
Teachers' Use of ICT Tools and Teaching Performance in Private Elementary Schools in Cagayan

HAROLD L. ABUT

Dacal-Pukel Elementary School, Cagayan, Philippines

harold.abut@gmail.com

Abstract — This study examined the relationship between teachers' use of Information and Communication Technology (ICT) tools and their teaching performance in private elementary schools in Cagayan, Philippines. Specifically, it determined the extent of ICT utilization in terms of instructional preparation, classroom instruction, assessment and evaluation, and communication and collaboration, as well as the teaching performance of teachers based on their latest Individual Performance Commitment and Review Form (IPCRF) ratings. The study employed a descriptive-correlational research design involving 56 private elementary school teachers selected through stratified random sampling. Data on ICT utilization were gathered using a researcher-made questionnaire, while teaching performance was measured using the respondents' latest IPCRF ratings. Descriptive statistics such as frequency, percentage, mean, and standard deviation were used to analyze the data, while the Pearson Product-Moment Correlation Coefficient was employed to determine the relationship between the variables. Findings revealed that teachers utilized ICT tools to a very great extent (mean = 3.38). Moreover, the respondents demonstrated an outstanding level of teaching performance (mean = 4.75). Correlation analysis showed a moderate positive and significant relationship between teachers' use of ICT tools and their teaching performance ($r = 0.541$, $p = 0.001$). The study concluded that increased utilization of ICT tools contributes to improved teaching performance. It is therefore recommended that schools continue strengthening ICT-related training, resources, and support programs to further enhance teachers' professional effectiveness.

Keywords: ICT tools, technology integration, teaching performance, digital competence, private

I. INTRODUCTION

The integration of Information and Communication Technology (ICT) in education has transformed the way teachers deliver instruction, manage learning activities, and assess student performance. In today's digital era, ICT tools such as computers, interactive presentations, learning management systems, online educational platforms, and communication applications have become essential components of effective teaching. These technologies provide opportunities for teachers to create engaging learning environments, facilitate collaboration, and improve the overall quality of instruction. As educational institutions continue to embrace digital transformation, the effective use of ICT tools has become a critical factor influencing teaching performance and educational outcomes.

In the Philippines, the incorporation of ICT in teaching has gained significant attention, particularly following the educational adjustments necessitated by the COVID-19 pandemic. Teachers were compelled to adopt various digital tools to sustain learning continuity, resulting in a greater reliance on technology in everyday instructional practices. Despite the increasing availability of ICT resources, differences remain in teachers' competence, confidence, and frequency of ICT use. These variations may influence their teaching performance, including lesson preparation, instructional delivery, classroom management, assessment practices, and professional productivity. In private elementary schools, where technology adoption is often encouraged to enhance educational quality and competitiveness, understanding the relationship between ICT utilization and teaching performance becomes particularly relevant.

Recent studies have emphasized the importance of ICT integration in improving instructional effectiveness. Akram et al. (2022) conducted a systematic review on teachers' perceptions of technology integration and found that educators generally viewed ICT positively, believing that technology-enhanced teaching improved instructional practices, increased student engagement, and supported effective learning experiences. However, the study also identified barriers such as inadequate infrastructure, insufficient training, and limited technological support, which hindered the effective utilization of ICT in teaching.

Similarly, Zenda and Dlamini (2023) cited factors influencing teachers' adoption of ICT in educational settings and reported that teachers' technological competence, institutional support, and access to digital resources significantly affected their willingness and ability to integrate technology into classroom instruction. Their findings suggested that teachers who effectively utilized ICT demonstrated improved instructional practices and greater confidence in delivering lessons, ultimately contributing to enhanced teaching performance.

Furthermore, Yonezawa and Nakai (2024) investigated elementary school teachers' use of ICT in inquiry-based learning and found that ICT self-efficacy and collaborative practices among teachers were positively associated with effective technology integration. The study highlighted that teachers who possessed strong confidence in using ICT tools were more likely to employ technology creatively and effectively in their instructional activities. Additionally, collaboration among colleagues fostered the sharing of technological knowledge and teaching strategies, further enhancing instructional effectiveness.

