in skills development, but it may not have been experienced equally by all teachers. These results indicated a distinction between having technology integration as an instructional direction and offering sufficient policies and developmental support to guide its day-to-day implementation.

The standard deviations gave more insight into the responses. The highest consistency among teachers' perceptions was observed in promoting technology integration, with a standard deviation of 0.64. In contrast, the greatest variation was found in the support for improving digital teaching skills, with a standard deviation of 0.81. The latter suggested more significant differences among respondents in access to or experiences of administrative

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assistance for digital skills development. However, the overall aggregate standard deviation of 0.74 indicated that the level of agreement among the indicators was moderate in general.

These findings were also supported by Rogers' Diffusion of Innovations Theory (2003), which highlighted the significance of organizational structures, communication, and institutional conditions to support the adoption of innovations.

The results also confirmed the findings of Almufarreh and Arshad (2023), who pointed out the significance of institutional readiness and organizational support in sustaining emerging educational technologies. In this case, the results indicated that administrative direction toward technology integration and teacher collaboration had been established, but that more explicit policies and consistent support for digital skills development could have provided teachers with better guidance on how to translate this direction into classroom practice. Clearer institutional expectations may also have helped teachers develop more consistent approaches to selecting and applying digital tools according to instructional needs. In addition, sustained organizational support could have strengthened collaboration among teachers and encouraged the sharing of effective practices in technology integration.

Summary of Level of Administrative Support in the Use of Emerging Digital Tools

The summary presents the level of administrative support across the identified dimensions concerning the use of emerging digital tools.

Table 13. Summary of the Level of Administrative Support in the Use of Emerging Digital Tools

Dimensions of Administrative Support	Aggregate Mean	Aggregate SD	Verbal Description
Professional Development and Training	3.08	0.60	Supportive
Technical and Resource Support	2.34	0.76	Slightly Supportive
Instructional Leadership and Monitoring	2.58	0.79	Supportive
Encouragement and Motivation	3.03	0.68	Supportive
Policies, Collaboration, and Technology Integration	2.76	0.74	Supportive
Legend: 3.25–4.00 – Very Supportive; 2.50–3.24 – Supportive; 1.75–2.49 – Slightly Supportive; 1.00–1.74 – Not Supportive.			

Table 13 summarizes the level of administrative support in the use of emerging digital tools across five dimensions. The results showed that administrative support had been generally Supportive, although the extent of support differed across the dimensions. Professional Development and Training received the strongest level of support, followed closely by Encouragement and Motivation. Policies, Collaboration, and Technology Integration, as well as Instructional Leadership and Monitoring, were also within the Supportive range. In contrast, Technical and Resource Support was the only dimension that fell within the Slightly Supportive range.

The pattern of findings indicates that the human and organizational aspects of technology integration were more pronounced in administrative support than in the provision of material and technical conditions. The higher support for professional development suggested that teachers had been provided with opportunities to develop their knowledge and skills in the use of emerging digital resources. The results for encouragement and motivation

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also indicated that school leaders had created an environment that encouraged teachers to explore, use and improve digital practices. These types of support may have contributed to teachers' willingness to engage with emerging technologies in instruction.

Findings on policies, collaboration and technology integration, as well as instructional leadership and monitoring indicated that administrative direction had been established in the school. Teachers had received guidance, had opportunities for collaboration, and leadership efforts had been made to embed digital resources into classroom instruction. But the bottom level in technical and resource support pointed to a more concrete challenge. Access to devices, connectivity, digital platforms, software, and timely technical assistance seemed to be less adequate than the professional and motivational support offered by school administration.

The pattern was significant because teachers' willingness and readiness to use new electronic tools could not be fully realized in classroom practice without the necessary technological resources and technical support. Professional development could increase teachers' capacity and encouragement could increase their willingness to use technology, but sustainable implementation also required the availability of the needed infrastructure and technical support. Therefore, the findings suggested that there was a gap between administrative attempts to develop and motivate teachers and the material conditions required to enable technology integration.

The findings were consistent with Hallinger's Instructional Leadership Theory (2003), especially in recognizing the role of school leadership in establishing instructional direction, supporting teacher development, and monitoring teaching practices. The results also aligned with Bandura's Self-Efficacy Theory (1977), which suggests that encouragement, professional learning, and supportive leadership could help teachers feel confident to perform the technology-related instructional tasks. Rogers' Diffusion of Innovations Theory (2003) similarly pointed out that the adoption of innovations was affected by communication, organizational conditions, and supporting structures. The findings were also consistent with Almufarreh and Arshad (2023), who emphasized institutional readiness and infrastructure as important conditions for the sustainable integration of emerging educational technologies. They were also consistent with Khlaif et al. (2023), who emphasized the importance of organizational and motivational support in promoting teachers' engagement with emerging technologies.

