

Teachers' Competency In Teaching Information And Communications Technology In Public Elementary Schools

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Abstract

ICT competency in education increases learning opportunities, nurtures critical thinking and collaboration, encourages active participation, and prepares students for the digital era. This study's key purpose is to determine teachers' competency in teaching ICT in public elementary schools in one of the districts of a large division in the Central Philippines for the school year 2024-2025. Descriptive research was conducted, and a 32-item survey questionnaire was used as a tool to gather data from forty-two (42) teachers to find out the ICT competency in teaching. Overall, teachers' competency in teaching ICT is at a high level. Further, a significant difference was found in the level of teachers' competency in teaching ICT in terms of technological competency when compared according to their ages and length of service. This calls for ICT division coordinators and education program supervisors to plan professional development to strengthen elementary teachers' ICT competence by integrating ICT training in the In-Service Training (INSET) of teachers anchored on the skill-set and basic competence to introduce their ICT skills further advance and meaningful ICT integrated teaching-learning to learners.

Keywords: Teachers' Competency, ICT, Technological, Pedagogical, Didactical, Social, Public Elementary Schools

Bio-profile

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Introduction

Rationale

Integrating Information and Communications Technologies (ICT) into teaching practices in the digital age has determined learning quality (Baytar et al., 2023). It is proven to be effective in academic use and induced the rise of a new generation of learners with a unique way of receiving, processing, and exchanging information (Wang, 2023). Technology has invaded teachers' daily lives (Şahal & Ozdemir, 2020), but it has not yet yielded the desired impact on their practice in the classroom. Therefore, training in digital competence represents one of the main challenges teachers face as they strive to integrate ICT into their teaching practices (Garzón-Artacho et al., 2021).

Teacher's competence in ICT is considered a part of career competence (Mendez, 2024). A competent teacher can use ICT to teach and communicate with students in direct and virtual environments (Thai et al., 2022). ICT competency is essential for the teacher in this dynamic world to perpetuate an innovative and creative learning environment in the teaching-learning process. Hence, a teacher must know ICT's technological, pedagogical, didactical, and social use for teaching and learning. However, harnessing ICT continues to be an important challenge to educators.

The present research venue, teaching ICT in elementary school, is a complex process, and one may encounter several difficulties if you lack competence and confidence in ICT. According to Das (2019), the lack of ICT competence can lead to teachers' low confidence in using ICT tools in their teaching, which affects the quality of their instruction. Despite the significant funds allocated by the government to improve ICT resources in schools and training for teachers, tenured teachers experienced difficulty with their competence and utilization because of resistance to adopting new technologies, fear of technology replacing jobs, or reluctance to learn new skills (Zhang & Eslabon, 2024). In this light, the researcher was highly encouraged to conduct a descriptive quantitative study focusing on the teachers' competency in teaching ICT in public elementary schools. The findings may also highlight areas where teachers feel most challenged, allowing for targeted interventions to address these gaps. By equipping teachers with the necessary resources and training, we can foster a more effective learning environment for students in the digital age.

Literature Review

Competence is a person's unique trait and how they act and think in every situation, which is affected by their ability to use workplace tools and facilities. Competence refers to one's performance in a job, which can be seen from thinking, attitude, and behavior (Ikemba, 2018). Regarding ICT, competency refers to skills, knowledge, and attitudes that enable people to understand, use, and adapt to technological tools and digital resources. ICT competency encompasses skills in word processing, presentations, spreadsheets, email, internet, networking, communication, professional software applications, and digital tools necessary for success in



today's digital world. It has the potential to significantly enhance the quality of education (Reang & Mohalik, 2023). In addition, ICT competency is a fundamental skill for teachers to utilize to prepare students to master new technology as equipment for them to develop themselves as lifelong learners. This stage focuses on technology literacy development in teachers so they can integrate ICT tools. Teachers' competence needs skill, behavior, and professional value. Teachers' competence can comprise fact and concept repetition until advanced motor skills toward learning behavior and professional value (Ikemba, 2018).