Although previous studies have established the importance of ICT utilization in education, there remains a need to examine how teachers' use of ICT tools specifically relates to their teaching performance within the context of private elementary schools in Cagayan. Local evidence on this relationship remains limited despite the growing emphasis on digital learning and technology-enhanced instruction. Understanding this relationship could provide school administrators and policymakers with valuable information for designing professional development programs and improving technology-related support systems for teachers. Therefore, the general objective of this study was to determine the relationship between teachers' use of ICT tools and their teaching performance in private elementary schools in Cagayan, Philippines.

Literature Review

The growing integration of Information and Communication Technology (ICT) in education has significantly influenced teaching practices and professional performance among teachers. ICT tools, including computers, interactive learning platforms, educational software, digital assessment systems, and online communication applications, have transformed traditional

instructional approaches into more student-centered and engaging learning experiences. The effective use of these technologies is increasingly recognized as an essential component of teaching quality and professional effectiveness in contemporary educational settings.

According to Akram et al. (2022), technology integration has become a critical element of modern teaching because it enhances instructional delivery, promotes learner engagement, and supports active learning experiences. Their systematic review revealed that teachers generally hold positive perceptions toward ICT integration, viewing digital tools as valuable resources for improving classroom instruction and educational outcomes. However, they also emphasized that adequate training and institutional support are necessary for successful implementation.

Teacher competence in utilizing ICT is another important factor associated with teaching effectiveness. Clipa et al. (2023) emphasized that teachers' self-efficacy in using ICT significantly influences their classroom practices and professional performance. Their findings indicated that educators with higher confidence in technology use are more likely to integrate digital resources effectively into their instructional activities, resulting in improved teaching quality and classroom management.

Similarly, Cui and Zhang (2022) highlighted the importance of integrating digital literacy and technological pedagogical knowledge in promoting teacher development. They argued that teachers who possess strong technological competencies are better equipped to design effective lessons, manage classroom activities, and assess student learning through digital platforms. Such competencies contribute to improved instructional efficiency and overall teaching performance.

The concept of teacher digital competence has also received considerable attention in recent years. Mahnaz and Sarfraz (2026) noted that digital competence extends beyond technical skills and includes the ability to apply technology strategically to improve teaching and learning processes. Teachers with strong digital competence are more capable of adapting instruction to diverse learner needs, utilizing innovative teaching strategies, and fostering collaborative learning environments.

Furthermore, Shi and Chen (2026) observed that continuous professional development plays a crucial role in enhancing teachers' ability to integrate ICT effectively. Their work suggested that teachers who regularly participate in technology-related training programs demonstrate greater proficiency in using digital tools for instruction, assessment, and communication. As a result, they tend to exhibit higher levels of instructional performance and professional productivity.

In a study focusing on teachers' digital competence, Peng et al. (2023) found that educators who frequently utilize technological resources show greater instructional innovation and effectiveness. Their findings indicated that ICT use encourages creativity in lesson preparation and promotes more meaningful learning experiences among students.

More recently, Yonezawa and Nakai (2024) reported that ICT self-efficacy and collegial collaboration are significant predictors of teachers' use of technology in instructional practice. Their study showed that teachers who are confident in their ICT skills and who collaborate with colleagues are more likely to employ technology effectively in classroom activities. Such practices contribute to enhanced teaching performance and improved educational outcomes.

Collectively, the literature demonstrates that teachers' use of ICT tools is closely associated with instructional effectiveness, professional competence, and overall teaching performance. Studies consistently emphasize the importance of digital competence, self-efficacy, institutional support, professional development, and collaborative practices in promoting successful ICT integration. These findings provide a strong theoretical foundation for examining the relationship between teachers' use of ICT tools and teaching performance in private elementary schools in Cagayan.

Research Questions

This study examined the relationship between teachers' use of ICT tools and teaching performance in private elementary schools in Cagayan, Philippines. Specifically, it sought to answer the following research questions:

1. What is the extent of teachers' use of ICT tools in terms of the following?

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- a. instructional preparation;
 - b. classroom instruction;
 - c. assessment and evaluation;
 - d. communication and collaboration
2. What is the teaching performance of teachers based on their latest IPCRF ratings?
 3. Is there a significant relationship between teachers' use of ICT tools and their teaching performance?

