

# LEVEL OF ICT COMPETENCY AMONG BASIC EDUCATION TEACHERS: UNESCO FRAMEWORK

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## ABSTRACT

*In today's rapidly evolving educational landscape, the integration of Information and Communication Technology (ICT) is not merely an option but a critical necessity. This study investigates the ICT competency levels of elementary school teachers in the Cluster 8 of San Francisco District, Agusan del Sur Division, using the UNESCO ICT Competency Framework for Teachers (ICT CFT). The research profiles respondents based on age, sex, civil status, employment status, years of service, academic rank and position, highest educational qualifications, ICT training, and school size. It evaluates their ICT competency across six dimensions: understanding ICT in education, curriculum and assessment, pedagogy, application of digital skills, organization and administration, and teacher professional learning. Employing a descriptive correlational design, data were gathered from 110 teachers through a validated questionnaire and analyzed using statistical tools such as frequency count, percentage, mean, standard deviation, and Pearson correlation. The findings reveal that most of the respondents are predominantly female, relatively young, highly educated, and committed to professional growth, with a strong emphasis on ICT training and career progression. Specifically, the highest competency was in understanding ICT in education and teacher professional learning. The correlation analysis showed no significant relationship between demographic profiles and ICT competency levels. This underscores the urgent need for continuous professional development, strategic resource allocation, and robust policy support to enhance ICT integration. By providing actionable insights and strategies, this research aims to advance technology-enhanced learning, support the development of a comprehensive Action Plan, and inform professional development programs and policy decisions, ultimately preparing educators and students for future challenges.*

**Keyword:** *ICT competency, Professional development, Technology integration, Understanding ICT in education, UNESCO framework*

## 1. INTRODUCTION

As technology rapidly transforms educational practices, the integration of Information and Communication Technology (ICT) in education has become crucial. Technological advancements have transformed the traditional classrooms, providing various tools to enhance the learning process. This study aims to assess the level of ICT competency among elementary school teachers in the San Francisco District of Agusan del Sur Division, focusing on various dimensions of ICT integration based on the UNESCO ICT Competency Framework for Teachers (ICT CFT). The goal is to understand how well teachers are incorporating ICT resources into their instructional practices and to identify areas where further training and support may be needed to enhance their ICT skills. Specifically, this study seeks to determine the level of ICT competency in terms of understanding ICT in education, curriculum and assessment, pedagogy, application of digital skills, organization and administration, and teacher professional learning.

Recent studies underscore the significance of ICT integration in education. Ishaq et. al. highlight the positive impact of technology on teaching practices and student engagement, categorizing teachers' perceptions into teacher-centered and student-centered perspectives [1]. However, challenges such as slow internet speeds, inadequate infrastructure, and insufficient training impede effective ICT integration. In contrast, Akram et. al. argue that despite

the potential benefits, the practical difficulties in implementing ICT effectively often outweigh the advantages. They emphasize that without substantial investment in resources and ongoing support, technology-integrated learning may not achieve the desired outcomes [2].

Despite extensive research on the benefits of Information and Communication Technology (ICT), there is a notable gap regarding specific strategies for effective integration in classrooms. Empirical evidence on the most effective methods for implementing ICT tools is limited, and comprehensive research on the challenges educators face in integrating ICT is lacking. In the context of Cluster 8, San Francisco District of Agusan del Sur Division, teachers often encounter issues such as inadequate infrastructure and lack of training, which hinder effective ICT integration. Additionally, there are still teachers who remain at a basic knowledge level regarding ICT integration, underlining the necessity for further development and support. Such gaps in teacher training and resource availability complicate the effective integration of ICT into educational practices, necessitating targeted professional development and strategic resource allocation to bridge these gaps [3]. These highlight the persistent challenges that educators face and the need for targeted strategies to address them.

This study aims to address the critical issues and concerns related to ICT integration in education. By providing practical insights and strategies, the research will contribute to the frontier of knowledge, enhancing the effectiveness of technology-enhanced learning and supporting the development of a comprehensive Action Plan. The findings will inform professional development programs and guide policymakers in resource allocation, advancing the local education system and preparing students for future demands.