To summarize, the results showed that administrative support was established in several dimensions, namely in professional development, encouragement, leadership, and organizational direction.

Level of Teachers' Use of Emerging Digital Tools in Classroom Instruction

The level of teachers' use of emerging digital tools in classroom instruction is presented in terms of the frequency with which teachers utilize digital technologies to support teaching and learning activities.

Teachers' Use of Emerging Digital Tools in Terms of AI-Powered Instructional Tools

The data show the extent to which teachers use AI-powered instructional tools for lesson planning, instructional materials, and addressing learning needs

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Table 14. Teachers' Use of Emerging Digital Tools in Terms of AI-Powered Instructional Tools

S/N	Indicators	WM	SD	Verbal Description
1	I use AI-powered tools such as ChatGPT, CiCi, or Gemini to generate lesson ideas and instructional materials.	2.67	0.66	Often
2	I use AI-powered tools to support differentiated instruction and student learning needs.	2.63	0.72	Often
3	I use AI tools to improve lesson planning and classroom activities.	2.73	0.64	Often
Aggregate Mean		**2.68**		**Often**
Aggregate Standard Deviation			**0.67**	
Legend: 3.25–4.00 – Always; 2.50–3.24 – Often; 1.75–2.49 – Sometimes; 1.00–1.74 – Never.				

Table 14 displays the teachers' use of emerging digital tools in terms of AI-Powered Instructional Tools. The table presented the weighted mean, standard deviation, and verbal description of three indicators, namely the use of AI-powered tools such as ChatGPT, CiCi, or Gemini to generate lesson ideas and instructional materials, the use of AI-powered tools to support differentiated instruction and student learning needs, and the use of AI tools to improve lesson planning and classroom activities.

The findings showed that teachers often used AI-powered instructional tools, as reflected in the aggregate mean of 2.68 and aggregate standard deviation of 0.67. Among the indicators, the use of AI tools to improve lesson planning and classroom activities obtained the highest weighted mean of 2.73 with a standard deviation of 0.64. This was followed by the use of AI-powered tools to generate lesson ideas and instructional materials, which obtained a weighted mean of 2.67 and a standard deviation of 0.66. The use of AI-powered tools to support differentiated instruction and student learning needs obtained a weighted mean of 2.63 and a standard deviation of 0.72. All three indicators were verbally described as Often.

Results showed that AI-powered tools had been integrated into different facets of teachers' instructional preparation. The relatively high frequency of use of the AI applications for lesson planning and classroom activities suggests that teachers found the applications useful to organize instructional content and develop activities. Moreover, the use of AI in the generation of lesson ideas and instructional materials demonstrated the role of these technologies as supplementary sources for instructional planning. At the same time, the use of AI to support differentiated instruction showed that teachers had also applied these tools in considering the varied learning needs of students.

The relatively low use of AI for differentiated instruction suggests that applying AI to meet the needs of diverse learners may have required more instructional judgment than applying AI for general lesson preparation. Teachers may have had to think about how appropriate AI-generated suggestions are for individual learners, the demands of the curriculum, and the situation of the classroom. This difference suggested teachers' use of AI had progressed from convenience to professional decisions about how content generated could be adapted for real instruction. This implied that teachers had similar experiences in using AI for lesson planning and instructional materials, whereas there could have been more variation in applying AI to individualized or differentiated learning needs.

The results were consistent with Rogers' Diffusion of Innovations Theory (2003), which described that the adoption of an innovation was influenced by its perceived usefulness and compatibility with existing practices.

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AI-powered tools seemed to be embedded in existing instructional routines, offering concrete support for planning and preparing classroom activities. Another useful lens was Bandura's Self-Efficacy Theory (1977) as it was possible that continued use of digital resources may have led to an increase in teachers' confidence in carrying out technology-supported instructional tasks. The results were also related to Singh and Hiran (2022) who stressed the importance of support and teacher engagement in the use of emerging technologies.

Teachers' Use of Emerging Digital Tools in Terms of Interactive Assessment and Engagement Tools

The findings describe teachers' use of interactive digital tools in conducting assessments and promoting student engagement in learning activities

Table 15. Teachers' Use of Emerging Digital Tools in Terms of Interactive Assessment and Engagement Tools

S/N	Indicators	WM	SD	Verbal Description
4	I use Kahoot, Educaplay, or Wayground and other tools for quizzes and classroom assessments.	1.93	0.78	Sometimes
5	I use digital assessment tools to improve student engagement during lessons.	2.37	0.56	Sometimes
6	I encourage students to participate in digital learning activities using interactive tools.	2.57	0.86	Often
Aggregate Mean		**2.29**		**Sometimes**
Aggregate Standard Deviation			**0.74**	
Legend: 3.25–4.00 – Always; 2.50–3.24 – Often; 1.75–2.49 – Sometimes; 1.00–1.74 – Never.				