II. METHODOLOGY

Research Design

This study employed a descriptive-correlational research design. The descriptive method was utilized to determine the extent of teachers' use of ICT tools in terms of instructional preparation, classroom instruction, assessment and evaluation, and communication and collaboration, as well as to describe their teaching performance based on their latest Individual Performance Commitment and Review Form (IPCRF) ratings. Meanwhile, the correlational approach was used to examine the relationship between teachers' use of ICT tools and their teaching performance. This research design was deemed appropriate because it enabled the researcher to gather quantitative data, describe the existing conditions regarding ICT utilization among teachers, and determine whether a significant relationship exists between the variables under investigation without manipulating any aspect of the study.

Participants of the Study

The respondents of this study were 56 private elementary school teachers from selected private elementary schools in the Division of Cagayan, Philippines. The participants were chosen

through stratified random sampling to ensure that each participating school was adequately represented in the study. This sampling technique was considered appropriate because it allowed the researcher to obtain respondents from different private elementary schools, thereby increasing the representativeness of the sample and minimizing sampling bias. The teacher-respondents were selected from eight private elementary schools in the province, with each school contributing seven teacher-participants. The selection of respondents was based on their active teaching status during the conduct of the study and their willingness to participate in the research. The distribution of the respondents across the participating schools is presented below.

Schools	Number of Respondents
School A	7
School B	7
School C	7
School D	7
School E	7
School F	7
School G	7
School H	7
Total	56

Instrumentation

This study utilized a researcher-made questionnaire as the primary data-gathering instrument. The questionnaire was designed to determine the extent of teachers' use of ICT tools in terms of instructional preparation, classroom instruction, assessment and evaluation, and

communication and collaboration. It was developed based on an extensive review of related literature and studies on ICT integration and teaching performance. The instrument consisted of two parts. The first part focused on indicators that measured the extent of teachers' use of ICT tools in the identified dimensions.

A four-point Likert scale was used to measure the respondents' level of agreement with each statement. The scale and its corresponding descriptive interpretations are presented below:

Scale	Range	Descriptive Interpretation
4	3.25 – 4.00	Very Great Extent
3	2.50 – 3.24	Great Extent
2	1.75 – 2.49	Lesser Extent
1	1.00 – 1.74	Very Lesser Extent

To establish content validity, the questionnaire was submitted to a panel of experts in educational management, research, and information and communication technology for evaluation. Their suggestions and recommendations were incorporated to improve the clarity, relevance, and adequacy of the instrument. Furthermore, the questionnaire underwent pilot testing among teachers who were not included in the actual respondents of the study to determine its reliability. Necessary revisions were made based on the results of the pilot testing before its administration. Meanwhile, the second part measured the teaching performance of the respondents using their latest Individual Performance Commitment and Review Form (IPCRF) ratings obtained from the school records, subject to the approval of the school administrators and adherence to confidentiality protocols. The instrument enabled the researcher to collect the data needed to determine the extent of ICT tool utilization and its relationship with teachers' teaching performance.

Analysis of Data

The collected data were analyzed using both descriptive and inferential statistics. Descriptive statistics, specifically the mean, were used to determine the extent of teachers' use of ICT tools in terms of instructional preparation, classroom instruction, assessment and evaluation, and communication and collaboration, as well as to describe their teaching performance based on their latest IPCRF ratings. To determine the relationship between teachers' use of ICT tools and their teaching performance, the Pearson Product-Moment Correlation Coefficient (Pearson r) was employed. All statistical analyses were conducted using an appropriate statistical software package, and the null hypothesis was tested at the 0.05 level of significance. The results served as the basis for drawing conclusions and formulating recommendations for the study.

III. RESULTS AND DISCUSSION

Extent of teachers' use of ICT tools in terms of the following dimensions

The results reveal that teachers utilize ICT tools to a Very Great Extent, as evidenced by the overall mean of 3.38. Among the four dimensions, Instructional Preparation obtained the highest mean score (3.51), indicating that teachers extensively use ICT tools in preparing lesson plans, instructional materials, presentations, and other learning resources. This was followed by Communication and Collaboration with a mean of 3.41, suggesting that teachers frequently employ digital platforms and communication technologies to interact with learners, parents, and colleagues. Classroom Instruction also garnered a high mean of 3.33, reflecting the effective integration of ICT tools during the delivery of lessons and learning activities. Meanwhile, Assessment and Evaluation received a mean score of 3.23, which, although the lowest among the dimensions, still indicates a very high level of ICT utilization in monitoring and evaluating students' learning progress. Overall, the findings suggest that teachers have strongly embraced technology in various aspects of their professional practice, demonstrating a high level of digital competence and commitment to enhancing the teaching and learning process through ICT integration.