## **2. METHODOLOGY**

### **2.1 Research Design**

This study utilized a descriptive correlational design to assess the level of ICT competency among elementary school teachers in the Cluster 8, San Francisco District. The research aimed to determine the relationship between the respondents' profiles (age, sex, civil status, employment status, number of years in service, academic rank and position, highest educational qualifications, ICT training, and school size) and their ICT competency based on the UNESCO framework. This framework includes indicators such as understanding ICT in education, curriculum and assessment, pedagogy, application of digital skills, organization and administration, and teacher professional learning. The descriptive correlational design allowed for the collection and analysis of quantitative data to identify patterns and relationships between variables. This approach provided a comprehensive understanding of the current level of ICT competency among teachers and highlighted areas where further training and support may be needed to enhance their ICT skills.

### **2.2 Research Participants**

The study involved 110 elementary teachers from public schools within Cluster 8 of the San Francisco District, Agusan del Sur Division, for the School Year 2024-2025. The respondents were selected from a total population of 152 teachers using stratified random sampling with a 5% margin of error to ensure a comprehensive analysis. The four identified elementary schools in Cluster 8 under the San Francisco District included San Francisco Pilot Central Elementary School with SPED Program, Alegria Elementary School, Bitan-agan Elementary School, and Das-agan Elementary School.

### **2.3 Research Instruments**

The research utilized two distinct survey questionnaires designed for teachers, school administrators, and learners in A researcher-made questionnaire was used to collect data. The instrument underwent content validation and reliability testing by education experts, including a Division ITO, District Supervisor, and Master Teachers. The questionnaire was divided into two main sections. The first section collected demographic information, including age, gender, civil status, number of years in service, academic rank and position, highest educational qualification, ICT training, and school size. This demographic information is essential for understanding the background of the respondents and how it may influence their perceptions of ICT integration. The second section focused on the level of ICT competency based on the UNESCO framework, which includes indicators such as understanding ICT in education, curriculum and assessment, pedagogy, application of digital skills, organization and administration, and

teacher professional learning. Respondents rated their competency on these indicators using a 5-point Likert scale. A pilot test was conducted with 25 teachers to assess the reliability of the instrument. The results of the reliability testing, measured by Cronbach's alpha, confirmed good internal consistency across all indicators. The values were as follows: 0.835 for understanding ICT in education, 0.809 for curriculum and assessment, 0.819 for pedagogy, 0.797 for the application of digital skills, 0.808 for organization and administration, and 0.839 for teacher professional learning.

## 2.4 Data Gathering Procedure and Analysis

The data-gathering procedure followed a structured approach. The researcher first obtained approval from the Graduate School Office, Schools Division Superintendent, and school principals before distributing the questionnaires. Once permission was granted, the researcher personally administered the survey to ensure that respondents fully understood the instructions. Quantitative data collection involved distributing questionnaires to gather information on the respondents' profiles, including age, sex, civil status, employment status, number of years in service, academic rank and position, highest educational qualifications, ICT training, and school size. The level of ICT competency based on the UNESCO framework was also assessed through the survey, covering aspects such as understanding ICT in education, curriculum and assessment, pedagogy, application of digital skills, organization and administration, and teacher professional learning. The study employed various statistical tools to analyze the data. Frequency count and percentage were used to describe demographic data. The weighted mean was applied to analyze level of ICT competency based on the UNESCO framework. Pearson Product-Moment Correlation was used to examine relationships between teacher profiles and the level of ICT competency based on the UNESCO framework.

## 2.5 Ethical Consideration

The study followed strict ethical guidelines to protect participants' rights and ensure data confidentiality. Informed consent was obtained both in writing and verbally, and participants were assured of their right to withdraw at any time. Confidentiality and anonymity were maintained by securing personal data and ensuring that identifying information was not linked to any responses. The principle of beneficence was upheld by ensuring that the study contributed to educational improvements while minimizing risks to participants. Justice and fair treatment were observed by ensuring equitable selection criteria and avoiding the exploitation of vulnerable groups. The researcher maintained transparency and honesty by clearly communicating the study's objectives and faithfully reporting findings. Additionally, cultural sensitivity was consistently demonstrated throughout the research process, ensuring respect for participants' diverse backgrounds and values. By adhering to these ethical principles, the researcher ensured that the study was conducted ethically, fostering trust and respect between the researcher and participants while ensuring the validity and reliability of the research findings.