Table 15 displays the teachers' use of emerging digital tools in terms of Interactive Assessment and Engagement Tools. The table presented the weighted mean, standard deviation, and verbal description of three indicators, namely the use of Kahoot, Educaplay, Wayground, and other tools for quizzes and classroom assessments, the use of digital assessment tools to improve student engagement during lessons, and the encouragement of students to participate in digital learning activities through interactive tools. The aggregate results were also presented to describe the extent to which teachers used interactive assessment and engagement tools in classroom instruction.

The pattern of responses indicated that the use of interactive assessment and engagement tools differed by the indicators. The use of Kahoot, Educaplay, Wayground, and the like for quizzes and classroom assessments was described as sometimes, with a weighted mean of 1.93 and a standard deviation of 0.78. The mean score for the use of digital assessment tools to improve student engagement was 2.37 with a standard deviation of 0.56, or sometimes. In contrast, the use of interactive tools to stimulate students to engage in digital learning activities gained a weighted mean of 2.57 with a standard deviation of 0.86, described as Often. The overall mean was 2.29, and the standard deviation was 0.74, which showed that the teachers used interactive assessment and engagement tools sometimes.

The results indicated a stronger tendency to use the interactive tools as a way to promote students' participation than digital quizzes and assessments. This pattern suggests that teachers were utilizing interactive technology not just for assessing learning but also for providing opportunities for learner involvement during classroom activities. The relatively greater variability in responses for student participation also pointed to variation in the consistency with which teachers incorporated such tools in their instructional practices.

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This pattern could be explained through Rogers' Diffusion of Innovations Theory (2003), which describes the adoption of an innovation as a process wherein users gradually recognize the usefulness of the innovation and integrate it into established practices. Teachers need to become familiar with the features, instructional uses, and classroom management considerations of interactive assessment platforms. Thus, the results indicate that the application of these tools was still maturing, particularly in the area of evaluation.

The findings also referred to Bandura's Social Cognitive Theory (1977), which emphasizes the interaction of personal factors, behavior, and environmental conditions in learning and behavior. One way the teachers demonstrated the behavioral and environmental aspects of technology-supported instruction was by encouraging students to participate in interactive digital activities. Further, Khlaif et al. (2023) underlined the significance of support and teacher preparedness in maintaining the meaningful use of technology. Ongoing administrative support, access to appropriate platforms, and opportunities for teachers to develop practical digital assessment skills could therefore help to promote more consistent integration of interactive tools into classroom instruction.

The findings also indicated that teachers' perception of the usefulness of interactive digital resources and their support in the classroom environment influenced their use. Effective applications, interactive platforms to practice on, and opportunities to share strategies with colleagues could bolster teachers' confidence in using technology for assessment and engagement activities. In this respect, collaboration and practical professional learning in schools could support teachers in developing more purposeful ways of using interactive tools to support participation in learning and assessment in the classroom.

Teachers' Use of Emerging Digital Tools in Terms of Digital Content Creation Tools

The data indicate the extent to which teachers utilize digital tools to create instructional content, multimedia resources, and classroom materials.

Table 16. Teachers' Use of Emerging Digital Tools in Terms of Digital Content Creation Tools

S/N	Indicators	WM	SD	Verbal Description
7	I use tools such as Lumi to create instructional content and learning resources.	1.80	0.85	Sometimes
8	I integrate multimedia resources such as videos, visuals, and interactive content in teaching.	3.30	0.65	Always
9	I use digital tools to prepare instructional materials for classroom instruction.	3.13	0.68	Often
Aggregate Mean		**2.74**		**Often**
Aggregate Standard Deviation			**0.73**	
Legend: 3.25–4.00 – Always; 2.50–3.24 – Often; 1.75–2.49 – Sometimes; 1.00–1.74 – Never.				

Table 16 presents the teachers' use of emerging digital tools in terms of Digital Content Creation Tools. The table showed the weighted mean, standard deviation, and verbal description for three indicators, namely the use of tools such as Lumi to create instructional content and learning resources, the integration of multimedia resources such as videos, visuals, and interactive content in teaching, and the use of digital tools to prepare instructional materials for classroom instruction. The aggregate results were also presented to describe the extent of teachers' use of digital content creation tools.

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The responses revealed differences in the ways teachers used digital tools for content creation. The use of tools such as Lumi for creating instructional content and learning resources obtained a weighted mean of 1.80 with a standard deviation of 0.85, described as Sometimes. In contrast, the integration of multimedia resources such as videos, visuals, and interactive content recorded a weighted mean of 3.30 and a standard deviation of 0.65, described as Always. The preparation of instructional materials through digital tools obtained a weighted mean of 3.13 with a standard deviation of 0.68, described as Often. The aggregate mean of 2.74 and standard deviation of 0.73 indicated that teachers used digital content creation tools often.