Technological competency is vital for teachers' teaching and learning process, as it facilitates effective learning (Thakur, 2015). Additionally, it emphasizes how it enhances students' potential for future growth and achievement of learning objectives while maintaining the framework of creating classroom-based materials through ICT. Therefore, it is important for teachers to acquire knowledge and competence in technology operations and conceptual skills. Medez (2023) found that the teachers have low basic skills in technology operations, particularly in basic troubleshooting and repair of ICT equipment and hardware and software applications. Likewise, Sanchez et al. (2022) revealed that teachers demonstrate sound knowledge and skills in technology operations and concepts, including basic troubleshooting, productivity tools, internet and network resources, and information and data management. Basilotta et al. (2022) found that most teachers have low competency in ICT due to a lack of knowledge and skills related to technology. This study also found no significant difference between male and female teachers in ICT competency. However, Reang and Mohalik (2023) revealed no significant difference concerning ICT competency between male and female, arts and science, and urban and urban teachers.

Pedagogical competence is a crucial factor in ensuring the quality of education. It refers to the ability of teachers to create effective learning environments, design learning activities that cater to different learning styles and levels, and employ appropriate teaching strategies to engage learners in meaningful and productive learning experiences (Toshtemirovich, 2019). However, a lack of pedagogical training on using ICT in the classroom and training concerning using technologies in specific areas were obstacles to using new technologies in classroom practice. The use of ICT in education must be pedagogically sound and tailored to the requirements of each learner to realize its full potential. Additionally, it is critical to introduce and support ICT use sustainably and use a variety of pedagogical strategies that foster lifelong learning (Dondofema & Shumba, 2018). Dimaculangan et al. (2022) found that the challenges faced by teachers in synchronous online teaching resulted from a lack of technology and digital pedagogical proficiency. De la Fuente and Biñas (2020) revealed that instructors' proficiency in several skill sets related to information and communications technology is at the intermediate level. Furthermore, age, gender, maximum educational achievement, and teaching position have little effect on teachers' ICT competency.

According to Tashbolovna (2023), didactical competency is the ability to make quick, reasonable, and clear didactic decisions, find the shortest way to solve a problem, and choose methods and educational tools suitable for specific conditions. A teacher's didactic competence is integral to professional competence as a generalized collective characteristic of professionalism.



By didactic competence, we understand the integral ability of learners to solve didactic issues in teaching and their development. Orhani et al. (2023) found that using ICT as a didactic tool can help manage time and build knowledge through students' activities and personal experiences. Using ICT, such as Word and PowerPoint, students can create diagrams and logic tasks, adapting to their psychological skills. However, the use of ICT can be challenging in some cases, taking into account the age and knowledge of the students about technological devices and the lack of ICT equipment.

Further, social competencies refer to individuals' skills and abilities to interact, communicate, and collaborate effectively with others. This includes interpersonal skills, communication skills, teamwork, empathy, and conflict resolution. Strong social competencies enable individuals to communicate effectively, whether face-to-face or through digital channels. Skills such as active listening and clear articulation are crucial for productive interactions. Social competencies address the interpersonal and ethical aspects of using technology in education (Musa & Favour, 2025). Moreover, according to Ferrari (2018), social ICT competence involves the skills required to effectively and ethically use digital tools to interact with others, manage online relationships, and participate in digital communities. Zaidi et al. (2024) demonstrated that teachers can acquire supplementary ICT knowledge and skills via diverse channels such as educational programs, conferences, seminars, events, workshops, personal experiences, and collaboration.

Theoretical Underpinning

This study is anchored on McClelland's Theory of Competency (1973). David McClelland was a prominent psychologist known for his motivation and competent modeling work. McClelland's expertise in competency modeling led to the development of the McClelland Competency Theory. The competency theory developed by McClelland is a framework that identifies and defines the key competencies required for success in specific roles or occupations. It emphasizes the importance of technical skills and personal characteristics, such as motivation, self-confidence, and adaptability. The model provides a structured approach for assessing and developing these competencies in individuals to improve job performance and organizational effectiveness.