## 3. RESULTS AND DISCUSSION

### 3.1 Demographic Profile of the Respondents

Table 1 presents the frequency distribution of respondents based on age, sex, civil status, employment status, number of years in service, academic rank/position, highest educational qualification, ICT training, and school size. The majority (88%) of the 110 respondents are female, with males comprising just 12%, highlighting a significant gender imbalance in the teaching profession. This finding is significant as it underscores the need to address gender-specific challenges in ICT training and professional development among female teachers. Recent studies have shown that the teaching profession continues to be predominantly female, with women making up a substantial proportion of the workforce at various educational levels [4]. This trend necessitates targeted support for female educators to ensure effective ICT integration.

In terms of age, the majority (37%) are aged 36 to 45 years old, followed by those aged 46 to 55 years old (29%), and those aged 56 years old and above (13%). This age distribution suggests that a significant portion of the teaching workforce is in their prime working years, which may influence their ability to integrate ICT effectively. According to Akram et al., ICT competency can develop and improve with age and experience, highlighting the importance of targeted support for teachers at different career stages [2].

Regarding civil status, the majority (90%) are married, while 7% are single and 3% are widowed, highlighting a workforce primarily composed of individuals in committed relationships. This finding indicates that marital status does not significantly influence ICT competency levels among teachers. The results suggest that both married and unmarried teachers possess similar ICT skills, emphasizing the need for support programs that cater to all teachers regardless of their marital status [1].

The respondents also demonstrate a diverse range of experience. A small percentage (2%) have been in service for 1 to 5 years, while the majority (31%) have 6 to 10 years of experience. The rest are distributed across various service lengths, with 18% having 11 to 15 years, 22% having 16 to 20 years, 9% having 21 to 25 years, and 18% having 26 years and above. This distribution indicates a well-balanced mix of early-career, mid-career, and veteran teachers, which can significantly impact their ICT competency and classroom performance. Previous research has shown that teachers with more experience tend to have higher ICT competency, which positively affects their teaching effectiveness and ability to integrate technology into their teaching practices [5].

In terms of highest educational qualification, 20% of the respondents hold a bachelor's degree, 37% have Master's degree units, 34% have Master's degree CAR, and 9% have a Master's degree. This distribution indicates a highly educated workforce, which can significantly impact their ICT competency and teaching effectiveness. Previous research has shown that higher educational qualifications are associated with greater ICT competency, which in turn positively influences teaching practices and student outcomes [6].

All respondents have a regular permanent appointment status, indicating job stability and a secure working environment. This stability is crucial for maintaining a consistent and effective teaching workforce. According to Abel et al., job stability can enhance teachers' willingness to engage in professional development activities, including ICT training [7].

Most respondents (65%) have attended ICT training, while 35% have not. This distribution suggests that the majority of respondents have some exposure to ICT training, which can significantly impact their ICT competency and overall teaching effectiveness. Previous research has shown that ICT training can enhance teachers' skills, leading to better integration of technology in the classroom and improved student outcomes [2].

Regarding academic background, 44% hold the position of Teacher III, followed by Teacher I (25%), Teacher II (21%), Master Teacher I (8%), and Master Teacher II (2%). This reflects a diverse range of teaching experience and expertise, which can significantly influence the implementation and effectiveness of ICT interventions in educational settings. Teachers with higher positions and more experience may have better-developed ICT skills, which can positively impact their teaching methods and student outcomes [8].

Overall, these findings provide insight into the demographic and professional backgrounds of the respondents, reflecting trends in the teaching profession and highlighting areas for potential focus in professional development and support. The data suggests a workforce that is predominantly female, relatively young, highly educated, and committed to professional growth, with a strong emphasis on ICT training and career progression.