An interesting aspect of the findings was the differentiation between specialized digital content creation platforms and more familiar multimedia resources. Use of Lumi was less frequent, while the teachers appeared to rely more consistently on videos, visuals, interactive content, and digital resources for preparing instructional material. This pattern indicated that digital content creation was integrated into the preparation and delivery of classroom activities, but the adoption of some emerging platforms seemed to be less well established.

The findings were in line with Rogers' Diffusion of Innovations Theory (2003), which explained the adoption of technology as a gradual process influenced by users' perceptions of an innovation's usefulness, compatibility, and ease of use. Teachers might have used familiar multimedia resources and general electronic tools more often because they were already familiar with them, while specialized platforms like Lumi required more familiarity and adaptation. Thus, the variation in the indicators showed different degrees of integration in digital content creation technologies.

The findings were also in accordance with Bandura's Social Cognitive Theory (1977), especially the environmental conditions and personal experience in determining technology-related behavior. Teachers with usable digital resources and opportunities to use them in instruction could feel more confident about technology integration in content preparation. The results in this area were consistent with Crompton et al. (2022), who highlighted the significance of teacher preparedness and conducive environments in sustaining purposeful use of educational technology. Continuous professional development around developing practical content and providing opportunities to play with new platforms might assist teachers to move beyond familiar multimedia applications in their use of digital resources.

The findings also indicated that the interaction between teachers' experiences and their instructional environment support affected the integration of digital content creation tools. Frequent use of digital platforms, opportunities to experiment with various content creation applications, and availability of technical assistance may increase teachers' familiarity with emerging technologies and their motivation to employ them in various classroom settings. Thus, professional development can be more practice-oriented, with teachers designing instructional materials with both familiar and new platforms, supporting a gradual development of their digital teaching practices.

Teachers' Use of Emerging Digital Tools in Terms of General Utilization of Digital Tools

The results present teachers' general use of emerging digital tools in supporting classroom instruction and student learning.

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Table 17. Teachers' Use of Emerging Digital Tools in Terms of General Utilization of Digital Tools

S/N	Indicators	WM	SD	Verbal Description
10	I feel confident in using emerging digital tools in teaching.	2.93	0.69	Often
11	I regularly explore new digital tools for instructional purposes.	2.73	0.64	Often
12	I use digital tools to improve student participation and learning outcomes.	2.87	0.82	Often
Aggregate Mean		**2.84**		**Often**
Aggregate Standard Deviation			**0.72**	
Legend: 3.25–4.00 – Always; 2.50–3.24 – Often; 1.75–2.49 – Sometimes; 1.00–1.74 – Never.				

Table 17 presents the teachers' use of emerging digital tools in terms of General Utilization of Digital Tools. The table showed the weighted mean, standard deviation, and verbal description for three indicators, namely teachers' confidence in using emerging digital tools in teaching, their regular exploration of new digital tools for instructional purposes, and their use of digital tools to improve student participation and learning outcomes. The aggregate results were also presented to describe the general extent of teachers' utilization of emerging digital tools in classroom instruction.

The responses showed that teachers were generally using emerging digital resources in different facets of their instructional practice. Confidence in using emerging digital devices elicited a weighted mean of 2.93 and a standard deviation of 0.69, described as Often. Often. Regular exploration of new digital instruments had a weighted mean of 2.73 and a standard deviation of 0.64. Descriptive statistics on the use of online resources in enhancing student participation and learning outcomes were Often, with a weighted mean of 2.87 and a standard deviation of 0.82. The mean of 2.84 and standard deviation of 0.72 indicated that teachers' use of emerging digital resources was often.

The pattern of responses indicated that digital technology had become a recurring element of teachers' instructional practices, especially when it came to confidence, exploration, and learner engagement. The similarities in the verbal descriptions across the indicators indicated that teachers did not restrict the use of technology to one instructional purpose. Instead, new digital resources were integrated into different facets of classroom practice, including preparing instruction, activities in the classroom, and attempts to boost student participation and learning.

This pattern can be understood through Rogers' Diffusion of Innovations Theory (2003), which views the adoption of technology as a process in which users gradually get familiar with and incorporate innovations into existing practices. The frequent use of emerging digital resources suggested that teachers had moved beyond sporadic exposure and were integrating technology into routine teaching activities. However, the lack of an Always rating across the indicators indicated the infusion of new tools had not yet reached a consistent level of intensity across instructional practices.

The findings were also in agreement with Bandura's Social Cognitive Theory (1977), which emphasized the interaction of personal beliefs, behavior, and environmental influences. Teachers' confidence in utilizing digital tools was associated with their openness to exploring and using technology in classroom instruction. The findings also support Al-Mamary (2022), who pointed out the significance of teacher readiness, supportive conditions, and

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sustained opportunities for technology use in the integration of educational technology. Administrative support, professional development, and access to appropriate digital resources remained relevant for sustaining teachers' continued use of emerging digital instruments in this context.

