

ICT Integration: Challenges among Teachers in Classroom Instruction

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This study, entitled “ICT Integration: Challenges among Teachers in Classroom Instruction,” examined the relationship between teachers’ demographic profiles, the extent of ICT integration, and the challenges encountered in classroom instruction at Sudlon Integrated School-Elementary Department during the school year 2025–2026. Specifically, it aimed to describe the respondents’ demographic profiles, determine the level of ICT integration, identify the challenges encountered, and test the relationships among these variables. A descriptive-correlational research design was employed, utilizing a researcher-made survey questionnaire as the primary data-gathering instrument. The respondents were elementary school teachers. Data were analyzed using frequency, percentage, weighted mean, standard deviation, and the Chi-square test of independence. Findings revealed that teachers moderately integrated ICT in their classroom instruction while encountering several challenges. These included technical issues such as poor internet connectivity and insufficient ICT resources, as well as institutional constraints like limited training and administrative support. Statistical analysis showed no significant relationship between teachers’ demographic profiles and their level of ICT integration, nor between their profiles and the challenges encountered. However, a significant relationship was found between the extent of ICT integration and the level of challenges encountered, indicating that ICT use is influenced by the barriers teachers face. The study concludes that although teachers recognize the value of ICT in enhancing instruction, effective integration is hindered by technical and institutional factors rather than demographic characteristics. It recommends providing adequate ICT resources, continuous professional development, and stronger institutional support to improve ICT integration in classroom instruction. The implementation of this action plan is recommended to enhance ICT integration in classroom instruction.

Keywords: Vocational Education, ICT integration, Descriptive Correlation, Action Plan, Cebu City, Philippines

I. Introduction

In the modern era, technology has become a vital component of education, shaping how teachers delivering instruction and how learners access knowledge. Globally, in educational system ICT serves as an essential resource for enhancing both teaching strategies and student learning experiences by promoting learner engagement, supporting differentiated instruction, and developing 21st-century skills. International organizations, such as UNESCO, emphasize the importance of integrating digital technologies into classroom instruction to enhance educational outcomes. (UNESCO, Guidelines on ICT in Education 2018).

In the Philippines, the Department of Education (DepEd) has introduced several initiatives to strengthen ICT integration, including the DepEd Computerization Program (DCP), DepEd Commons, the Learning Management System (LMS), and various ICT training programs for teachers. (Department of Education, 2018). Despite these efforts, many schools continue to experience challenges such as unstable internet connectivity, when internet access is slow, inconsistent, or frequently interrupted, teachers and learners experience difficulty accessing online learning platforms, digital resources, and interactive instructional tools, insufficient or outdated ICT equipment many schools have limited numbers of computers, laptops, projectors, or tablets, and in some cases, the available devices are already outdated or no longer functioning properly, limited technical support when technical assistance is not readily available, teachers may struggle to resolve these issues on their own, which can interrupt lessons and reduce the effectiveness of ICT-based teaching activities., and heavy teaching workloads teachers often handle multiple responsibilities, including preparing lesson

plans, managing classroom activities, assessing student performance, and completing administrative tasks such as reports and forms.

These responsibilities require a considerable amount of time and effort, which may limit teachers' opportunities to utilize and incorporate ICT resources into classroom teaching process. These barriers may affect teachers' ability to maximize technology in their instruction and reduce the overall effectiveness of ICT-supported learning.

At the local level, these issues are also observed in Sudlon Integrated School-Elementary Department, Sudlon II, Cebu City. Although the school recognizes the essential function of ICT in strengthening learning and instructional delivery, access to technological resources remains limited. Available various technological tools such as desktop units, portable computers, and multimedia projectors, are not always sufficient for all teachers and learners, and some devices are shared or occasionally unavailable. Internet connectivity in the school is also inconsistent, making it difficult for teachers to access online platforms and digital instructional materials during lessons. In addition, teachers demonstrate varying levels of ICT competence, where some educators are confident in using digital tools while others still need further continuous professional training development and capacity-building to apply technology effectively in classroom instruction. These conditions create challenges that may influence how frequently and effectively ICT is used in teaching.

Despite national initiatives promoting ICT integration, there remains an inconsistency between implemented educational policies and actual situations encountered by the teachers in classroom instruction. Limited resources, inconsistent internet access, and differences in teachers' ICT capabilities may hinder the full utilization of technology in classroom instruction. However, there is a need to closely examine how these challenges affect teachers at the school level and how they influence in the application of ICT in educational instruction. Therefore, the purpose of this study is to determine the challenges encountered by the teachers when applying ICT into teaching at Sudlon Integrated School-Elementary Department. The outcomes of the study are likely to identify primary barriers, provide practical strategies and recommendations that can strengthen ICT integration, support teachers' professional development, and improve the quality of technology-enhanced classroom instruction.

Existing literature on ICT integration has largely concentrated on the positive effects of technology use, teachers' competencies, and readiness to adopt digital tools, yet there remains insufficient attention to the persistent barriers teachers face in applying ICT during actual classroom instruction, particularly in geographically and resource-constrained public elementary schools. While some studies have attempted to link ICT integration challenges to teachers' demographic variables, findings across studies remain inconsistent.

In the present study, no significant relationship was found between teachers' demographic profiles and the challenges they encountered, indicating that such barriers are not significantly shaped by age, gender, or years of experience. This finding challenges the common assumption that ICT-related difficulties are largely due to individual teacher characteristics and instead points to broader organizational and environmental constraints.

In addition, there is a limited body of research examining the correlation between the degree of ICT implementation and the challenges teachers experience in classroom instruction. The present findings showed that these variables are not significantly related; implying the presence of challenges is not necessarily reduced by increased ICT use.

This reveals an important gap in the literature: many studies assume that greater ICT integration automatically reflects fewer barriers or stronger readiness, when in reality teachers may continue to integrate ICT despite facing serious obstacles like inadequate internet connection, absence of functional ICT tools, lack of teacher training, and insufficient institutional support. Therefore, this research provides additional insights to the existing literature by focusing on teacher-centered explanations toward deeper comprehensive understanding of the challenges encountered in ICT integration, emphasizing on the need for school-level and policy-level interventions rather than relying solely on individual teacher adjustment.

Despite existing initiatives, there is still limited and localized evidence that specifically examines ICT integration and the challenges experienced by teachers in actual classroom instruction. The increasing emphasis on ICT integration in education, a significant research gap still exists in understanding the real challenges teachers face in actual classroom instruction. Many studies focus on the advantages of ICT and its potential to improve student learning outcomes; however, they often fail to capture the day-to-day difficulties teachers encounter when implementing these technologies. This creates a disconnect between what is theoretically promoted and what is practically experienced in schools.

One major gap lies in the lack of context-specific and localized studies. Educational environments vary widely in terms of infrastructure, availability of technological resources, administrative support, and access to training. As a result, findings from other regions and institutions may not accurately reflect the realities of teachers in a particular school setting, such as Sudlon Integrated School. Without localized evidence, interventions and policies may not effectively address the actual needs and conditions of teachers. Another important gap is the limited examination of the relationship between the demographic profile characteristics of the teachers' in ICT integration in classroom instruction. Many existing studies treat

teachers as a homogeneous group, without considering how factors including age, years of teaching experience, and highest educational attainment may affect both their level of ICT use and the challenges they encounter. Understanding these relationships is essential in determining whether difficulties are rooted in individual capabilities or systemic issues within the school environment. Furthermore, there is insufficient attention given to the persistent barriers that hinder effective ICT integration, such as inadequate training opportunities, absence of technical support, limited availability of devices and internet connectivity, and time constraints. While policies and programs promote the use of ICT, they do not always address these underlying challenges, resulting in a gap between expected and actual classroom practices.

The need to conduct this study is therefore grounded in several important reasons. First, it aims to provide empirical and localized data which describe the real situations faced by teachers in integrating ICT in classroom instruction. Second, it seeks to identify specific challenges that may not be fully captured in broader studies, allowing for a deeper understanding of the problem. Third, by examining the relationship between teachers' demographic profiles, the level of technology integration and the challenges encountered in their classroom instruction, the study can help determine whether interventions should focus more on teacher development or institutional support.