As linked in the present study, McClelland's Competency Theory is relevant to educational institutions, particularly in terms of teachers' motivation, job satisfaction, and teaching behavior. This theory provides organizations with a systematic approach to identifying and assessing the competencies contributing to individual and organizational success. Hence, teaching ICT requires competence to effectively deliver a quality teaching and learning experience for learners. Competencies are not just knowledge and skills; they also involve the ability to perform complex tasks in specific situations, like ICT integration in teaching. This means that a competent teacher must understand the circumstances, easily adapt to them using ICT, and have confidence in incorporating it into their teaching practice.

Objectives



This study aimed to determine teachers' competency in teaching ICT in public elementary schools. Specifically, it aimed to determine 1) the level of teachers' competency in teaching ICT across four key areas: technological competency, pedagogical competency, didactical competency, and social competency, 2) whether there were significant differences in the level of teachers' competency in teaching ICT when grouped and according to the demographic variables.

Methodology

This portion presents a discussion of the research methodology used, the subjects and respondents of the study, the research instruments used, the validity and reliability of the instruments, the procedure for data gathering, and the statistical tools and procedures for data analysis.

Research Design

This study employed the descriptive research design to determine teachers' competency in teaching ICT in public elementary schools. According to Creswell and Poth (2019), descriptive research is simply an attempt to determine, describe, or identify what something is and to establish why it is that way or how it came to be. Through data collection, descriptive research aims to shed light on current issues, enabling a more comprehensive description of the situation than would be possible without this method. In its essence, it describes various aspects of the phenomenon. Descriptive research, in its popular format, describes the characteristics and behavior of the sample population.

Study Respondents

The study's respondents were the 42 public elementary school teachers teaching ICT. The researcher employed purposive sampling. Purposive sampling is a form of non-probability sampling in which researchers rely on their judgment when choosing population members to participate in the study. Purposive sampling allows researchers to access a specific subset of people by selecting all survey participants based on a specific profile (Ames, 2019).

Instrument

This study utilized a researcher-made questionnaire. The researcher made a questionnaire in two parts. The first part comprises the personal Profile of the parents in terms of age, sex, and length of service. The second part of the questionnaire answers the level of teachers' competency in teaching ICT. The level of teachers' competency in teaching ICT is split into the areas of technological competency, pedagogical competency, didactical competency, and social competency. It is composed of 8 items per area with a total of 32 items. The respondents were asked to rate each item using the five-point Likert scale, which contains the following scores: 5



–Always; 4 –Often; 3 –Sometimes; 2 –Rarely; and 1 –Almost Never. The research instrument was subjected to validity (5.00-excellent) and reliability (0.956-excellent).

Data Collection Procedure

The researcher asked permission through written communication from the Schools Division Superintendent of the Department of Education of the Division of Negros Oriental, requesting to allow the researcher to distribute the questionnaires to the target respondents. Upon approval of the first request, the researcher provided the school heads of the concerned schools with a copy of the approved communication from SDS to secure their consent for the study's conduct. After granting permission, the researcher distributed the survey questionnaire to each respondent. The purpose of the study was properly explained to respondents by the researcher. The researcher gave the respondents an allowance of three weeks to ensure that all questionnaire items were answered. The researcher personally retrieved the questionnaires after the allowed time to ensure a 100 percent retrieval of the checklist and questionnaires.

Data Analysis and Statistical Treatment

Objective No. 1 used the descriptive analytical scheme and weighted mean to determine the level of teachers' competency in teaching ICT in terms of technological competency, pedagogical competency, didactical competency, and social competency. Objective No. 2 used the comparative analytical scheme and Mann-Whitney U-test to determine the significant difference in the level of teachers' competency in teaching ICT when grouped and compared according to demographic profiles.

Ethical Considerations

The researcher prioritized the respondents' voluntary participation, informed consent, risk of harm, confidentiality, and anonymity to prevent any violations of human rights during the research process. Participation in the study was voluntary, and the respondents could withdraw at any time without any consequences. We informed them about the study's academic purpose. Only the researcher(s) had access to the research data, ensuring confidentiality. Moreover, during the study, the researcher strictly observed the governing guidelines and policies of the Data Privacy Act of 2012 to ensure security measures are in place to protect personal and sensitive information. This commitment to ethical standards fostered trust among participants and enhanced the integrity of the research findings. By adhering to these guidelines, we aimed to uphold the highest level of professionalism in our research process.