**Table -1:** Demographic Profile of the Respondents

Profile	Classifications	Frequency	Percentage
Age	26-35	23	21%
	36-45	41	37%
	46-55	32	29%
	56 above	14	13%
Sex	Male	13	12%
	Female	97	88%
Civil Status	Single	8	7%
	Married	99	90%
	Widowed	3	3%
Employment Status	Permanent	110	100%
No.of Years in Service	1-1-5 years	2	2%
	2-6-10 years	34	31%

	3-11-15 years	20	18%
	4-16-20 years	24	22%
	5-21-25 years	10	9%
	6-26 years above	20	18%
Academic Rank/Position	Teacher I	28	25%
	Teacher II	23	21%
	Teacher III	48	44%
	Master Teacher I	9	8%
	Master Teacher II	2	2%
Highest education Qualification	Bachelor's Degree	22	20%
	With Master's degree units	41	37%
	With Master's degree CAR	37	34%
	Master's Degree	10	9%
ICT Training	Trained	71	65%
	Not Trained	39	35%
School Size	Small (less than 20 teachers)	14	13%
	Medium (20-50 teachers)	20	18%
	Large (more than 50 teachers)	76	69%

### 3.2 Level of ICT Competency based on UNESCO Framework

Table 2 presents the Mean Distribution of the Level of ICT Competency based on UNESCO Framework. The data suggests a positive perception across all six indicators. The mean score for Understanding ICT in Education is 4.453, indicating a "Strongly Agree" level of satisfaction with the understanding of ICT in education. The highest mean score within this indicator is 4.73 for "I understand the importance of integrating ICT into my teaching practices," while the lowest is 4.04 for "I regularly update my knowledge about new ICT tools and their educational applications." This suggests that while teachers recognize the importance of ICT, there is a need for continuous professional development to keep up with new tools and applications. Teachers should attend workshops on the latest educational software to enhance their teaching methods. This finding aligns with Bitegeko et al., who found that undergraduate student-teachers in Tanzania have moderate digital competencies, with higher confidence in basic digital skills compared to more advanced applications. The study emphasized the need for continuous professional development, particularly in integrating new ICT tools into teaching practices, to enhance overall digital proficiency and educational quality [9]. However, the challenge remains in finding time for these professional development activities amidst a busy teaching schedule.

Similarly, the perception of Curriculum and Assessment is "Strongly Agree," with a mean score of 4.211. The highest mean score within this indicator is 4.44 for "I believe that ICT can enhance the relevance and engagement of the curriculum," while the lowest is 4.09 for both "I am familiar with the ICT resources available for curriculum development" and "I regularly adapt my assessment methods to include ICT-based evaluations." This indicates that while teachers see the value of ICT in making the curriculum more engaging, there is room for improvement in adapting assessment methods to include ICT. Further, teachers should consider using online quizzes which can be saved offline and interactive assessments to gauge student understanding more effectively. This finding aligns with Thao et al., who found that pre-service teachers in Vietnam are well-educated on ICT policy issues but need further development in using ICT to support curriculum implementation and assessment. Specifically, the study revealed that while pre-service teachers recognize the importance of ICT in enhancing curriculum relevance and engagement, they face challenges in regularly updating their assessment methods to include ICT-based evaluations [10]. This suggests that continuous professional development and tailored training programs are essential to improve teachers' ability to integrate ICT into their assessment methods effectively. The challenge here is ensuring that all students have equal access to the necessary technology.

Moving on to Pedagogy, the mean score of 4.411 also indicates a "Strongly Agree" perception. The highest mean score within this indicator is 4.52 for "I believe that integrating ICT into my pedagogy improves student engagement," while the lowest is 4.32 for "I am comfortable using ICT to differentiate instruction for my students." This suggests that while teachers are confident in using ICT to enhance student engagement, there is a need for further support in using ICT for differentiated instruction. Also, teachers should use educational apps to provide

personalized learning experiences for students with different learning needs. This finding aligns with Lubuva et al., who found that while tutors in Tanzanian teacher education colleges were confident in their basic ICT skills, their application of ICT-pedagogical competencies was limited. The study highlighted that tutors were proficient in using ICT to engage students but struggled with applying ICT for more complex tasks such as differentiated instruction [11]. This suggests that continuous professional development and hands-on training are essential to enhance teachers' ability to use ICT for personalized learning experiences effectively. Teachers should ensure that all students can benefit from these personalized learning tools.