Moreover, the rapid advancement of technology and the increasing demand for digital competence in education make it necessary to continuously reassess teachers' readiness and the barriers they encounter. This study is important because it can provide evidence-based insights that may help educational administrators, academic leaders, and teachers' establishing better effective training programs, improving resource allocation, and strengthening support systems.

II. THE PROBLEM

Statement of the problem

This study aimed to examine the relationship between teachers' demographic profiles, the extent of ICT integration, and the challenges they encounter in classroom instruction at Sudlon Integrated School during the school year 2025–2026, as basis for action plan.

1. What is the demographic profile of the respondents in terms of:
 - 1.1 age and gender;
 - 1.2 years of teaching experience;
 - 1.3 teaching position;
 - 1.4 highest educational attainment, and
 - 1.5 Availability of ICT tools?
2. What is the extent of ICT integration in their classroom instruction among the respondents in terms of:
 - 2.1 lesson planning and preparation;
 - 2.2 instructional delivery;
 - 2.3 assessment and feedback;
 - 2.4 classroom management, and
 - 2.5 communication and documentation?
3. What is the extent of challenges encountered by the respondents in their ICT integration in classroom instruction in terms of:
 - 3.1 technical challenges;
 - 3.2 institutional challenges, and
 - 3.3 personal-or skills-related challenges?
4. Is there a significant relationship between the respondents':
 - 4.1 identified demographic profile and their extent of ICT integration in classroom instruction, and
 - 4.2 identified demographic profile and their extent of challenges encountered in ICT integration in classroom instruction?
5. Is there a significant relationship between the respondents' ICT integration and their challenges encountered in classroom instruction?

III. METHODOLOGY

This section discusses the methodology employed in the study entitled "ICT Integration: Challenges among Teachers in Classroom Instruction." It describes the study design, research setting, target respondents, instruments, and the statistical treatment involved in examining the extent of ICT integration and the challenges encountered in classroom instruction.

Design

A descriptive-correlational research design was employed in this study to determine the level of ICT integration challenges among teachers in classroom instruction at Sudlon Integrated School-Elementary Department during the School Year 2025–2026. The descriptive method was utilized to describe the respondents' demographic profile, the level of ICT integration within their classroom teaching and the challenges encountered by educators in using technology. This correlational component, on the other hand, was used to determine whether a meaningful relationship between the respondents' demographic characteristics and the level of ICT integration in the instructional process.

The descriptive method was appropriate in this study as it allowed the researcher involved gather factual, accurate, and the systematic data about the barriers faced by the educators' in integrating ICT into their classroom instruction. It provided a clear picture of the existing situation without manipulating variables.

The correlational aspect of the study analyzed the relationship between identified respondents' demographic profiles characteristics including age, gender, position in teaching, years of teaching experience, and highest academic qualification) and the degree of ICT integration in various areas namely, lesson preparation, delivering instructions, evaluation and feedback, managing classroom activities, communication and documentation.

Environment

This study was conducted at Sudlon Integrated School-Elementary Department, a public integrated institution located at a mountainous Barangay Sudlon II, Cebu City. Geographically, Sudlon II is located at a high elevation of approximately 700 meters above sea level, giving it a cool climate compared to the urban center. The school operated under the South District VII- Cebu City Division and catered to both Kinder and Grades 1 – 6, learners'.

The locale is characterized by lush vegetation, agricultural lands, and natural resources, making it conducive for farming activities. Many residents depend on agriculture, producing vegetables and crops. The school in Sudlon II was established to address the need for accessible and quality education among learners living in upland and geographically isolated areas of Cebu City. Prior to its founding, students had to travel long distances through difficult terrain to attend secondary schools in lowland communities, which often resulted in low participation and high dropout rates. In response, local government leaders, community members, and the Department of Education worked together to establish a public school within the barangay to bring education closer to the learners. The school was founded as part of the government's commitment to providing free and inclusive basic education, aiming to improve literacy, promote equal opportunities, and support the overall social and economic development of the community.

It implemented a two-shift classes system: the morning session ran from 7:30 a.m. to 11:00 a.m. Kinder level, 6:30 a.m. to 12:00 p.m. the Grades 1 and 2 level, and the regular class 7:30 a.m. to 4:30 p.m. ensuring that education remained accessible to all learners. Despite being located in an upland area, the school has consistently engaged in district and division-level competitions, earning recognition in areas such as academic contests, sports events, and co-curricular activities.

The school had approximately 21 classrooms, each equipped with a Smart Television to enhance digital learning and promote interactive instruction. It also featured specialized facilities such as an E-Class/ICT room, which provided opportunities for hands-on learning and technology-based instruction.

The school community was composed of a diverse group of teachers and students. The teacher population included educators trained in different learning areas, with several specializations and ICT-related fields, while the student population encompassed both kinder and grader learners who benefited from technology-integrated instruction. The availability of ICT resources, coupled with the dedication of teachers and the school's commitment to integration, made Sudlon Integrated School an ideal environment for exploring the integration of ICT in teaching process to ensure continuous learning.

Respondents

In today's rapidly evolving digital era, learners are increasingly characterized as technologically inclined, often referred to as digital natives who are exposed to various forms of technology from an early age. With the widespread availability of modern tools such as computers, smart phones, interactive platforms, and internet-based applications, students are now more engaged in technology-driven environments that influence their learning styles, preferences, and expectations in the classroom. As education continues to adapt to these advancements, teachers are expected to integrate Information and Communication Technology (ICT) into their instructional practices to enhance teaching and learning processes. The respondents of this study were the teachers of Sudlon Integrated School-Elementary Department for the School Year 2025–2026. A total of 30 teachers participated in the study, representing various grade levels from Kinder to Grades 1-6, and special teachers. The study utilized a purposive sampling technique to select the respondents. This

approach was considered appropriate for the study titled "ICT Integration Challenges among Teachers in Classroom Instruction" because it specifically targeted teachers who are actively engaged in the use of Information and Communication Technology (ICT) in their teaching practices. By focusing on these individuals, the researcher ensured that the participants possessed the necessary experience, exposure, and understanding of ICT integration in the classroom.

Purposive sampling enabled the researcher to gather relevant and meaningful data from teachers who are directly involved in lesson planning, instructional delivery, and assessment and monitoring of student performance, communication and documentation using ICT tools. These teachers were in the best position to provide insights into the actual challenges encountered in integrating technology into classroom instruction.

The selected group of 30 respondents was deemed sufficient to represent the target population within the school. Their responses provided a reliable basis for analyzing the extent of ICT integration and identifying the common challenges faced by teachers in the teaching and learning process.

Instrument

The primary instrument used in this study is a researcher-designed survey questionnaire, the use of a researcher-designed survey questionnaire in assessing ICT integration is supported by several studies and theoretical frameworks. According to Punya Mishra and Matthew J. Koehler (2006), effective technology integration in teaching can be examined through the Technological Pedagogical Content Knowledge (TPACK) Framework, which highlights the interaction between technology, pedagogy, and content knowledge. Surveys are commonly used to measure teachers' knowledge and practices within these domains, making them a suitable tool for gathering data on ICT integration.

The instrument was designed to collect data relevant to the research objectives and was divided into three major parts:

Part I – Demographic Profile of the Respondents. This section gathered information on the teachers' personal and professional background, such as age, gender, teaching position, years of teaching experience, highest educational attainment, and availability of ICT Tools. These variables were essential for determining potential factors that influenced the extent of ICT integration in their classroom instruction.

Part II – Extent of ICT Integration in classroom instruction. Specifically, the indicators for ICT integration in Part II were adapted from the works of Johan Tondeur et al. (2017), who emphasized key dimensions of technology use in teaching such as lesson planning and preparation, instructional delivery, assessment and feedback, classroom management, communication and documentation.

This section measured the level of ICT integration in their classroom instruction, namely: (1) lesson planning and preparation, (2) instructional delivery, (3) assessment and feedback, (4) classroom management, and (5) communication and documentation. The respondents rated each statement using a five-point Likert scale, where 5 meant Always Agree, 4 meant Often Agree, 3 meant Sometimes Agree, 2 meant Rarely Agree, and 1 meant Never Agree. The results from this section were used to determine the extent to which ICT tools integrated into their teaching process.