Results and Discussions

In this section, the data gathered were further treated, presented, analyzed, and interpreted to focus on the study's specific objectives.

Table 1



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Level of Teachers' Competency in Teaching ICT According to Technological Competency

Items	Mean	Interpretation
<i>As an elementary teacher, I</i>		
1. am capable of using multimedia for classroom instruction.	4.67	Very High
2. use a variety of software, like word processing and spreadsheets.	4.07	High
3. can familiarize myself with computer terminologies.	3.98	High
4. use available computer hardware and peripherals for classroom instruction.	4.29	High
5. have the ability and understanding of fundamental computer operations and concepts.	4.29	High
6. can navigate reliable educational websites and platforms for instructional purposes.	4.19	High
7. am capable of doing basic troubleshooting and repair.	2.79	Moderate
8. am capable of using storage devices for storing, retrieving, and sharing files	4.17	High
Overall Mean	4.06	High

Table 1 presents the level of teachers' competence in teaching ICT in the area of technological competency. The respondents obtained an overall mean score of 4.06, interpreted as a high level. It shows that most teachers somehow have the knowledge and understanding of technological devices, operations, and software applications. However, to deepen the analysis, the teachers obtained the highest mean of 4.67 on item No. 1, stating, I am capable of using multimedia for classroom instruction, and interpreted it as a very high level. On the other hand, the lowest mean score of 2.73 was on item No. 6, stating I am capable of doing basic troubleshooting and repair, and I interpreted it as a moderate level.

The result implies that most of the teachers have less knowledge of basic troubleshooting and repair of ICT equipment, hardware, and software applications such as printing errors, malfunctioning projectors, retrieval of old/deleted files, virus protection, etc. These problems are common among public elementary teachers, and most of them rely on IT technicians or experts to fix them. This results in delays in the delivery of teaching and learning to the students. To address these issues effectively, it's essential for schools to invest in professional development programs that equip teachers with the necessary skills to manage fundamental ICT challenges independently. By fostering a more self-sufficient teaching staff, public schools can enhance productivity and improve the overall learning experience for learners. The finding relates to that of Medez (2023). The researcher found out that the teachers have low basic skills in technology operations, particularly in basic troubleshooting and repair of ICT equipment and hardware and software applications. The result is also supported by Sanchez et al. (2022), who revealed that teachers demonstrate good knowledge and skills in terms of technology operations and concepts, which include basic troubleshooting, productivity tools, internet and network resources, and information and data management.



Table 2*Level of Teachers' Competency in Teaching ICT According to Pedagogical Competency*

Items	Mean	Interpretation
<i>As an elementary teacher, I</i>		
1. design compelling learning experiences and create rich learning environments with the support of ICT	4.14	High
2. explore and apply ICT in cooperative learning and peer interaction	4.07	High
3. apply ICT-supported strategies to manage students' learning.	4.19	High
4. Use synchronous (Google Classroom, Meet, etc.) activities to facilitate class discussions and meetings.	1.93	Low
5. use electronic means of administering quizzes and examinations to assess learners' performance.	2.50	Moderate
6. integrate ICT in other subjects across the curriculum.	4.31	High
7. Use emails, messenger, group sites, etc., to disseminate information directly to students, colleagues, and parents.	4.38	High
8. use appropriate slide presentations, videos, audio, and other media in the classroom.	4.60	Very High
Overall Mean	3.77	High

Table 2 shows the level of teachers' competence in teaching ICT in the area of pedagogical competency. The respondents obtained an overall mean score of 3.77, interpreted as a high level. It shows that most of the teachers exhibit pedagogical competencies in ICT. Investigating further, the teachers obtained the highest mean of 4.60 on item No. 10, stating the appropriate use of slide presentations, videos, audio, and other media in the classroom and interpreting it as a very high level. On the other hand, the lowest mean score of 1.93 was on item No. 4, stating the synchronous use (Google Classroom, Meet, etc.) of activities in facilitating class discussions and meetings, and interpreted it as a low level.