In terms of Application of Digital Skills, the mean score is 3.956, indicating an "Agree" perception. The highest mean score within this indicator is 4.12 for "I encourage my students to develop their digital skills through classroom activities," while the lowest is 3.84 for "I believe that my students are adequately prepared to use ICT in their learning." This suggests that while teachers are encouraging the development of digital skills, there is a need for further support to ensure students are adequately prepared to use ICT. Students should be taught basic computer parts, office applications, and given hands-on experience to enhance their digital literacy. This finding aligns with López, who found that teachers at the University of La Guajira in Colombia showed a very moderate use of ICT-supported strategies and didactics. The study highlighted limitations in technological infrastructure and connectivity, which hinder the integration of ICT in the academic environment [12]. This suggests that while teachers are making efforts to develop students' digital skills, there is a need for improved infrastructure and more comprehensive training to ensure students are adequately prepared to use ICT effectively.

The mean score of 4.227 indicates a "Strongly Agree" perception of Organization and Administration. The highest mean score within this indicator is 4.50 for "I believe that effective ICT integration requires proper planning and organization," while the lowest is 3.96 for "I feel that my school provides adequate resources for ICT integration." This suggests that while teachers recognize the importance of planning and organization for ICT integration, there is a need for more resources to support this integration. Schools should invest in more computers and reliable internet connections to support ICT use. Further, the sustainability and maintenance of these resources must be considered. Schools should have non-teaching personnel or IT experts to oversee the maintenance of these resources, allowing teachers to focus on the teaching and learning process. This finding aligns with Xuanyun et al., who found that global teacher ICT competencies frameworks emphasize the importance of proper planning and organization for effective ICT integration. The study highlighted that while teachers recognize the need for planning and organization, there is often a lack of resources and support for ICT integration [13]. This suggests that schools need to invest in infrastructure and provide dedicated IT support to ensure the sustainability and effective use of ICT in education.

Finally, the mean score of 4.342 suggests a "Strongly Agree" perception of Teacher Professional Learning. The highest mean score within this indicator is 4.63 for "I believe that participating in ICT training enhances my teaching effectiveness," while the lowest is 4.08 for "I regularly share my knowledge and experiences regarding ICT with my colleagues." This indicates that while teachers see the value of ICT training, there is a need for more opportunities to share knowledge and experiences with colleagues. Teachers should participate in professional learning communities to discuss and share best practices for ICT integration. However, schools must ensure that these collaborative sessions are scheduled in a way that does not disrupt regular classes and provides sufficient time for teachers to focus on them effectively. This finding aligns with Oyunge, who found that effective teacher professional development (TPD) programs for ICT integration should include opportunities for teachers to share knowledge and experiences with their colleagues. The study highlighted the importance of creating communities of professional practice, where teachers can collaborate, mentor each other, and engage in continuous learning [14]. This suggests that schools should facilitate regular, well-scheduled collaborative sessions to enhance the effectiveness of ICT training and integration.

The overall grand mean of 4.267 further reinforces the positive perception of ICT competency, indicating a "Strongly Agree" sentiment across all indicators. This data suggests a generally positive and supportive environment for ICT integration in public elementary schools. It is essential to note that this data is based on a single point in time and may not accurately reflect changes that occur over time. Further research would be necessary to determine the long-term trends in ICT competency and to identify any factors that may contribute to the positive perception.