The results also showed that not only the individual self-efficacy of teachers influenced their use of technology, but also the opportunities and conditions in the school environment. When teachers have opportunities to practice, collaborate, and receive guidance in using emerging digital resources, these experiences can build their capacity to integrate technology into a variety of instructional activities. This context was especially important in motivating teachers to go beyond basic or familiar uses of digital resources toward more varied uses such as interactive assessment and learner engagement. Therefore, continued institutional support was still crucial to help teachers develop more consistent and purposeful technology integration.

Summary of Teachers' Use of Emerging Digital Tools

The summary provides an overview of teachers' use of emerging digital tools across the identified areas of instructional utilization.

Table 18. Summary of Teachers' Use of Emerging Digital Tools

Indicators	WM	SD	Verbal Description
AI-Powered Instructional Tools	2.68	0.67	Often
Interactive Assessment and Engagement Tools	2.29	0.74	Sometimes
Digital Content Creation Tools	2.74	0.73	Often
General Utilization of Digital Tools	2.84	0.72	Often
Grand Aggregate Mean	**2.64**	**0.71**	**Often**
Legend: 3.25–4.00 – Always; 2.50–3.24 – Often; 1.75–2.49 – Sometimes; 1.00–1.74 – Never.			

Table 18 summarized the teachers' use of emerging digital tools across four dimensions, namely AI-Powered Instructional Tools, Interactive Assessment and Engagement Tools, Digital Content Creation Tools, and General Utilization of Digital Tools. It presented the weighted mean, standard deviation, and verbal description for each dimension, together with the grand aggregate mean and standard deviation. The results showed varying levels of utilization across the different applications of emerging digital technology in classroom instruction.

The responses indicated that General Utilization of Digital Tools obtained the highest weighted mean of 2.84 with a standard deviation of 0.72, described as Often. Digital Content Creation Tools followed with a weighted mean of 2.74 and a standard deviation of 0.73, also described as Often, while AI-Powered Instructional Tools recorded a weighted mean of 2.68 and a standard deviation of 0.67, likewise described as Often. Interactive Assessment and Engagement Tools obtained the lowest weighted mean of 2.29 with a standard deviation of 0.74, described as Sometimes. The grand aggregate mean of 2.64 and standard deviation of 0.71 indicated that teachers used emerging digital tools often.

The pattern of responses indicated that teachers were more consistently using new digital technology for general instructional purposes and content preparation than for interactive assessment and engagement. The lower usage of interactive assessment tools indicated this was an area of nascent technology that was practiced less often than

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other dimensions. The pattern also indicated that teachers integrated digital resources into classroom instruction, but the extent of usage varied with the specific instructional purpose.

The results can be understood using Rogers' Diffusion of Innovations Theory (2003), where the adoption of innovations occurs gradually as users become acquainted with their usefulness and compatibility with existing practices. The variation across the dimensions reflected different levels of integration, with general digital use and content creation being more established levels compared to interactive assessment and engagement. This trend lent support to the idea that teachers were more inclined to adopt technologies that could be easily integrated into their instructional routines than they were to adopt more specialized applications.

The findings were also related to Bandura's Social Cognitive Theory (1977), especially the interaction between teachers' beliefs, behaviors, and instructional environments. The prevalence of digital resources could foster teachers' knowledge and comfort, and opportunities to use technology in varied teaching settings could further mold their technology-related practices. Similarly, Ng et al. (2023) stressed the need for teacher readiness and supportive conditions for the sustainability of educational technology integration.

Test of Relationship Between Administrative Support and Teachers' Use of Emerging Digital Tools

The table presented the test of the relationship between the level of administrative support and teachers' use of emerging digital tools. It showed the correlation coefficient, significance value, and decision indicating the nature and significance of the relationship between the variables.

Table 19. Test of Relationship Between the Level of Administrative Support and Teachers' Use of Emerging Digital Tools

Variables	r-value	Strength of Correlation	p - value	Decision	Remarks
Level of Administrative Support and Use of Emerging Digital Tools	0.54	Moderate Positive	0.002	Reject Ho	Significant
*Significant at $p < 0.05$ (two-tailed).					

Table 19 presents the test of the relationship between the level of administrative support and teachers' use of emerging digital tools. This analysis employed a test of relationship to determine whether a significant association existed between administrative support and the extent of teachers' utilization of digital tools in classroom instruction.

Results revealed a computed r-value of .54, indicating a moderate positive correlation between administrative support and teachers' use of emerging digital resources. The p-value obtained is 0.002, which is less than the significance level defined as 0.05. The p-value was less than 0.05, and so the null hypothesis was rejected in favor of the alternative hypothesis.