Part III – Extent of Challenges in ICT Integration in classroom instruction. This section identified the level of challenges experienced by teachers in classroom instruction namely: (1) technical challenges, (2) institutional challenges, (3) personal-or-skills related, (4) and classroom management. The respondents rated each statement using a five-point Likert scale, where 5 meant Strongly Agree, 4 meant Agree, 3 meant Undecided, 2 meant Disagree, and 1 meant Strongly Disagree. The results from this section were used to determine the extent to which challenges ICT integration encountered into their teaching process.

Respondents were asked to check all statements that applied to their experiences. The data gathered helped determine the most common barriers affecting the effective use of ICT in teaching and learning. The instrument was carefully constructed to ensure alignment with the study's objectives and clarity of the items.

To establish content validity, the instrument was subjected to expert evaluation by the research adviser and panel members. Their feedback and suggestions were incorporated to refine the questionnaire prior to its administration. The results obtained from the questionnaire served as the primary data for analysis and formed the basis for developing an action plan aimed at enhancing ICT integration in classroom instruction.

IV. Results and Discussions

DEMOGRAPHIC PROFILE OF THE RESPONDENTS

The profile of the teachers is very helpful in understanding their level of improvement in ICT integration in classroom instruction. Through the data gathered, the researcher is able to explore possible reasons regarding the extent of ICT integration in classroom instruction by looking into their capability to extend their challenges encountered in teaching process.

As shown in Table 1, that 28 or 93.33 percent of the respondents were female, while only two or six point sixty-seven percent were male. In terms of female teachers, 14 or 46.67 percent of them are aged from 30-39 years old, followed by eight or 26.67 percent who are 40-49 years old. Four or 13.33 percent are aging from 20-29 years old. Two or six point sixty-seven percent who are 50 years old and above. On the other hand, there were one or three point thirty-three percent male teachers, are aging from 30-39 years old and 40-49 years old.

Most of the respondents were female teacher’s supports existing literature that the teaching profession is predominantly occupied by women. This is commonly attributed to the long-standing perception of teaching as a nurturing and service-oriented profession. Likewise, the concentration of respondents within the 30-39 and 40-49 age brackets suggests that most of the participants are in their mid-career stage, where they already possess teaching experience and are still actively adapting to modern instructional practices.

The data reveal that the majority of the respondents were female and belonged to the 30-39 age groups, indicating that most teachers are in their mid-career stage. This suggests that they may already possess sufficient teaching experience while still being adaptable to the integration of ICT in classroom instruction. The small number of male respondents also reflects the common gender distribution in the teaching profession, where females are more represented. In terms of ICT integration, age and gender may have minimal direct influence on teachers’ ability to use technology effectively. Instead, factors such as access to resources, training, and professional development play a more significant role. This implies that, regardless of age or gender, teachers can successfully integrate ICT provided that adequate support and opportunities are available.

Table 1
Age and Gender of the Respondents

Age (in years)	Female		Male		Total	
	f	%	f	%	f	%
50 and above	2	6.67	0	0.00	2	6.67
40-49	8	26.67	1	3.33	9	30.00
30-39	14	46.67	1	3.33	15	50.00
20-29	4	13.33	0	0.00	4	13.33
Total	28	93.33	2	6.67	30	100.00

The findings indicate that the teaching workforce is predominantly female (93.33%) and largely composed of teachers within the 30-39 age group (50.00%), followed by those aged 40-49 (30.00%). This suggests that most respondents are in their early to mid-career stages, where they have already developed sufficient teaching experience while still being adaptable to new instructional approaches such as ICT integration. Their age range implies a balance between experience and openness to innovation, which may positively influence the adoption of technology in classroom instruction. However, the minimal representation of male teachers (6.67%) indicates a gender imbalance, which may reflect broader trends in the teaching profession. While gender itself may not directly determine ICT integration, the dominance of one group may influence collaborative practices, perspectives, and professional dynamics within the school.

Additionally, the presence of younger teachers (20-29 years old) suggests a group that may be more technologically inclined and confident in using ICT, while older teachers (50 years and above), though fewer, may possess strong pedagogical knowledge but may require additional support and training to adapt to rapidly evolving technologies. Therefore, differentiated professional development programs may be necessary to address the varying needs, experiences, and technological competencies of teachers across different age groups.

The findings indicate that the majority of respondents are female and fall within the 30-39 and 40-49 age groups, suggesting a workforce that is both experienced and still adaptable to new teaching innovations such as ICT integration. This implies that age and gender may influence teachers’ confidence, exposure, and willingness to adopt technology in classroom instruction. Teachers in their mid-career stage are likely to balance established pedagogical practices with openness to new technologies, which can support effective ICT integration.

This finding is supported by recent studies emphasizing that demographic and personal factors, including age and gender, interact with teachers’ skills and attitudes in shaping ICT use. A study by Ran Peng, Rafiza Abdul Razak, and Siti Hajar Halili (2023) found that factors such as age, teaching experience, and gender are associated with differences in ICT integration, particularly when combined with teachers’ digital competence and attitudes.

Similarly, Javier Gil-Flores et al. (2024) emphasized that teacher’ personal characteristics, along with organizational conditions, influence how ICT is used in classroom instruction, highlighting that demographic factors may shape teaching practices when supported by proper training and resources.

Moreover, a recent study by Gilbert B. Lambunao (2024) in the Philippine context revealed that teachers' ICT competence and usage vary depending on their background characteristics, including age and experience, suggesting the need for targeted training programs to address differences in technological readiness.

In addition, research by Elisa Nadire Caeli et al. (2025) highlighted that instruction. Table 2 presents the data gathered in terms of the years of teaching experience of the teachers.

Table 2
Years of Teaching Experience of the Respondents

Years of Teaching Experience	f	%
10 and above	14	46.67
7-10	4	13.33
4-6	2	6.67
0-3	10	33.33
Total	30	100.00

The table 2 shows that most teachers' are 10 years in service and above, comprising 46.67 percent of the total respondents, followed by 10 or 33.33 percent of the teachers who are 0-3 years in service. Four or 13.33 percent of the teachers who are 7 -10 years in service. Two or six point sixty-seven percent of the teachers who are 4-6 years in service.

The respondents possess varied levels of professional experience, which may influence their readiness and approach toward ICT integration in classroom instruction. Teachers with longer years of service may have already developed strong pedagogical skills and classroom experience, but they may also face challenges in adapting to new digital tools and technological innovations. In contrast, less experienced teachers may be more familiar with technology but may still be in the process of developing effective teaching practices.

The results show that most of the respondents have 10 years and above teaching experience, followed by those with 0-3 years of experience. This indicates that the teaching workforce in the study is composed mainly of experienced teachers, with a smaller proportion of newly hired teachers.

This suggests that teachers, regardless of length of service, are still expected to engage in ICT integration in classroom instruction. However, teaching experience alone does not necessarily guarantee higher levels of ICT use. While experienced teachers may have strong classroom management and instructional skills, they may still face challenges in adapting to rapidly evolving digital tools. On the other hand, less experienced teachers may be more familiar with technology but still developing pedagogical confidence.

Empirical studies support this finding, showing that years of teaching experience are not a strong predictor of ICT integration in classrooms. Instead, factors such as training, access to resources, and teacher beliefs are more influential.

The findings show that a large proportion of teachers have 10 years or more of teaching experiences, while a significant number are relatively new in the profession (0-3 years). This suggests a diverse range of experience levels, which may influence how teachers adopt and integrate ICT in classroom instruction.

Table 3
Teaching Position of the Respondents

Teaching Position	f	%
Teacher I	12	40.00
Teacher II	3	10.00
Teacher III	14	46.67
Teacher IV	0	0.00
Teacher V	0	0.00
Teacher VI	1	3.33
Total	30	100.00

The data show that the majority of the respondents are in the positions of Teacher III (46.67%) and Teacher I (40.00%), indicating that most teachers are in the early to mid-level stages of their professional careers. This suggests that while many teachers have already gained sufficient classroom experience, they may still be in the process of developing advanced instructional leadership skills and deeper integration of ICT in teaching. The very small number of higher-ranked teachers (Teacher VI at 3.33% and none in Teacher IV and V) implies limited representation of highly experienced or senior educators who typically serve as mentors or instructional leaders in technology integration. Consequently, this may affect the level of guidance and peer support available for ICT implementation within the school. It highlights the need for structured professional development programs and mentoring systems to support teachers across different ranks in effectively integrating ICT into classroom instruction. Recent studies support the idea that teaching position and professional rank are associated with differences in ICT integration. A study by Ran Peng, Rafiza Abdul Razak, and Siti Hajar Halili (2023) found that teachers with higher professional roles tend to have greater access to training, resources, and leadership opportunities, which positively influence their use of ICT in teaching.