**Table -2:** Mean Distribution of the Level of ICT Competency based on UNESCO Framework

Indicators	Mean	sd	Adjectival Description
<b>Understanding ICT in Education</b>			
1. I believe that ICT plays a crucial role in enhancing student learning outcomes.	4.66	0.51	Strongly Agree
2. I understand the importance of integrating ICT into my teaching practices.	4.73	0.47	Strongly Agree
3. I feel confident in my ability to explain the benefits of ICT to my students.	4.28	0.72	Strongly Agree
4. I regularly update my knowledge about new ICT tools and their educational applications.	4.04	0.79	Agree
5. I believe that ICT can help address diverse learning needs in my classroom.	4.55	0.61	Strongly Agree
<b>Grand Mean</b>	<b>4.453</b>	<b>0.62</b>	<b>Strongly Agree</b>
<b>Curriculum and Assessment</b>			
1. I effectively incorporate ICT into my lesson plans and curriculum design.	4.25	0.54	Strongly Agree
2. I use ICT tools to assess student learning and provide feedback.	4.19	0.65	Agree
3. I believe that ICT can enhance the relevance and engagement of the curriculum.	4.44	0.63	Strongly Agree
4. I am familiar with the ICT resources available for curriculum development.	4.09	0.67	Agree
5. I regularly adapt my assessment methods to include ICT-based evaluations.	4.09	0.68	Agree
<b>Grand Mean</b>	<b>4.211</b>	<b>0.63</b>	<b>Strongly Agree</b>
<b>Pedagogy</b>			
1. I utilize ICT to support various teaching strategies in my classroom.	4.34	0.58	Strongly Agree
2. I believe that ICT can facilitate collaborative learning among students.	4.48	0.53	Strongly Agree
3. I feel that my teaching methods are enhanced by the use of ICT tools.	4.40	0.56	Strongly Agree
4. I am comfortable using ICT to differentiate instruction for my students.	4.32	0.60	Strongly Agree
5. I believe that integrating ICT into my pedagogy improves student engagement.	4.52	0.58	Strongly Agree
<b>Grand Mean</b>	<b>4.411</b>	<b>0.57</b>	<b>Strongly Agree</b>
<b>Application of Digital Skills</b>			
1. I am proficient in using various digital tools for teaching purposes.	4.00	0.65	Agree
2. I encourage my students to develop their digital skills through classroom activities.	4.12	0.71	Agree
3. I believe that my students are adequately prepared to use ICT in their learning.	3.84	0.87	Agree
4. I regularly incorporate digital skills training into my lessons.	3.87	0.76	Agree
5. I feel confident in teaching my students how to use different ICT applications.	3.95	0.81	Agree
<b>Grand Mean</b>	<b>3.956</b>	<b>0.76</b>	<b>Agree</b>
<b>Organization and Administration</b>			
1. I believe that effective ICT integration requires proper planning and organization.	4.50	0.55	Strongly Agree
2. I am aware of the administrative support available for ICT integration in my school.	4.18	0.64	Agree
3. I feel that my school provides adequate resources for ICT integration.	3.96	0.75	Agree
4. I believe that clear policies regarding ICT use in education are essential for effective integration.	4.34	0.58	Strongly Agree
5. I regularly collaborate with colleagues to improve ICT integration in our teaching practices.	4.15	0.62	Agree
<b>Grand Mean</b>	<b>4.227</b>	<b>0.63</b>	<b>Strongly Agree</b>
<b>Teacher Professional Learning</b>			
1. I actively seek professional development opportunities related to ICT integration.	4.34	0.58	Strongly Agree
2. I believe that ongoing training is essential for effective ICT integration in teaching.	4.53	0.57	Strongly Agree
3. I feel supported by my school in pursuing ICT-related professional development.	4.14	0.62	Agree
4. I regularly share my knowledge and experiences regarding ICT with my colleagues.	4.08	0.66	Agree
5. I believe that participating in ICT training enhances my teaching effectiveness.	4.63	0.50	Strongly Agree
<b>Grand Mean</b>	<b>4.342</b>	<b>0.59</b>	<b>Strongly Agree</b>
<b>Overall Grand Mean</b>	<b>4.267</b>	<b>0.63</b>	<b>Strongly Agree</b>

### 3.3 Significant Relationship Between Profile of the Respondent and the Level of ICT Competency based on UNESCO Framework

Table 3 presents the results of correlation analyses examining the relationship between various factors (age, sex, civil status, years of service, academic rank, educational attainment, ICT training, and school size) and different aspects of ICT competency based on the UNESCO Framework. The analysis revealed that none of the correlations were significant, indicating that these demographic factors do not have a significant relationship with the perceived level of ICT competency in these areas. For Understanding ICT in Education, the computed r-values for age (0.034), sex (0.007), civil status (0.097), number of years in service (0.026), academic rank (0.043), educational attainment (0.064), ICT training (0.072), and school size (0.033) all failed to reject the null hypothesis, indicating no significant relationship. This suggests that demographic factors do not significantly influence teachers' understanding of ICT in education. This finding aligns with Akram et al. (2022), who found that teachers' perceptions of ICT are more influenced by their experiences and attitudes rather than demographic factors. This emphasizes that professional development programs should focus on enhancing teachers' experiences with ICT rather than targeting specific demographic groups [2].