These findings confirmed that there was a significant relationship between the level of administrative support and teachers' use of emerging digital resources. Thus, the higher the levels of administrative support, the higher the levels of utilization of digital resources among teachers. In practical terms, teachers are more likely to adopt digital

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technologies in their instructional practices when they receive sufficient professional development, guidance, and encouragement from school leadership.

The significant relationship indicates that administrative support is an important facilitating factor in technology integration in education. When leadership offers structured training, clear direction, and support, teachers feel more confident and are consistent in their use of digital resources for instruction. In contrast, lack of administrative support may demotivate and hinder teachers' readiness to implement emerging technologies in the classroom.

This finding is in line with Hallinger's Instructional Leadership Theory (2003) that states school leadership impacts instructional improvement through guidance, support, and capacity-building initiatives. It also supports the wider view that instructional leadership is important in facilitating technology integration in teaching and learning settings.

Moreover, the result is in agreement with Chounta et al. (2022), who found that teachers generally consider artificial intelligence as a valuable support tool in improving instructional practice, particularly when there is sufficient institutional support. Chiu (2024) also emphasized the revolutionary effect of generative AI on educational practices and policies, and urged robust institutional readiness to harness its advantages in teaching and learning. Likewise, Barrot (2024) argues that tools like ChatGPT have become educational technologies that require proper guidance and support in order for them to be well integrated in the classroom.

Similarly, Bolaños et al. (2023) emphasized the importance of structured support systems and training opportunities for teachers' digital instructional techniques, as these have a direct impact on the development of digital competence at the classroom level. Such support enables teachers to become more confident in applying digital tools and in adapting these technologies to specific instructional requirements. Additionally, Almufarreh and Arshad (2023) emphasized that the successful adoption of emerging technologies in education depends on institutional preparedness, policy support, and continuous professional development, all of which underscore the role of administrative support in promoting technology use among teachers. These perspectives suggest that providing access to digital tools alone may not be sufficient to ensure meaningful technology integration, particularly when teachers require sustained guidance and opportunities to enhance their skills. Thus, administrative support remains an important factor in creating conditions that enable teachers to translate digital resources into purposeful classroom practices.

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CONCLUSIONS AND RECOMMENDATIONS

Summary of Findings

This study employed a descriptive correlational research design to examine the influence of administrative support on teachers' use of emerging digital tools and its implications for classroom instruction at Quiot Elementary School for School Year 2025–2026. The study involved 30 teacher-respondents and focused on describing their demographic profile, determining the extent of administrative support, assessing their use of emerging digital tools, and identifying the significant relationship between the variables. The results of the study served as a basis for the development of a proposed action plan to strengthen instructional practices and technology integration in teaching and learning.

The study utilized survey questionnaires adapted from different validated sources, which were modified to suit the context of the present research. These instruments were used to gather data on administrative support and teachers' use of emerging digital tools. Descriptive and inferential statistical tools were employed in the analysis of data. Frequency and percentage were used to describe the demographic profile of the 30 teacher-respondents in terms of age, gender, educational attainment, teaching experience, grade level currently handled, subject area taught, and exposure to digital tools and related trainings.

Weighted mean and standard deviation were used to determine the extent of administrative support as perceived by the teachers, focusing on professional development and training, technical and resource support, instructional leadership and monitoring, encouragement and motivation, and policy and administrative guidance. The same statistical measures were used to assess the level of teachers' use of emerging digital tools, including AI-powered tools such as ChatGPT, Cici, and Gemini; interactive assessment tools such as Kahoot and Educaplay; digital content creation tools such as Lumi and Wayground; and general utilization of digital tools in instruction.

To determine the relationship between administrative support and teachers' use of emerging digital tools, the Pearson Product-Moment Correlation Coefficient (Pearson r) was applied. All data were systematically organized, analyzed, and interpreted to ensure accurate and meaningful presentation in line with the objectives of the study. The findings of the study provided the basis for crafting an action plan aimed at enhancing administrative support systems and improving the integration of emerging digital tools in classroom instruction at Quiot Elementary School.

The findings of the study presented a concise picture of the 30 teacher-respondents' profile, their administrative support experiences, their use of emerging digital tools, and the relationship between these variables.

Digital tools utilized. Teachers commonly relied on accessible digital platforms in instruction, particularly AI-powered tools for lesson planning and idea generation, as well as presentation software for classroom delivery. This indicated that digital integration was already part of everyday teaching practice. However, the use of interactive assessment tools and specialized applications remained limited, suggesting that these tools were not yet fully embedded in regular instructional and assessment activities.