Table 4
Highest Educational Attainment of the Respondents

Highest Educational Attainment	f	%
Master's Degree	1	3.33
With Master's Units	22	73.33
Bachelor's Degree	7	23.33
Total	30	100.00

The table shows that most teachers are with Master's Units, comprising 73.33 percent of the total respondents, followed by seven or 23.33 percent of the teachers who are Bachelor's Degree. The majority of the respondents were with Master's Units, followed by Bachelor's Degree holders, while only a small number had already completed a Master's Degree. This indicates that most of the respondents are engaged in continuing academic and professional development, which suggests a strong commitment to improving their teaching competence and qualifications.

This finding implies that the respondents may have varying levels of academic preparation that could influence their readiness, confidence, and adaptability in integrating ICT into classroom instruction. Teachers who are pursuing graduate studies may have greater exposure to advanced teaching approaches, educational research, and technology-supported instruction, while those with only undergraduate preparation may still be developing these competencies. The high percentage of teachers with Master's units (73.33%) suggests that most respondents are actively engaged in professional growth, which may positively influence their openness to adopting ICT in classroom instruction. This ongoing academic engagement can enhance their exposure to contemporary pedagogical approaches, including technology-integrated teaching strategies. However, since only a small proportion (3.33%) has completed a full Master's degree, it may indicate that many teachers are still in the process of fully developing advanced competencies in educational technology integration.

Moreover, a study by Ran Peng, Rafiza Abdul Razak, and Siti Hajar Halili (2023) revealed that teachers' competencies and attitudes toward ICT are strongly influenced by their professional development and educational background, highlighting the importance of continuous academic training in improving ICT integration.

Table 5
Availability of ICT Tools Among the Respondents

Available ICT Tools	f	%
Desktop Computer	10	33.33
Laptop	22	73.33
Tablet/iPod	3	10.00
LCD Projector	2	6.66
Television	27	90.00

Printer	28	93.33
Internet Connection	21	70.00
Educational Software	4	13.33
Total	30	100.00

Table 5 can be observed in the table that two or six point sixty-six percent of LCD projector available ICT Tools, which comprises three or ten percent available of ICT tools for tablet/iPod. Four or 13.33 percent for educational software. Ten or 33.33 percent for desktop computer. There were 21 or 70.00 percent for internet connection. Also, there were 22 or 73.33 percent for laptop. This is followed by 27 or 90.00 percent for television, and 28 or 93.33 percent available ICT tools for printer. Table 5 presents the availability of ICT tools among the respondents, with multiple responses allowed. The results show an uneven distribution of ICT resources between basic and instructional technologies. Printers (93.33%) and televisions (90.00%) are the most available tools, followed by laptops (73.33%) and internet connections (70.00%). This indicates that teachers generally have access to ICT tools that support basic instructional, communication, and administrative tasks.

In contrast, more advanced instructional technologies are limited. Desktop computers are moderately available (33.33%), while educational software (13.33%), tablets/iPods (10.00%), and LCD projectors (6.66%) are the least accessible. This suggests that schools have prioritized general ICT resources, but there is limited provision of tools that support interactive and student-centered instruction.

Overall, the findings imply that while teachers can use ICT for basic tasks, their capacity for more innovative and technology-enhanced teaching is constrained. The lack of instructional tools such as projectors and educational software limits opportunities for multimedia-based and interactive learning. These results highlight the need for improved ICT support in schools. Administrators should prioritize acquiring instructional ICT tools and ensuring equitable distribution. In addition, continuous training should be provided to help teachers maximize the use of available resources and strengthen ICT integration.

EXTENT OF ICT INTEGRATION IN THEIR CLASSROOM INSTRUCTION IN TERMS OF LESSON PLANNING AND PREPARATION

This section presents the extent of ICT integration in classroom instruction in terms of lesson planning and preparation among the respondents. The use of ICT in lesson planning allows teachers to access digital resources, prepare multimedia instructional materials, organize content efficiently, and design interactive lessons that enhance student engagement.

As reflected in Table 6, there are 3 statements describing the extent of ICT integration in their classroom instruction in terms of lesson planning and preparation is very high, with an aggregate weighted mean of 4.60 and an aggregate standard deviation of 0.63. This indicates that teachers consistently utilize ICT tools and digital resources when designing lessons, preparing instructional materials, and organizing classroom activities. The low standard deviation further suggests that there is consistency among teachers, meaning most respondents demonstrate a similarly high level of ICT integration in lesson planning and preparation. Among the indicators, the statement “I use digital materials (slides, videos, online resources) to plan lessons” obtained the highest

Table 6
Extent of ICT Integration in Their Classroom Instruction Among the Respondents in Terms of Lesson Planning and Preparation

S/N	Indicators	WM	SD	Verbal Description
1	I use digital materials (slides, videos, online resources) to plan lessons.	4.77	0.57	Very High
2	I prepare lesson plans using computers or online tools.	4.57	0.63	Very High
3	I search online platforms for instructional content.	4.47	0.68	Very High
Aggregate Weighted Mean		4.60		
Aggregate Standard Deviation			0.63	Very High

Legend: 4.21-5.00-Very High; 3.41-4.20- High; 2.61-3.40-Moderate; 1.81-2.60-Low ;1.00-1.80-Very Low
 weighted mean of 4.77 with a standard deviation of 0.57, verbally described as Very High. This means that the respondents consistently practice the use of digital materials in lesson planning, indicating that ICT resources are commonly utilized

in lesson planning and preparation. This was followed by the statement “I prepare lesson plans using computers or online tools”, which garnered a weighted mean of 4.57 and a standard deviation of 0.63, also interpreted as Very High. This suggests that teachers frequently make use of computers and online tools in organizing and preparing their lesson plans. Meanwhile, the statement “I search online platforms for instructional content” obtained the lowest weighted mean of 4.47 with a standard deviation of 0.68, but it is still verbally described as Very High. This indicates that although this indicator ranked lowest among the three, teachers still frequently utilize online platforms in searching for instructional content as part of their lesson preparation.

Overall, the results imply that the respondents demonstrate a very high extent of ICT integration in lesson planning and preparation. The very high utilized ICT integration in lesson planning may also reflect the teachers’ familiarity with educational software, online resources, and digital platforms that support curriculum delivery. By integrating technology in lesson preparation, teachers are likely to facilitate more dynamic, learner-centered instruction, moving beyond traditional lecture-based methods. Moreover, the consistency in responses suggests that this practice is common across the teaching staff, indicating a shared understanding and adoption of technology-enhanced instructional strategies.

EXTENT OF ICT INTEGRATION IN THEIR CLASSROOM INSTRUCTION IN TERMS OF INSTRUCTIONAL DELIVERY

Table 7
Extent of ICT Integration in Their Classroom Instruction Among the Respondents in Terms of Instructional Delivery

S/N	Indicators	WM	SD	Verbal Description
1	I use presentation or videos during teaching.	4.77	0.63	Very High
2	I integrate ICT tools to explain concepts clearly.	4.23	0.68	Very High
3	I use interactive applications (e.g., Kahoot, Quizziz) for class activities.	3.07	1.05	Moderate
Aggregate Weighted Mean		3.92		
Aggregate Standard Deviation			0.79	High

Legend: 4.21-5.00-Very High; 3.41-4.20- High; 2.61-3.40-Moderate; 1.81-2.60-Low ;1.00-1.80-Very Low

This section presents the extent of ICT integration in classroom instruction in terms of instructional delivery among the respondents. Instructional delivery is a vital component of the teaching-learning process, as it involves the actual presentation of lessons, facilitation of classroom activities, and communication of content to learners.

As reflected in Table 7, the respondents’ extent of ICT integration in classroom instruction in terms of instructional delivery is generally high, as indicated by the aggregate weighted mean of 3.92 and an aggregate standard deviation of 0.79. This suggests that teachers frequently use ICT tools and digital resources in delivering their lessons, although the degree of integration varies among the different indicators. The moderate standard deviation shows that there is some variability in teachers’ responses regarding ICT use during instructional delivery.