The finding implies that many elementary school teachers have less ability to use synchronous activities in facilitating class discussions and meetings. The reason is that some teachers possess limited knowledge of modern digital technology, which significantly hinders the facilitation of synchronous education. Many teachers also possess limited experience in conducting virtual meetings and delivering real-time online education. Another issue is that certain teachers with ICT expertise are unable to execute synchronous instruction due to the lack of devices and internet connectivity among all learners. The result aligns with that of Dimaculangan et al. (2022). The researchers found that the challenges faced by the teachers in synchronous online teaching resulted from a lack of technology and digital pedagogical proficiency.

Table 3*Level of Teachers' Competency in Teaching ICT According to Didactical Competency*

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Items	Mean	Interpretation
<i>As an elementary teacher, I</i>		
1. use ICT as a didactical tool in the class.	4.26	High
2. make decisions about how to present content in a clear and comprehensible manner.	4.21	High
3. create materials and tools that adapt the use of ICT to learners.	4.02	High
4. create learning activities related to specific objectives and the knowledge to be acquired by the learners.	4.21	High
5. know how to use ICT to create and facilitate a community of learning.	4.17	High
6. adapt didactical strategies according to learners' abilities.	4.10	High
7. implement problem-based tasks that compel and find different ideas for the solution using ICT.	3.62	High
8. illustrate the learning content with demonstrations of objects, real-life experiences, etc.	4.17	High
Overall Mean	4.10	High

Table 3 depicts the level of teachers' competence in teaching ICT in the area of didactical competency. The respondents obtained an overall mean score of 4.10, interpreted as a high level. This finding indicates that the majority of teachers use ICT as a didactical tool to aid in the teaching-learning process. Scanning the table further, the teachers obtained the highest mean of 4.26 on item No. 1, stating the use of ICT as a didactical tool in the class, and interpreted it as a high level. On the other hand, the lowest mean score of 1.93 was on item No. 4, stating to implement problem-based tasks that compel and find different ideas for the solution using ICT, and interpreted it as a high level.

The result implies that the teachers exhibit less practice in implementing problem-based tasks using ICT as a support didactic tool. The reason is that, though teachers have knowledge of various didactic strategies, they cannot practice them because of a lack of ICT equipment on the part of the learners and the school itself. This gap in resources not only hampers the teachers' ability to engage students effectively but also limits the opportunities for learners to develop critical problem-solving skills essential for their future. Consequently, addressing these technological deficiencies is crucial for enhancing the overall quality of education in such environments. Orhani et al. (2023) found that the use of ICT as a didactic tool can help in managing time and building knowledge through the activities and personal experiences of students. However, the use of ICT can be challenging in some cases, taking into account the age and knowledge of the students about technological devices and the lack of ICT equipment.

Table 4

Level of Teachers' Competency in Teaching ICT According to Social Competency

Items	Mean	Interpretation
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<i>As an elementary teacher, I</i>		
1. demonstrate knowledge and skills for using technology in an ethical, legal, and safe way.	4.45	High
2. set technology as a trustful atmosphere for communication.	4.40	High
3. give learners equal opportunities to participate in collaboration.	4.52	Very High
4. am able to use humor and good manners during the teaching and learning process.	4.55	Very High
5. show respect for privacy, cyber etiquette, and similar uses of technology.	4.69	Very High
6. demonstrate proper handling of hardware and digital resources.	4.52	Very High
7. join online communities and DepEd Webinars, and subscribe to relevant online journals.	2.86	Moderate
8. recommend useful and credible websites to colleagues and students.	3.12	Moderate
Overall Mean	4.14	High

Table 4 reveals the level of teachers' competence in teaching ICT in the area of social competency. The respondents obtained an overall mean score of 4.14, interpreted as a high level. This entails that most of the teachers showed proper etiquette and privacy in the use of ICT. Inspecting the table further, the teachers obtained the highest mean of 4.69 on item No. 5, stating showing respect for privacy, cyber etiquette, and similar uses of technology and interpreting it as a very high level. On the other hand, the lowest mean score of 2.86 was on item No. 7, stating that one should join online communities, DepEd webinars, and subscribe to relevant online journals, and it was interpreted as a moderate level.