Profile of the respondents. The respondents were mostly female, with a relatively young to middle-aged workforce. Many had pursued or completed graduate studies, reflecting ongoing professional development. Teaching experience was spread across different levels, with a concentration in mid-career teachers. They handled various grade levels, particularly entry and upper elementary classes. Training exposure was largely school-based, indicating that digital upskilling was mainly driven internally rather than through external programs.

Level of administrative support. Administrative support was generally perceived as positive but uneven. Strong areas included professional development, encouragement, and policy direction, showing active leadership

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involvement in training and motivation. However, technical and resource support was the weakest area, reflecting gaps in infrastructure, digital tools, and technical assistance. Instructional leadership was present but could still be strengthened in terms of consistency and monitoring.

Teachers' use of emerging digital tools. Teachers' use of emerging digital tools was generally frequent, especially for AI-supported instruction, general digital applications, and multimedia integration. Teachers also showed confidence and willingness to explore new tools. However, interactive assessment tools remained the least utilized, indicating partial integration of digital practices across instructional functions.

Relationship between administrative support and teachers' use of emerging digital tools. The relationship analysis showed a significant positive link between administrative support and teachers' use of digital tools. This means that stronger administrative support corresponds with higher levels of digital tool integration in teaching.

Conclusions

The study concluded that administrative support significantly influences teachers' use of emerging digital tools in classroom instruction at Quiot Elementary School. The 30 teacher-respondents showed active but uneven use of digital tools, with stronger use in AI-powered and general applications and limited use of interactive tools. Administrative support was generally supportive, particularly in training, motivation, and policy direction, but weaker in technical and resource assistance.

A significant positive relationship was found between administrative support and teachers' use of digital tools, indicating that stronger support leads to higher levels of technology integration. Overall, improving administrative support-especially in resources and technical assistance can further strengthen effective digital tool use in teaching.

Recommendations

Based on the findings and conclusions of the study, the following recommendations are offered:

Action plan. The implementation of an action plan is strongly recommended as a structured framework to address gaps in technical support, training, and instructional practices, and to strengthen the effective and sustainable use of emerging digital tools in teaching and learning.

Technical and resource support. The school should prioritize improving technical and resource support by providing adequate devices, stable internet, software, and accessible technical assistance to ensure consistent digital integration in instruction.

Interactive assessment tools. It is also recommended to strengthen the use of interactive assessment tools through regular integration of digital platforms for quizzes and engagement activities, along with continuous upskilling on advanced digital applications.

Professional development and instructional monitoring. Lastly, professional development and instructional monitoring should be sustained and enhanced to support consistent implementation of digital integration across all grade levels.

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Output of the Study: Proposed Action Plan to Strengthen Administrative Support and the Use of Emerging Digital Tools

Rationale

The action plan is designed to improve administrative support and enhance teachers' effective use of emerging digital resources in classroom instruction at Quiot Elementary School. It responds to identified needs in technical assistance, professional development, instructional leadership, and classroom technology utilization for sustainable digital transformation of teaching and learning.

The first part of the plan is technical and resource support. The school will prioritize the availability of adequate digital devices, reliable internet connectivity, and appropriate instructional software. A responsive technical assistance mechanism will also be put in place to provide teachers with timely support whenever there are difficulties in the use of digital resources.

The second component focuses on continuous professional development and training. Regular training, workshops, and school-based learning activities will be introduced to improve teachers' skills in using AI-powered tools, interactive assessment platforms, and digital content creation applications. This will help to ensure that teachers are equipped with up-to-date skills that are in line with emerging educational technologies.

The third component is to enhance instructional leadership and monitoring. School leaders will regularly observe classrooms and will have coaching and feedback sessions to ensure that digital resources are used appropriately in instruction. These activities will also help to align teaching practices with school objectives for technology-enhanced learning and to promote greater consistency in implementation across grade levels.

The fourth component is about motivation, policy support, and sustainability. We will create recognition programs for teachers that model innovative uses of digital resources, and strengthen clear policies to guide the use of technology. Collaborative practices among teachers will also be promoted to enable shared learning, exchange of effective practices, and support for continuous improvement in digital teaching strategies.

Objectives of the Action Plan

The action plan aims to:

1. Strengthen teachers' technical skills in using emerging digital tools through regular and practical training sessions.
2. Improve the availability and accessibility of digital resources such as devices, internet connection, and instructional software.
3. Enhance teachers' competency in integrating AI-powered and interactive digital tools in lesson planning and classroom instruction.
4. Establish consistent instructional monitoring and feedback mechanisms to support effective use of digital tools in teaching.
5. Promote sustained teacher engagement and innovation in digital instruction through recognition, collaboration, and support programs.

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Scheme of Implementation

The action plan will be implemented in phases starting with planning and preparation, where priorities will be set, resources will be allocated, and training activities will be organized based on teachers' needs in digital instruction.