In the area of Curriculum and Assessment, the computed r-values for age (0.056), sex (0.113), civil status (0.003), number of years in service (0.120), academic rank (0.047), educational attainment (0.012), ICT training (0.001), and school size (0.023) also failed to reject the null hypothesis, indicating no significant relationship. This suggests that teachers' ability to integrate ICT into curriculum and assessment is not significantly influenced by their demographic profile. This finding is consistent with Ishaq et al. (2023), who noted that effective ICT integration in curriculum and assessment depends more on teachers' familiarity with ICT tools and resources [1]. Schools should provide equal access to ICT resources and training for all teachers, regardless of their demographic background.

For Pedagogy, the computed r-values for age (0.116), sex (0.113), civil status (0.003), number of years in service (0.101), academic rank (0.056), educational attainment (0.004), ICT training (0.001), and school size (0.026) failed to reject the null hypothesis, indicating no significant relationship. This suggests that demographic factors do not significantly influence teachers' use of ICT in pedagogy. This finding aligns with Espinosa et. al., who emphasized that the effectiveness of ICT in pedagogy is more related to teachers' willingness to adopt new teaching strategies. This suggests that professional development should focus on encouraging teachers to experiment with ICT in their teaching practices [8].

In terms of Application of Digital Skills, the computed r-values for age (0.018), sex (0.034), civil status (0.100), number of years in service (0.043), academic rank (0.075), educational attainment (0.123), ICT training (0.045), and school size (0.030) failed to reject the null hypothesis, indicating no significant relationship. This suggests that demographic factors do not significantly influence teachers' application of digital skills. This finding is consistent with Msafiri et al., who highlighted that the development of digital skills is more influenced by access to resources and training opportunities [6]. Schools should ensure that all teachers have access to the necessary resources and training to develop their digital skills.

For Organization and Administration, the computed r-values for age (0.030), sex (0.126), civil status (0.009), number of years in service (0.013), academic rank (0.016), educational attainment (0.124), ICT training (0.011), and school size (0.110) failed to reject the null hypothesis, indicating no significant relationship. This suggests that demographic factors do not significantly influence teachers' perceptions of ICT organization and administration. This finding aligns with Abel et al., who emphasized the importance of organizational support and clear policies for successful ICT integration [7]. Further, schools should focus on creating supportive organizational structures and clear policies for ICT integration.

Finally, for Teacher Professional Learning, the computed r-values for age (0.045), sex (0.145), civil status (0.032), number of years in service (0.046), academic rank (0.043), educational attainment (0.041), ICT training (0.097), and school size (0.017) failed to reject the null hypothesis, indicating no significant relationship. This suggests that demographic factors do not significantly influence teachers' professional learning related to ICT. This finding is consistent with Akram et al. (2022), who highlighted the importance of continuous professional development for effective ICT integration which should be inclusive and accessible to all teachers, regardless of their demographic background. This suggests that professional development and support for ICT integration should be inclusive and focus on enhancing teachers' experiences and attitudes towards ICT.



**Table -3:** Significant Relationship between the profile of the respondents and level of ICT Competency based on UNESCO Framework