Among the indicators, the statement “I use presentation or videos during teaching” obtained the highest weighted mean of 4.77 with a standard deviation of 0.63, verbally described as Very High. This indicates that most teachers consistently utilize multimedia presentations and videos as part of their classroom instruction, making lessons more engaging and visually understandable. The next highest indicator, “I integrate ICT tools to explain concepts clearly”, garnered a weighted mean of 4.23 with a standard deviation of 0.68, also interpreted as Very High. This shows that teachers actively use ICT resources to enhance clarity in teaching, demonstrating their ability to apply technology to support learners’ understanding. In contrast, the statement “I use interactive applications (e.g., Kahoot, Quizziz) for class activities” obtained the lowest weighted mean of 3.07 with a standard deviation of 1.05, verbally described as Moderate. This suggests that while some teachers utilize interactive applications to engage students during activities, many do not regularly incorporate such tools, possibly due to limited access, time constraints, or unfamiliarity with these applications. Overall, the results indicate that teachers are integrating ICT in instructional delivery to a high extent, particularly through the use of presentations, videos, and other tools for explaining concepts, but the use of interactive applications for class activities is less frequent, highlighting a potential area for professional development and resource support.

EXTENT OF ICT INTEGRATION IN THEIR CLASSROOM INSTRUCTION IN TERMS OF ASSESSMENT AND FEEDBACK

Table 8
Extent of ICT Integration in Their Classroom Instruction Among the Respondents in Terms of Assessment and Feedback

S/N	Indicators	WM	SD	Verbal Description
1	I use ICT tools to prepare quizzes or exams.	3.73	0.91	High
2	I provide digital feedback to learners.	3.20	0.96	Moderate
3	I use online platforms to record or monitor student progress.	3.57	0.94	High
Aggregate Weighted Mean		3.50		
Aggregate Standard Deviation			0.93	High

Legend: 4.21-5.00-Very High; 3.41-4.20- High; 2.61-3.40-Moderate; 1.81-2.60-Low ;1.00-1.80-Very Low

Assessment and feedback are essential components of the teaching-learning process, as they help teachers measure learners’ understanding, monitor academic progress, and provide guidance for improvement. The integration of Information and Communication Technology (ICT) in assessment and feedback allows teachers to use digital tools in creating quizzes, administering tests, checking outputs, recording scores, and providing timely responses to learners.

As shown in Table 8, the respondents’ extent of ICT integration in classroom instruction in terms of assessment and feedback is generally High, with an aggregate weighted mean of 3.50 and an aggregate standard deviation of 0.93. This suggests that teachers frequently utilize ICT tools to support the assessment process, although there is some variability in the extent to which different aspects of assessment and feedback are implemented. Among the indicators, the statement “I use ICT tools to prepare quizzes or exams” obtained the highest weighted mean of 3.73 with a standard deviation of 0.91, verbally described as High. This indicates that most teachers frequently use digital tools to create tests and quizzes, demonstrating their reliance on technology to streamline assessment preparation. The next, “I use online platforms to record or monitor student progress”, have a weighted mean of 3.57 with a standard deviation of 0.94, also interpreted as High.

This suggests that teachers actively use digital platforms to track learners’ performance, enabling them to maintain organized records of student progress and facilitate monitoring. In contrast, the statement “I provide digital feedback to learners” obtained the lowest weighted mean of 3.20 with a standard deviation of 0.96, verbally described as Moderate.

This implies that although some teachers give feedback digitally, many may still rely on traditional or verbal methods. The lower mean in this indicator may indicate challenges in providing timely or consistent digital feedback, possibly due to limited ICT tools, lack of familiarity with feedback platforms, or time constraints. Overall, the results indicate that teachers are integrating ICT in assessment and feedback to a moderate-to-high extent, particularly in preparing digital quizzes and monitoring student progress. However, the provision of digital feedback appears to be the least utilized aspect, highlighting a potential area for improvement in teacher training and access to ICT resources.

Table 9
Extent of ICT Integration in Their Classroom Instruction Among the Respondents in Terms of Classroom Management

S/N	Indicators	WM	SD	Verbal Description
1	I use ICT tools to manage classroom tasks.	3.70	0.79	High
2	I establish rules and procedures for ICT use in class.	3.57	0.82	High
3	I address classroom issues consistently and fairly using ICT support when applicable.	4.63	0.56	Very High
Aggregate Weighted Mean		3.97		
Aggregate Standard Deviation			0.72	High

Legend: 4.21-5.00-Very High; 3.41-4.20- High; 2.61-3.40-Moderate; 1.81-2.60-Low ;1.00-1.80-Very Low

EXTENT OF ICT INTEGRATION IN THEIR CLASSROOM INSTRUCTION IN TERMS OF CLASSROOM MANAGEMENT

This section presents the extent of ICT integration in classroom instruction in terms of classroom management among the respondents. The integration of Information and Communication Technology (ICT) in classroom management allows teachers to organize learning activities, monitor student behavior, track attendance, and facilitate smooth classroom operations using digital tools.

As reflected in Table 9, the respondents' extent of ICT integration in classroom instruction in terms of classroom management is High, as indicated by the aggregate weighted mean of 3.97 and aggregate standard deviation of 0.72. This shows that teachers frequently use ICT tools and resources in managing classroom activities and maintaining order during instruction.

EXTENT OF ICT INTEGRATION IN THEIR CLASSROOM INSTRUCTION IN TERMS OF COMMUNICATION AND DOCUMENTATION

The communication and documentation are essential aspects of teaching, as they enable teachers to coordinate with learners, parents, colleagues, and school administrators, while also keeping accurate records of classroom activities, student performance, and instructional outputs. The integration of Information and Communication Technology (ICT) in communication and documentation allows teachers to use digital tools and platforms for sending messages, sharing learning materials, recording information, and organizing important classroom documents.

Table 10
Extent of ICT Integration in Their Classroom Instruction Among the Respondents in Terms of Communication and Documentation

S/N	Indicators	WM	SD	Verbal Description
1	I use digital platforms to communicate with learners or parents.	4.40	0.72	Very High
2	I document teaching activities using ICT tools.	4.23	0.77	Very High
3	I provide constructive feedback to students using digital means.	4.47	0.57	Very High
Aggregate Weighted Mean		4.37		
Aggregate Standard Deviation			0.69	Very High

Legend: 4.21-5.00-Very High; 3.41-4.20- High; 2.61-3.40-Moderate; 1.81-2.60-Low ;1.00-1.80-Very Low

The very high level of ICT integration in communication and documentation may also reflect teachers' increasing reliance on digital platforms as efficient tools for sharing information, giving instructions, monitoring outputs, and maintaining organized classroom records. These practices contribute to smoother coordination between teachers, learners, and parents, while also helping ensure that classroom information and instructional activities are properly documented. However, although all indicators were rated very high, the comparatively lower mean on documenting teaching activities using ICT tools may suggest that while communication and digital feedback are strongly practiced, documentation processes may still be less emphasized or may vary depending on teachers' access to tools, school reporting systems, or documentation requirements. This indicates that while ICT is highly used in communication, teachers may still benefit from stronger systems or strategies for digital record-keeping and documentation. The findings reveal a very high extent of ICT integration in communication and documentation, particularly in providing digital feedback, communicating with learners or parents, and documenting teaching activities. This indicates that teachers are highly utilizing digital platforms not only for instruction but also for maintaining communication and managing classroom records efficiently.