This will be followed by capacity building through targeted training and workshops on AI-driven tools, interactive assessment platforms, and digital content creation, supported by technical assistance for teachers during implementation. Then, actual classroom integration will be done, with school leaders providing ongoing instructional supervision, coaching, and feedback to ensure the proper application of digital resources in teaching. Progress will be regularly monitored and evaluated to address challenges and improve implementation strategies using teacher feedback.

Sustainable development will be achieved through ongoing professional development, institutionalization of effective practices, and recognition of teacher innovation in digital instruction.

The proposed action plan is presented in Table 20.

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Table 20. Action Plan on the Level of Administrative Support and Teachers' Use of Emerging Digital Tools in Quiot Elementary School, Cebu City Division

Areas of Concern	Objectives	Strategies	Persons Involved	Budget	Source of Budget	Time Frame	Expected Outcome	Actual Accomplishment	Remarks
Limited technical skills of teachers in using emerging digital tools	Strengthen teachers' practical skills in using emerging digital tools for classroom instruction	Conduct hands-on learning sessions, peer mentoring, demonstration teaching, and school-based sharing sessions focusing on AI tools, digital platforms, and basic troubleshooting	School Head, ICT Coordinator, Master Teachers, Teachers	₱5,000	School MOOE; additional support from DepEd Division Office or external partners, when necessary	First Quarter	Teachers demonstrate improved skills and confidence in using emerging digital tools for instruction		Training materials and minor activity expenses may be charged to available MOOE. Additional funds may be requested from the DepEd Division Office or external partners when the activity requires specialized training or resource persons.
Insufficient availability and accessibility of digital resources	Improve teachers' access to functional devices, reliable internet connectivity, digital platforms, and instructional software	Conduct digital resource mapping, identify priority resource gaps, prepare procurement and resource requests, maximize available school equipment, and coordinate with the DepEd Division Office, LGU, and potential external partners	School Head, ICT Coordinator, Property Custodian, Teachers, LGU Partners, Stakeholders	₱50,000–₱100,000 or as determined through resource assessment	School MOOE, DepEd Division Office, LGU support, donations, grants, and other external funding sources	First to Second Quarter	Priority digital resource gaps are identified and addressed through available institutional and external support		Major procurement and connectivity requirements may exceed the school's available MOOE and will require additional financial support from the DepEd Division Office, LGU, donors, partner organizations, or other external funding sources.
Limited competency in integrating AI-powered and interactive digital tools	Enhance teachers' competency in using AI-powered and interactive digital tools for lesson planning, assessment, content development, and learner engagement	Conduct practical workshops on responsible use of ChatGPT, Gemini, CiCi, Kahoot, Educaplay, Wayground, Lumi, and other appropriate digital tools, including activities on evaluating AI-generated content and protecting learner information	School Head, ICT Coordinator, Master Teachers, Trainers, Teachers	₱8,000	School MOOE; DepEd Division Office support; LGU or external partners, when available	Second Quarter	Teachers demonstrate appropriate and responsible use of AI-powered and interactive digital tools in selected instructional tasks		Activities may initially use existing school facilities and free digital platforms. Additional funding may be requested from the DepEd Division Office, LGU, or external partners for trainers, internet requirements, training materials, or specialized sessions.

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Areas of Concern	Objectives	Strategies	Persons Involved	Budget	Source of Budget	Time Frame	Expected Outcome	Actual Accomplishment	Remarks
Weak instructional monitoring and feedback on digital tool use	Establish a consistent mechanism for monitoring, coaching, and providing feedback on teachers' use of emerging digital tools	Integrate digital technology use into instructional monitoring, conduct classroom observations and coaching sessions, and provide individual or group feedback on appropriate technology integration	School Head, Master Teachers, ICT Coordinator, Teachers	No immediate additional cost	Existing school MOOE and regular school instructional supervision activities	Monthly	A regular monitoring and feedback mechanism is implemented, and teachers receive appropriate guidance on digital instructional practices		Monitoring, coaching, and feedback may be integrated into existing instructional supervision activities without requiring a separate budget. Additional resources may be considered when specialized technical assistance is needed.
Low teacher engagement and limited opportunities for innovation in digital instruction	Sustain teacher engagement, collaboration, and innovation in the use of emerging digital tools	Establish peer-sharing sessions, learning action cell discussions, demonstration of effective digital practices, recognition of innovative classroom applications, and documentation of good practices	School Head, ICT Coordinator, Master Teachers, Teachers, LAC Coordinator	₱3,000	School MOOE; existing school professional development funds	Whole Year	Teachers regularly share, apply, and document practical digital teaching strategies		Activities may be integrated into existing LAC sessions, faculty meetings, and professional development activities. Additional funding may be sought from the DepEd Division Office, LGU, or external partners for expanded learning activities or recognition initiatives.

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