Statements	Mean	Interpretation
Instructional Preparation	3.51	Very Great Extent
Classroom Instruction	3.33	Very Great Extent
Assessment and Evaluation	3.25	Very Great Extent
Communication and Collaboration	3.41	Very Great Extent
Overall Mean	3.38	Very Great Extent

Teaching performance of teachers based on their latest IPCRF ratings

The results reveal that the respondents demonstrated an Outstanding level of teaching performance, as reflected by the computed mean rating of 4.75, which falls within the Outstanding (4.500-5.000) descriptive category. Of the 56 teacher-respondents, 38 (67.86%) obtained an Outstanding rating, while 18 (32.14%) achieved a Very Satisfactory rating ranging from 3.500 to 4.499. The predominance of teachers with Outstanding ratings indicates that the majority consistently exhibited excellence in instructional delivery, classroom management, learner assessment, and the fulfillment of professional responsibilities. The standard deviation of 0.18 indicates very minimal variation in the respondents' performance ratings, suggesting that the teachers generally performed at similarly high levels. This low variability implies consistency in the quality of teaching performance among the respondents. The overall means further confirm that teaching performance remained at an exceptional level. These findings suggest that teachers in participating private elementary schools possess a high degree of professional competence, commitment, and effectiveness, enabling them to meet and even surpass the established performance standards in their respective institutions.

Teaching Performance	Frequency	Percentage
Outstanding (5.000 – 4.500)	38	67.86
Very Satisfactory (4.499 – 3.500)	18	32.14
Mean = 4.75	S.D. = 0.18	

Relationship between teachers' use of ICT tools and their teaching performance

The results revealed a moderate positive and significant relationship between teachers' use of ICT tools and their teaching performance, as evidenced by the computed correlation coefficient of $r = 0.541$ and a probability value of $p = 0.001$, which is lower than the 0.05 level of significance. This indicates that as teachers' utilization of ICT tools increases, their teaching performance also tends to improve. The result further suggests that the effective integration of ICT tools in instructional preparation, classroom instruction, assessment and evaluation, and communication and collaboration contributes positively to teachers' ability to perform their professional duties. Since the relationship was found to be statistically significant, the null hypothesis stating that there is no significant relationship between teachers' use of ICT tools and their teaching performance is rejected. The findings imply that ICT serves as an important resource that enhances teachers' efficiency, productivity, and effectiveness in delivering quality instruction and managing various teaching responsibilities.

The findings of the study are consistent with the work of Zenda and Dlamini (2023), who reported that teachers' technological competence, institutional support, and access to digital resources significantly influence their adoption of ICT in educational settings. Their study found that teachers who effectively utilized ICT demonstrated improved instructional practices and greater confidence in lesson delivery, ultimately resulting in enhanced teaching performance. Similarly, the results support the findings of Yonezawa and Nakai (2024), who found that ICT self-efficacy and collaborative practices among teachers were positively associated with effective

technology integration. Their study revealed that teachers who possessed strong ICT skills and confidence were more likely to use technology creatively and effectively in instruction, leading to improved instructional effectiveness and educational outcomes. These studies reinforce the present finding that the increased use of ICT tools plays a significant role in promoting higher levels of teaching performance among teachers.

Variable	Coefficient (r)	Probability	Statistical Inference
Teachers' Use of ICT Tools and their Teaching Performance	0.541	0.001	Significant

IV. CONCLUSION

The study concluded that teachers in private elementary schools in Cagayan utilized ICT tools to a very great extent across instructional preparation, classroom instruction, assessment and evaluation, and communication and collaboration. Likewise, the teachers demonstrated an outstanding level of teaching performance, as reflected in their IPCRF ratings. Furthermore, the findings established a moderate positive and significant relationship between teachers' use of ICT tools and their teaching performance, indicating that increased utilization of technology contributes to improved professional effectiveness and instructional quality. Therefore, the study affirms that ICT integration plays a vital role in enhancing teachers' performance and supports the need for continued technology-related training, resource provision, and institutional support to further strengthen teaching practices and educational outcomes in private elementary schools.

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