SUMMARY ON THE EXTENT OF ICT INTEGRATION IN THEIR CLASSROOM INSTRUCTION

Table 11

Summary on the Extent of ICT Integration in Their Classroom Instruction Among the Respondents

<i>Components</i>	<i>WM</i>	<i>SD</i>	<i>Verbal Description</i>
<i>Lesson Planning and Preparation</i>	4.60	0.63	<i>Very High</i>
<i>Instructional Delivery</i>	3.92	0.79	<i>High</i>
<i>Assessment and Feedback</i>	3.50	0.93	<i>High</i>
<i>Classroom Management</i>	3.97	0.72	<i>High</i>
<i>Communication and Documentation</i>	4.37	0.69	<i>Very High</i>
<i>Grand Mean</i>	4.00		<i>High</i>
<i>Grand Standard Deviation</i>		0.75	

As shown in Table 11, the respondents’ overall extent of ICT integration in classroom instruction is generally high, as reflected by the grand mean of 4.00 and a grand standard deviation of 0.75. This indicates that teachers frequently integrate ICT tools and digital resources across the different areas of classroom instruction. The relatively low grand standard deviation further suggests that the responses of the respondents are fairly consistent, indicating similarity in their overall level of ICT integration. Among the different components, Lesson Planning and Preparation obtained the highest weighted mean of 4.60 with a standard deviation of 0.63, verbally described as Very High.

This indicates that teachers highly integrate ICT in preparing lesson plans, organizing instructional materials, and accessing digital resources to support classroom instruction. This was followed by Communication and Documentation, with a weighted mean of 4.37 and a standard deviation of 0.69, also verbally described as Very High. This suggests that teachers highly use ICT in communicating with learners and parents, documenting instructional activities, and providing digital feedback. The next component is Classroom Management, which obtained a weighted mean of 3.97 and a standard deviation of 0.72, verbally described as High. This indicates that teachers frequently use ICT tools in organizing classroom tasks, managing classroom routines, and addressing classroom-related concerns. This is followed by Instructional Delivery, which recorded a weighted mean of 3.92 and a standard deviation of 0.79, also described as High. This suggests that teachers often integrate ICT in the actual delivery of lessons through presentations, videos, and other digital instructional tools. Meanwhile, Assessment and Feedback obtained the lowest weighted mean of 3.50 with a standard deviation of 0.93, although it is still verbally described as High. This indicates that teachers also use ICT in preparing quizzes, monitoring student progress, and providing feedback, but compared with the other components, this is the least integrated area. Overall, the results imply that the respondents demonstrate a high extent of ICT integration in classroom instruction, with the strongest integration observed in lesson planning and preparation and communication and documentation, while assessment and feedback emerged as the least integrated area. These findings suggest that teachers are generally able to utilize ICT effectively in different aspects of teaching, although some areas may still require further enhancement and support.

EXTENT OF CHALLENGES ENCOUNTERED IN THEIR ICT INTEGRATION IN CLASSROOM INSTRUCTION IN TERMS OF TECHNICAL CHALLENGES

Table 12

Extent of Challenges Encountered by the Respondents in their ICT Integration in Classroom Instruction in Terms of Technical Challenges

<i>S/N</i>	<i>Indicators</i>	<i>WM</i>	<i>SD</i>	<i>Verbal Description</i>
1	Poor internet connectivity affects my teaching.	3.83	1.05	High
2	Lack of functional or sufficient ICT devices limits my ICT use.	3.80	1.24	High
3	Technical glitches or system errors disrupt lessons.	3.80	1.10	High
Aggregate Weighted Mean		3.81		
Aggregate Standard Deviation			1.13	High

Legend: 4.21-5.00-Very High; 3.41-4.20- High; 2.61-3.40-Moderate; 1.81-2.60-Low ;1.00-1.80-Very Low

Technical challenges refer to the difficulties teachers experience related to the availability, functionality, and usability of ICT tools and technological resources used in teaching. These may include issues such as poor internet connectivity, lack of functional devices, malfunctioning and software problems.

As shown in Table 12, the respondents' extent of challenges encountered in their ICT integration in classroom instruction in terms of technical challenges is generally High, as reflected by the aggregate weighted mean of 3.81 and aggregate standard deviation of 1.13. This indicates that teachers frequently encounter technical difficulties in integrating ICT into their classroom instruction. The standard deviation further suggests that while the responses are generally within the same level of interpretation, there is some variation in the degree to which respondents experience these technical challenges. Among the indicators, the statement "Poor internet connectivity affects my teaching" obtained the highest weighted mean of 3.83 with a standard deviation of 1.05, verbally described as High. This indicates that poor internet connectivity is the most commonly experienced technical challenge among the respondents and significantly affects their ability to integrate ICT effectively during classroom instruction. This was followed by the statements "Lack of functional or sufficient ICT devices limits my ICT use" and "Technical glitches or system errors disrupt lessons", both of which obtained a weighted mean of 3.80, verbally interpreted as High. However, in terms of variability, "Lack of functional or sufficient ICT devices limits my ICT use" recorded a higher standard deviation of 1.24, suggesting greater variation in the respondents' experiences regarding device availability. On the other hand, "Technical glitches or system errors disrupt lessons" obtained a standard deviation of 1.10, also indicating that this challenge is commonly encountered, though to varying degrees among the respondents. Overall, the results imply that the respondents experience a high extent of technical challenges in integrating ICT into classroom instruction.

EXTENT OF CHALLENGES ENCOUNTERED IN THEIR ICT INTEGRATION IN CLASSROOM INSTRUCTION IN TERMS OF INSTITUTIONAL CHALLENGES

The institutional challenges refer to difficulties or barriers that arise from the school environment, policies, and administrative support which may affect the teachers' ability to effectively integrate ICT in their teaching. These challenges may include limited access to training programs and professional development, insufficient ICT resources provided by the school, lack of administrative or institutional support.

Table 13
Extent of Challenges Encountered by the Respondents in their ICT Integration in Classroom Instruction in Terms of Institutional Challenges

S/N	Indicators	WM	SD	Verbal Description
1	Insufficient ICT equipment in school hinders ICT integration.	3.83	0.83	High
2	Lack of administrative or institutional support limits ICT use.	3.43	0.97	High
3	Limited access to training programs and professional development.	3.47	0.90	High
Aggregate Weighted Mean		3.58		
Aggregate Standard Deviation			0.90	High

Legend: 4.21-5.00-Very High; 3.41-4.20- High; 2.61-3.40-Moderate; 1.81-2.60-Low ;1.00-1.80-Very Low

Significantly affecting their ability to integrate technology effectively in classroom instruction. The next highest indicator is "Limited access to training programs and professional development", with a weighted mean of 3.47 (High) and a standard deviation of 0.90. This suggests that teachers frequently feel constrained by insufficient opportunities for skill development and training on ICT tools, which may affect their confidence and competency in technology integration. Finally, "Lack of administrative or institutional support limits ICT use" recorded a weighted mean of 3.43 (High) with a standard deviation of 0.97. This indicates that insufficient backing from school leadership or limited support systems also acts as a barrier, although this challenge is slightly less prominent compared to the lack of equipment and training.

The results indicate that institutional challenges are significant barriers to ICT integration. Teachers may be willing and competent in using ICT, but factors such as limited equipment, inadequate training, and weak administrative support hinder their ability to maximize ICT use in teaching. Addressing these challenges requires investment in school ICT infrastructure, availability of regular training programs, and active support from school administration to facilitate effective and sustainable technology integration. The findings reveal that teachers experience a high level of institutional challenges in ICT integration, particularly in terms of insufficient ICT equipment, limited training opportunities, and lack of administrative support. This suggests that even when teachers are willing to integrate ICT in classroom instruction, institutional constraints significantly affect their ability to fully utilize technology in teaching.

ICT Integration: Challenges among Teachers in Classroom Instruction

Recent studies support these findings by emphasizing that institutional support is a key determinant of successful ICT integration. A study by Javier Gil-Flores et al. (2024) found that inadequate school resources, limited ICT infrastructure, and weak administrative support significantly hinder teachers' effective use of technology in classroom instruction.

Similarly, Ran Peng, Rafiza Abdul Razak, and Siti Hajar Halili (2023) reported that lack of access to professional development programs and insufficient ICT equipment in schools are major barriers to sustained ICT integration among teachers.