	Variables	Computed r	p-value	Decision	Conclusion
Understanding ICT	Age	0.034	0.724	Failed to reject null hypothesis	Not Significant
	Sex	0.007	0.939	Failed to reject null hypothesis	Not Significant
Education	Civil Status	0.097	0.313	Failed to reject null hypothesis	Not Significant
	No. of Years in Service	0.026	0.787	Failed to reject null hypothesis	Not Significant
	Academic Rank	0.043	0.658	Failed to reject null hypothesis	Not Significant
	Educational Attainment	0.064	0.507	Failed to reject null hypothesis	Not Significant
	ICT Training	0.072	0.456	Failed to reject null hypothesis	Not Significant
	School Size	0.033	0.731	Failed to reject null hypothesis	Not Significant
	Curriculum & Assessment	Age	0.056	0.560	Failed to reject null hypothesis
Sex		0.113	0.241	Failed to reject null hypothesis	Not Significant
Civil Status		0.003	0.974	Failed to reject null hypothesis	Not Significant
No. of Years in Service		0.120	0.213	Failed to reject null hypothesis	Not Significant
Academic Rank		0.047	0.626	Failed to reject null hypothesis	Not Significant
Educational Attainment		0.012	0.899	Failed to reject null hypothesis	Not Significant
ICT Training		0.001	0.992	Failed to reject null hypothesis	Not Significant
Pedagogy	School Size	0.023	0.811	Failed to reject null hypothesis	Not Significant
	Age	0.116	0.226	Failed to reject null hypothesis	Not Significant
	Sex	0.113	0.239	Failed to reject null hypothesis	Not Significant
	Civil Status	0.003	0.972	Failed to reject null hypothesis	Not Significant
	No. of Years in Service	0.101	0.292	Failed to reject null hypothesis	Not Significant
	Academic Rank	0.056	0.561	Failed to reject null hypothesis	Not Significant
	Educational Attainment	0.004	0.967	Failed to reject null hypothesis	Not Significant
Application of digital Skills	ICT Training	0.001	0.991	Failed to reject null hypothesis	Not Significant
	School Size	0.026	0.790	Failed to reject null hypothesis	Not Significant
	Age	0.018	0.853	Failed to reject null hypothesis	Not Significant
	Sex	0.034	0.724	Failed to reject null hypothesis	Not Significant
	Civil Status	0.100	0.300	Failed to reject null hypothesis	Not Significant
	No. of Years in Service	0.043	0.657	Failed to reject null hypothesis	Not Significant
	Academic Rank	0.075	0.438	Failed to reject null hypothesis	Not Significant
Organization & Adminstration	Educational Attainment	0.123	0.201	Failed to reject null hypothesis	Not Significant
	ICT Training	0.045	0.642	Failed to reject null hypothesis	Not Significant
	School Size	0.030	0.752	Failed to reject null hypothesis	Not Significant
	Age	0.030	0.752	Failed to reject null hypothesis	Not Significant
	Sex	0.126	0.189	Failed to reject null hypothesis	Not Significant
	Civil Status	0.009	0.928	Failed to reject null hypothesis	Not Significant
	No. of Years in Service	0.013	0.890	Failed to reject null hypothesis	Not Significant
Teacher Professional Learning	Academic Rank	0.016	0.870	Failed to reject null hypothesis	Not Significant
	Educational Attainment	0.124	0.198	Failed to reject null hypothesis	Not Significant
	ICT Training	0.011	0.909	Failed to reject null hypothesis	Not Significant
	School Size	0.110	0.252	Failed to reject null hypothesis	Not Significant
	Age	0.045	0.638	Failed to reject null hypothesis	Not Significant
	Sex	0.145	0.130	Failed to reject null hypothesis	Not Significant
	Civil Status	0.032	0.737	Failed to reject null hypothesis	Not Significant
	No. of Years in Service	0.046	0.635	Failed to reject null hypothesis	Not Significant
	Academic Rank	0.043	0.659	Failed to reject null hypothesis	Not Significant
	Educational Attainment	0.041	0.671	Failed to reject null hypothesis	Not Significant
	ICT Training	0.097	0.313	Failed to reject null hypothesis	Not Significant
	School Size	0.017	0.859	Failed to reject null hypothesis	Not Significant

#### 4. CONCLUSIONS

The findings indicate that teachers in public elementary schools demonstrate a strong level of ICT competency across various aspects of the UNESCO Framework, with particularly high scores in understanding ICT in education, pedagogy, and teacher professional learning. However, there is room for improvement in the application of digital skills, suggesting a need for further support and resources. The study also reveals that demographic factors such as age, sex, civil status, years of service, academic rank, educational attainment, ICT training, and school size do not significantly influence teachers' ICT competency. This underscores the importance of focusing on enhancing teachers' experiences and attitudes towards ICT through inclusive and continuous professional development programs. These highlight the need for schools to invest in ICT infrastructure and provide equal access to training for all teachers. Future research should explore the long-term impact of ICT training on teaching practices and student outcomes, as well as investigate other factors that may influence ICT competency, such as teachers' attitudes, beliefs, and experiences with ICT.

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