This result implies that most of the teachers seldom join online organizations and seminars and subscribe to online journals. The reason is that most teachers have many teaching loads, administrative duties, and ancillary responsibilities; hence, joining online seminars and subscribing to online journals related to their field was their least priority. In addition, this can only add a burden for them since they do not have enough resources and reliable internet connectivity. Consequently, without the support of adequate resources and time, teachers may miss out on valuable opportunities for professional development that could enhance their teaching practices. This gap in engagement can ultimately impact their ability to stay updated with the latest educational trends and methodologies. The finding is supported by that of Ferrari (2018): social ICT competence involves the skills required to effectively and ethically use digital tools to interact with others, manage online relationships, and participate in digital communities. Zaidi et al. (2024) revealed that teachers can get additional ICT knowledge and skills through a variety of means, including educational programs, conferences, seminars, events, and workshops, as well as personal experiences and collaboration etc.

Table 5



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Comparative Analysis in the Level of Teachers' Competency in Teaching ICT According to Technological Competency When Grouped According to Respondents' Profile

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	Sig. level	Interpretation
Age	Younger	2 1	25.19	143.00	0.050		Significant
	Older	2 1	17.81				
Sex	Male	1 1	24.59	136.50	0.329	0.05	Not Significant
	Female	3 1	20.40				
Length of Service	Shorter	2 1	27.64	91.50	0.001		Significant
	Longer	2 1	15.36				

Table 5 discloses a comparative analysis of the level of teachers' competency in teaching ICT in the area of technological competency according to profile variables. The computed p-value of variable sex is 0.329, which is greater than the 0.05 level of significance and thus interpreted as not significant. However, for the variables age and length of service, the computed p-values are 0.050 and 0.001, respectively, which are less than the 0.05 level of significance and thus interpreted as significant.

This implies that the level of teachers' competence in teaching ICT, particularly in technological competency, varies according to age and length of service. Younger and novice teachers tend to have a more positive attitude toward learning the latest technologies compared to their senior and tenured counterparts. Often, senior and tenured teachers exhibit reluctance to adopt new and emerging technologies in their teaching practices. This reluctance may stem from the lack of familiarity with newer technologies. As a result, these teachers might miss out on opportunities to enhance their teaching through innovative tools and resources. The findings contradict those of Reang and Mohalik (2023), which revealed no significant difference between male and female, arts and science, and urban and urban teachers with reference to ICT competency. Also, in a parallel study, Basilotta et al. (2022) found that the majority of the teachers have low competency in ICT due to a lack of knowledge and skills related to technology. This study also found that there is no significant difference between male and female teachers in ICT competency.

Table 6



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Comparative Analysis in the Level of Teachers' Competency in Teaching ICT According to Pedagogical Competency When Grouped According to Profile

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	Sig. level	Interpretation
Age	Younger	2 1	23.36	181.50	0.325	0.05	Not Significant
	Older	2 1	19.64				
Sex	Male	1 1	25.91	122.00	0.164	0.05	Not Significant
	Female	3 1	19.94				
Length of Service	Shorter	2 1	24.36	160.50	0.130	0.05	Not Significant
	Longer	2 1	18.64				

Table 6 summarizes a comparative analysis of the level of teachers' competency in teaching ICT in the area of pedagogical competency according to profile variables. The computed p-values of variable age, sex, and length of service are 0.325, 0.164, and 0.130, respectively, which are greater than the 0.05 level of significance and thus interpreted as not significant.

The finding implies that teachers' competency in teaching ICT in the area of pedagogical competency does not vary when compared according to age, sex, and length of service. This evidence indicates that teachers have consistent ICT pedagogical competency regardless of their profile backgrounds. This finding suggests that age, gender, and years of experience do not influence how effectively teachers integrate information and communication technology into their teaching practices. As a result, the effectiveness of ICT instruction remains stable across diverse teacher demographics. The result relates to De la Fuente and Biñas (2020), revealed that instructors' proficiency in several skill sets related to information and communications technology is at the intermediate level. Furthermore, age, gender, maximum educational achievement, and teaching position have little effect on teachers' ICT competency.