EXTENT OF CHALLENGES ENCOUNTERED IN THEIR ICT INTEGRATION IN CLASSROOM INSTRUCTION IN TERMS OF PERSONAL-OR SKILLS-RELATED

Table 14
Extent of Challenges Encountered by the Respondents in their ICT Integration in Classroom Instruction in Terms of Personal- or Skills-Related Challenges

S/N	Indicators	WM	SD	Verbal Description	The personal- or skills-related challenges refer to difficulties that arise from the teachers' own knowledge, skills,
1	I lack confidence in using ICT tools.	2.50	1.11	Low	
2	I find ICT tools difficult to operate effectively.	2.40	1.07	Low	
3	I struggle to integrate ICT into lesson activities.	2.40	1.10	Low	
Aggregate Weighted Mean		2.43			
Aggregate Standard Deviation			1.09	Low	

Legend: 4.21-5.00-Very High; 3.41-4.20- High; 2.61-3.40-Moderate; 1.81-2.60-Low ;1.00-1.80-Very Low

attitudes, or confidence in using ICT tools effectively. These may include limited technological skills, lack of self-confidence in using digital resources, difficult to operate the different ICT tools, or resistance to adopting new technologies. Understanding these challenges is important because they directly affect how teachers integrate ICT in lesson planning, instructional delivery, assessment, classroom management, and communication.

As shown in Table 14, the respondents' extent of personal- or skills-related challenges in integrating ICT in classroom instruction is generally Low, as indicated by the aggregate weighted mean of 2.43 and aggregate standard deviation of 1.09. This suggests that teachers rarely encounter difficulties arising from their own skills, confidence, or ability to operate ICT tools in their teaching practices. The standard deviation indicates some variation among respondents, but overall, personal or skills-related challenges are minimal. Among the specific indicators, "I lack confidence in using ICT tools" obtained the highest weighted mean of 2.50, verbally described as Low, indicating that a small portion of teachers feel a lack of confidence when using ICT. This is followed by "I find ICT tools difficult to operate effectively" and "I struggle to integrate ICT into lesson activities", both with a weighted mean of 2.40 (Low). These results suggest that only a few teachers' experience challenges related to operating ICT tools or incorporating them into their lesson activities.

The results imply that teachers are generally competent, confident, and capable in using ICT tools for classroom instruction. This low level of personal- or skills-related challenges suggests that most respondents have the necessary knowledge, skills, and confidence to utilize ICT effectively in lesson planning, instructional delivery, assessment, classroom management, and communication. Consequently, personal and skills limitations do not appear to be significant barriers to ICT integration in this context.

EXTENT OF CHALLENGES ENCOUNTERED IN INTEGRATING ICT IN THEIR CLASSROOM INSTRUCTION

Table 15
Extent of Challenges Encountered by the Respondents in Integrating ICT in their Classroom Instruction

Components	WM	SD	Verbal Description
Technical Challenges	3.81	1.13	High
Instructional Challenges	3.58	0.90	High
Personal or Skill Related	2.43	1.09	Low
Grand Mean	3.27		
Grand Standard Deviation		1.04	Moderate

Ict Integration: Challenges among Teachers in Classroom Instruction

Integrating ICT effectively in teaching requires not only access to technology but also sufficient technical skills, institutional support, and personal competence. However, teachers may face multiple challenges that hinder their ability to fully utilize digital tools in lesson planning, instructional delivery, assessment, classroom management, and communication. These challenges can arise from technical issues, institutional constraints, or personal and skills-related limitations. Understanding the overall extent of these challenges is crucial for identifying areas that require intervention, support, and professional development.

As presented in Table 15, the respondents' overall extent of challenges in integrating ICT in classroom instruction is moderate, as indicated by a grand mean of 3.27 and a grand standard deviation of 1.04. This suggests that teachers occasionally experience difficulties in using ICT, but the challenges are not extreme or prohibitive. The relatively high standard deviation indicates some variation among respondents, meaning that some teachers face greater challenges than others. Among the components, Technical Challenges received the highest weighted mean of 3.81, verbally described as High, with a standard deviation of 1.13. This implies that teachers frequently encounter technical difficulties, such as poor internet connectivity, malfunctioning devices, and system errors, which hinder their smooth integration of ICT in classroom instruction. Next, Institutional Challenges obtained a weighted mean of 3.58 (High) with a standard deviation of 0.90. This indicates that organizational or institutional barriers—such as insufficient resources, limited professional development, and lack of administrative support—also affect teachers' ability to fully integrate ICT, though slightly less frequently than technical issues. In contrast, Personal- or Skills-Related Challenges recorded the lowest weighted mean of 2.43, verbally described as Low, with a standard deviation of 1.09. This suggests that teachers are generally competent, confident, and capable in using ICT tools, and personal limitations do not significantly impede ICT integration.

The results indicated that while teachers are technically and institutionally challenged to some extent, their personal competence and skills are generally strong, allowing them to overcome many of the barriers to ICT integration. The moderate grand mean implies that challenges exist, but they are not overwhelming and can be addressed through improvements in infrastructure, training, and institutional support. Research indicates that teachers' ICT integration is influenced by a combination of technical, institutional, and personal factors. The findings reveal a moderate overall level of challenges in ICT integration, with technical and institutional challenges rated high, while personal- or skills-related challenges are low. This suggests that although teachers are generally competent in using ICT, external factors such as infrastructure and institutional support remain the primary barriers to effective integration of technology in classroom instruction.

Recent studies support these findings by emphasizing that ICT integration challenges are multidimensional, involving technical, institutional, and individual factors. A study by Javier Gil-Flores et al. (2024) found that technical problems such as poor internet connectivity and limited access to devices, along with insufficient institutional support, are the most significant barriers to effective ICT use in schools.

Similarly, Ran Peng, Rafiza Abdul Razak, and Siti Hajar Halili (2023)

RELATIONSHIP BETWEEN THE RESPONDENTS' IDENTIFIED DEMOGRAPHIC PROFILE AND THEIR EXTENT OF ICT INTEGRATION IN CLASSROOM INSTRUCTION

This section examines the relationship between the demographic characteristics of teachers and their extent of ICT integration in classroom instruction. Demographic factors such as age, gender, and years of teaching experience, teaching position, highest educational attainment, and availability of ICT Tools may influence how teachers adopt and utilize ICT tools in planning lessons, delivering instruction, assessing learning, managing classrooms, and communicating with students and parents. Understanding these relationships is essential because it helps identify which teacher characteristics are associated with higher or lower ICT integration, providing insights into targeted support, training, and professional development.

Table 16
Test of Significance of Relationship Between the Respondents' Identified Demographic Profile and their Extent of ICT Integration in Classroom Instruction

Variables	χ^2 -value	df	p - value	Decision	Remarks
Age and ICT Integration	3.445	1	0.063	Do not reject Ho	Not Significant
Years of Teaching Experience and ICT Integration	3.772	1	0.052	Do not reject Ho	Not Significant
Teaching Position and ICT Integration	0.000	1	1.000	Do not reject Ho	Not Significant
Highest Educational Attainment and ICT Integration	0.031	1	0.860	Do not reject Ho	Not Significant

Table 16 presents the results of the test of significance examining the relationship between the respondents' demographic profile and their extent of ICT integration in classroom instruction. The variables

*significant at $p < 0.05$ (two-tailed)

analyzed include age, years of teaching experience, teaching position, and highest educational attainment. The results indicate that none of the demographic variables have a statistically significant relationship with ICT integration at the 0.05 significance level:

The results of Table 16 indicate that none of the demographic variables age, gender, years of teaching experience, teaching position, or highest educational attainment have a statistically significant relationship with the respondents' extent of ICT integration in classroom instruction. This is evidenced by the p-values for all variables being greater than the 0.05 significance level, leading to the non-rejection of the null hypotheses. The demographic factors such as age, gender, years in teaching experience, teaching position, and highest educational attainment, do not significantly determine how teachers integrate ICT in their classroom instruction. This suggests that the level of ICT integration is relatively consistent among teachers regardless of these characteristics, and other factors.

The findings imply that ICT integration among teachers in this study is largely independent of demographic factors. These findings have several important implications for both research and practice: Age and ICT Integration. The computed value is 3.445 with a p-value of 0.063. Since $p > 0.05$, the null hypothesis is not rejected, indicating that age does not significantly influence teachers' ICT integration.