Table 7

Comparative Analysis in the Level of Teachers' Competency in Teaching ICT According to Didactical Competency When Grouped According to Profile



Variable	Category	N	Mean Rank	Mann Whitney U	p-value	Sig. level	Interpretation
Age	Younger	2 1	23.90	170.00	0.203	0.05	Not Significant
	Older	2 1	19.10				
Sex	Male	1 1	26.32	117.50	0.128	0.05	Not Significant
	Female	3 1	19.79				
Length of Service	Shorter	2 1	24.43	159.00	0.121	0.05	Not Significant
	Longer	2 1	18.57				

Table 7 reviews a comparative analysis of the level of teachers' competency in teaching ICT in the area of didactical competency according to profile variables. The computed p-values of variable age, sex, and length of service are 0.203, 0.128, and 0.121, respectively, which are greater than the 0.05 level of significance and thus interpreted as not significant.

The finding implies that teachers' competency in teaching ICT in the area of didactical competency does not differ when compared according to age, sex, and length of service. This is because, regardless of their age, sex, or length of service, they use ICT as their didactic tool in the delivery of instruction to learners. The evidence indicates that diverse demographics of teachers are uniformly embracing the integration of technology in education. Therefore, professional development programs focus on didactical strategies using ICT. The result relates to that by Zhang and Eslabon (2024), which revealed that teachers' levels of competence in ICT were all high-level, and their extents of compliance were all great. There was no significant difference in the teachers' level of competence and extent of compliance in ICT when grouped and compared according to the variables age, sex, civil status, and educational attainment.

Table 8

Comparative Analysis in the Level of Teachers' Competency in Teaching ICT According to Social Competency When Grouped and Compared According to Profile

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	Sig. level	Interpretation
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Age	Younger	2 1	21.71	216.00	0.909	Not Significant
	Older	2 1	21.29			
Sex	Male	1 1	24.18	141.00	0.396	0.05 Not Significant
	Female	3 1	20.55			
Length of Service	Shorter	2 1	21.76	215.00	0.899	Not Significant
	Longer	2 1	21.24			

Table 8 analyzes a comparative analysis of the level of teachers' competency in teaching ICT in the area of social competency according to profile variables. The computed p-values of variable age, sex, and length of service are 0.909, 0.396, and 0.899, respectively, which are greater than the 0.05 level of significance and thus interpreted as not significant.

The finding implies that teachers' competency in teaching ICT in the area of social competency does not differ when compared according to age, sex, and length of service. Regardless of their profile backgrounds, most of the teachers are socially competent in the proper and ethical use of ICT for their profession. Therefore, fostering an inclusive learning environment can further enhance teachers' professional growth by supporting them in their ICT practices. The finding contradicts that of Nurhabibah (2017), wherein gender, education level, and age are demographic factors in ICT literacy ability. Hence, instructors should enhance their ICT literacy skills, including both their understanding and application of each component of ICT literacy.

Conclusion

The high level of competence in teaching ICT shown by teachers was due to their commitment to their profession and embracing emerging technologies to successfully deliver an enjoyable learning experience among learners. Regardless of teachers' backgrounds, they found teaching ICT fulfilling as they were able to use technology in the delivery of instruction and in communicating with colleagues, learners, and parents. This fulfillment stems from integrating technology into their teaching practices, which enhances their instructional methods and fosters better communication with all stakeholders involved in the educational process. As a result, teachers feel more engaged and satisfied in their roles, leading to a more dynamic learning environment. Further, young and novice teachers were technologically savvy compared to their senior and tenured counterparts. This calls for ICT division coordinators and education program supervisors to plan professional development to strengthen elementary teachers' ICT competence



by integrating ICT training in the In-Service Training (INSET) of teachers anchored on the skill-set and basic competence to introduce their ICT skills further advance and meaningful ICT integrated teaching-learning to learners.

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Author's Contribution Statement

Carogong: Data conception, literature review, data-collection, data-analysis, and interpretation. **Tepacia:** Refinement of the research methodology, instrumentation, data-collection procedure, supervision, and editing.

Conflict of Interest

We maintain that none of the authors of this paper have a financial obligation or personal relationship with any person(s) or organizations that could inappropriately influence/bias the paper's content. We do not receive funding from any person(s) or organization to carry out this research. Given this, we specifically state that "No Competing interests are at stake and there is No Conflict of Interest" with any person(s) or organizations that could inappropriately influence/bias the content of the paper.

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