RELATIONSHIP BETWEEN THE RESPONDENTS' IDENTIFIED DEMOGRAPHIC PROFILE AND THEIR EXTENT OF CHALLENGES ENCOUNTERED IN ICT INTEGRATION IN CLASSROOM INSTRUCTION

Table 17
Test of Significance of Relationship Between the Respondents' Identified Demographic Profile and their Extent of Challenges Encountered in ICT Integration in Classroom Instruction

Variables	χ^2 -value	df	p - value	Decision	Remarks
Age and Challenges Encountered	0.062	1	0.804	Do not reject Ho	Not Significant
Teaching Experience and Challenges Encountered	0.026	1	0.873	Do not reject Ho	Not Significant
Years of Teaching Position and Challenges Encountered	1.429	1	0.232	Do not reject Ho	Not Significant

Highest Educational Attainment and Challenges Encountered	3.203	1	0.073	Do not reject Ho	Not Significant
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*significant at p<0.05 (two-tailed)

This section presents the analysis of the relationship between the respondents’ identified demographic profile and their extent of challenges encountered in ICT integration in classroom instruction. Specifically, it examines whether variables such as age, gender, years of teaching experience, teaching position and highest educational attainment, have a significant relationship with the difficulties teachers experience in using ICT during classroom teaching.

Table 17 presents the test of significance of the relationship between the respondents’ identified demographic profile and their extent of challenges encountered in ICT integration in classroom instruction.

The results reveal that age has a computed value of 0.062 with 1 degree of freedom and a p-value of 0.804, which is greater than the 0.05 level of significance. This indicates that there is no significant relationship between age and the challenges encountered in ICT integration. Hence, the null hypothesis is not rejected. This means that the challenges teachers experience in integrating ICT do not vary significantly according to age. Similarly, teaching experience obtained a computed value of 0.026, with 1 degree of freedom and a p-value of 0.873, which is also higher than 0.05. This result shows that there is no significant relationship between teaching experience and the challenges encountered in ICT integration. Therefore, the null hypothesis is not rejected. This implies that whether teachers have shorter or longer teaching experience does not significantly affect the extent of ICT-related challenges they face. In the case of teaching position, the computed value is 1.429 with 1 degree of freedom and a p-value of 0.232, which is likewise greater than 0.05. This means that there is no significant relationship between teaching position and the challenges encountered in ICT integration. Thus, the null hypothesis is not rejected. This suggests that teachers, regardless of rank or position, tend to experience similar levels of challenges in ICT integration. Meanwhile, highest educational attainment yielded a computed value of 3.203, with 1 degree of freedom and a p-value of 0.073, which remains higher than the 0.05 level of significance. Although this variable obtained the highest computed value among the demographic factors, it is still not statistically significant. Therefore, the null hypothesis is likewise not rejected. This indicates that teachers’ educational attainment does not significantly influence the challenges they encounter in integrating ICT in classroom instruction.

The findings indicate that none of the identified demographic profile variables age, gender, years of teaching experience, teaching position, and highest educational attainment showed a significant relationship with the extent of challenges encountered in ICT integration in classroom instruction. Since all p-values are greater than 0.05, the study concludes that the challenges experienced by teachers in ICT integration are generally similar regardless of their demographic characteristics. These findings suggest that the challenges encountered in ICT integration may be influenced more by external and professional factors such as availability of ICT resources, access to training, technical support, internet connectivity, and institutional support, rather than by teachers’ demographic profile alone.

RELATIONSHIP BETWEEN THE RESPONDENTS’ ICT INTEGRATION AND THEIR CHALLENGES ENCOUNTERED IN CLASSROOM INSTRUCTION

This section presents the analysis of the relationship between the respondents’ level of ICT integration and their challenges encountered in classroom instruction. It aims to determine whether the extent to which teachers integrate ICT in their teaching practices is significantly associated with the challenges they experience during classroom instruction.

Table 18
Test of Significance of Relationship Between the Respondents’
ICT Integration and their Challenges Encountered
in Classroom Instruction

Variables	χ^2 -value	df	p - value	Decision	Remarks
ICT Integration and Challenges Encountered	1.693	1	0.193	Do not reject Ho	Not Significant

*significant at p<0.05 (two-tailed)

Table 18 presents the test of significance of the relationship between the respondents' ICT integration and their challenges encountered in classroom instruction. The table shows a computed test value of 1.693, with 1 degree of freedom, and a p-value of 0.193.

Since the p-value (0.193) is greater than the 0.05 level of significance, the null hypothesis is not rejected. This indicates that there is no statistically significant relationship between the respondents' level of ICT integration and the challenges they encounter in classroom instruction. Table 19 presents the test of significance on the relationship between the respondents' level of ICT integration and the challenges they encounter in classroom instruction. The results show a computed value of 1.693 with 1 degree of freedom and a p-value of 0.193 at a 0.05 level of significance. Since the p-value is greater than 0.05, the null hypothesis is not rejected. This indicates that there is no statistically significant relationship between the respondents' ICT integration and the challenges they encounter in classroom instruction.

This finding suggests that the extent to which teachers integrate ICT in their teaching does not determine the level of challenges they experience. Teachers who frequently use ICT may still encounter similar difficulties as those who use it less often, particularly in terms of limited resources, poor internet connectivity, lack of technical support, and insufficient training. This implies that ICT-related challenges are largely systemic and contextual rather than dependent on individual usage or proficiency.

The finding implies that teachers who frequently integrate ICT may still encounter similar difficulties as those who use it less, particularly in relation to inadequate infrastructure, poor internet connectivity, lack of technical support, and limited preparation time.

SUMMARY

This research assessed the extent of ICT integration in their classroom instruction and ICT Integration challenges encountered in classroom instruction of the teachers at Sudlon Integrated School-Elementary Department in Cebu City Division for school year 2025-2026 as basis for an action plan. This research used descriptive-correlational research design, to determine the relationship between teachers' demographic profiles, their level of ICT integration, and the challenges they encounter in the classroom instruction. There were 30 teacher-respondents who were asked to answer the questions who actively integrate ICT in their teaching practices. The data gathered were organized, summarized, tabulated and statistically treatment in accordance to the purpose of the study. Hypotheses testing were conducted to determine the significance of the relationship between the level of ICT integration and the challenges encountered in classroom instruction using Chi-Square Test of Independence. This statistical test enabled the researcher to identify whether a significant association exists between the variables under study. The results served as a basis for accepting or rejecting the null hypothesis. Moreover, the findings provided empirical evidence to support conclusions and recommendations for improving ICT integration in classroom practices.

FINDINGS

Based on the data gathered, the findings based on the results are summarized here. There was no significant relationship between teachers' demographic profiles and the challenges encountered in ICT integration. Similarly, the study found no significant relationship between the level of ICT integration and the challenges encountered in classroom instruction. These results suggest that challenges in ICT integration are largely influenced by systemic and contextual factors rather than individual teacher characteristics or the extent to which teachers integrate ICT into their lessons. It provides a foundation for understanding the challenges teachers face in ICT integration. They highlight the need for institutional support, professional development, and access to appropriate resources to help teachers overcome challenges and effectively utilize ICT in classroom instruction. These findings further imply that interventions should be focused at the school or organizational level rather than targeting individual teacher differences. It also indicates the importance of strengthening policies and action planning to address gaps in infrastructure and resource allocation. Ultimately, a collaborative effort among stakeholders is necessary to create a more supportive environment for effective ICT integration in education.

V. CONCLUSION

Based on the findings of the study, it can be concluded that the challenges encountered by teachers in ICT integration are not significantly related to their demographic profiles or their level of ICT integration in classroom instruction. This indicates that the difficulties faced by teachers are not determined by individual characteristics or by how extensively they use ICT, but are largely influenced by systemic and contextual factors, such as availability of resources, infrastructure, technical support, and institutional policies. The study underscores the importance of providing adequate professional development, institutional support, and access to necessary ICT resources to help teachers effectively integrate technology into their teaching practices. Addressing these systemic challenges is crucial to ensure that

ICT integration enhances classroom instruction and improves learning outcomes. Furthermore, the findings emphasize the need for school leaders and policymakers to prioritize investments in technological infrastructure and support systems. It also suggests that sustainable ICT integration requires continuous monitoring and evaluation to identify gaps and improve implementation strategies. Overall, creating an enabling environment is essential to empower teachers and maximize the educational benefits of ICT integration.

RECOMMENDATION

In light of the findings of the study, it is highly recommended that the action plan addressing the issues and concerns about the ICT integration and challenges encountered in classroom instruction be implemented. This action plan should focus on strengthening technological infrastructure, providing continuous professional development, and ensuring access to adequate ICT resources for teachers.

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