Teachers' Characteristics and their ICT Competence in West II District, Cagayan de Oro City

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Abstract

The study sought to determine whether there was a connection between teachers' characteristics and the ICT competence of West 2 District Public School Teachers(n=100). The study employed a descriptive-correlational methodology. The research instruments were the Teachers' Demographic profile and a questionnaire patterned from the NICS for teachers' Technology Concept and Operation developed by the CICT. Data were analyzed using frequency, percentage, mean, standard deviation, and Pearson r Correlation Coefficient. The findings revealed that the majority of participants belonged to Millennials, Females, Bachelor's Degree holders, 1-10 years of teaching experience, 1-3 ICT-related seminars attended, and in Teacher 1 position. "Office and Teaching Productivity tool" are Well Learned by the teachers among the four standards set by NICS for teachers' Technology Concept and Operation. Gender and Length of service have no significant relationship with ICT competence. On the contrary, Age, Educational Qualification, ICT-related seminars attended, and Teaching position have significant relationships with ICT competence. Teachers are encouraged to develop their ICT skills in Basic Computer Operation through mentoring and coaching during LAC sessions. Teachers are also encouraged to strengthen the mechanism for enhancing ICT proficiency by incorporating ICT training into In-Service Training (INSET) for teachers, which is anchored on the NICS-for-teachers.

Keywords: ICT, NICS, Technology Operations and Concept

1. Introduction

Technology plays a vital role nowadays, and nobody can deny that each aspect of our lives is affected by it. We currently live in an information and knowledge society, which emerged from significant changes in the way knowledge and learning were constructed. This society is distinguished by its complexity, growing globalization, and Information and Communication Technology (ICT) use. ICT use is continuing to increase in the field of education. The Education field embraces these changes to adapt to the fast-changing world it offers. Its impact and influence on education are visible. So, providing teachers and students of today the skills they need is one of the efforts being made to increase the use of modern technologies in education. It will give them access to technology as well as experiences that will encourage them to think and act internationally (Laleye,2019).

ICT competence among teachers today is essential when dealing with 21st-century learners. Teachers play a vital role in effectively implementing ICT within the four walls of a classroom. Teachers' ICT competencies greatly influence any innovation in the teaching-learning process. Teachers having sufficient knowledge about integrating ICT skills in the teaching field can be able to design appropriate technology-based materials that can be used to enhance the teaching-learning process. There is a great need to investigate teachers' ICT competence since, in totality, teachers integrate ICT into the school. Teachers must cater to the needs of 21st-century learners to avoid a wide generation gap. This study is essential to ascertain the teachers' characteristics as influencing factors in ICT implementation.

In addition, the DepEd Computerization Program (DCP) launched by the Philippine government

aims to equip public schools with the necessary technology. These technologies would enhance the teaching-learning process and meet the challenges of the 21st century. Realizing ICT as a tool for achieving universal access to education and quality learning for both students and teachers should be given priority as stipulated in this DepEd Order No. 78 s. 2020. The Department of Education issued an Aide Memoire, "Accelerating DepEd's Computerization Program because of the Pandemic. Since it mandated providing and giving access to primary education to all learners, teachers must have the necessary ICT competence to fulfill the task. Thus, DCP also aims to provide the required assistance to teachers to be equipped with the ICT competencies needed to enhance not just the teaching-learning process but the practice of the profession as well.

The changes brought about by numerous national and global frameworks and the inevitability of responding to the changing needs of 21st-century learners led to the call for reviewing the National Competency-Based Teacher Standards (NCBTS), which led to the development of the Philippine Professional Standards for Teachers (PPST). DepEd Order No. 42, s. 2017 informed the field of the National Adoption and Implementation of the Philippine Professional Standards for Teachers. The revised Philippine Professional Standards for Teachers' acceptance and implementation acknowledge the importance of professional standards in continuing professional development. Domain 4- Strand 4.7 has the performance indicator of teachers utilizing ICT to enhance teaching and learning, which is why teachers need to have the necessary ICT skills. The advancement of teachers based on lifelong learning is one of its concerns. It is committed to supporting teachers to deliver quality teaching through ICT integration. The support for teachers is vital in raising pupils' achievement and reaching their peak performance.

On the other hand, DepEd Order No. 35, s. 2016 known as "The Learning Action Cell as a K to 12 Basic Education Program School-Based Continuing Professional Development Strategy for Improvement of Teaching and Learning, believed in the importance of ICT integration in the teaching-learning process. The prioritization of the 21st Century Skills and ICT Integration in Instruction and Assessment in conducting the LAC sessions in schools is its concern. It is a central feature of the K to 12 Basic Education Program. Teachers must enrich lessons with simple integration strategies utilizing ICT that are developmentally appropriate for the learners. Teachers' Instruction and assessment processes should be in collaboration with ICT. This is feasible only depending on available equipment both pupils and teachers can use in school and the teachers' ICT competence.

So, teachers' best goal is to improve students' performance, and ICT integration skills can help them accomplish this task. ICT has evolved from being a basic support tool in the classroom to an integral component of current instructional processes if we examine the educational landscape (López et al., 2019). The use of ICT by teachers in the classroom is becoming increasingly important; at this point, technology is a necessary component of instructors' instruction. Teachers are very concerned about developing these technologies since their job requires them to adapt to an unfamiliar environment in which the majority lack any prior training.

As a result, teachers must undergo training to learn new methodological abilities and pedagogical techniques that will enable them to use these digital technologies in their routine teaching(Li et al. (2019). To incorporate these skills into their professional practice, the teaching staff now faces the issue of receiving training in digital competence. To mitigate and surpass the different challenges related to this goal, teachers must gain the necessary competencies needed in ICT to enhance learning. Thus, a study finding states that to polish students' skills and increase their potential for success in all areas of endeavor, teachers must invest time, effort, and experience in integrating ICT into teaching and learning (Wong et al.,2018). That is why having ICT skills will help teachers to be more comfortable with their jobs, especially in handling 21st-century learners.

Therefore, this research determines whether Teachers' Characteristics in terms of age, gender, educational qualification, length of service, ICT-related seminars attended, and teaching position affect the ICT competence of teachers. The researcher needs to identify if there is a significant relationship between the teachers' characteristics and their ICT competencies.

By launching programs to include ICT in the teaching and learning process, the Commission on Information and Communications Technology (CICT) in the Philippines is dedicated to integrating ICT into the educational system. More chances for learning are provided by the implementation and integration of ICTs into the teaching and learning environment. In the global technological environment, teachers and students can collaborate more effectively (Lawrence et al.,2018). ICT Competency Framework for Teachers (ICT CFT), developed by UNESCO, aims to give teachers training on how to use Information and Communications Technology in the classroom. Its intended audience includes professionals who work in teacher preparation programs, educational specialists, policymakers, teacher support staff, and other organizations that offer professional development. The ICT CFT promotes contextualization and adaptability for teacher professional development while presuming awareness of the advantages of ICT in Education. According to the ICT CFT, educators must employ instructional strategies that are suitable for developing Knowledge Societies. Students must be given the opportunity to develop deep knowledge of their academic subjects as well as an understanding of how they might create new knowledge by using ICT as a tool.

Thus, the Department of Education DO 78 adheres to ICT CFT, and it served as the study's foundation. DO 78 states the "Guidelines on the Implementation of the Department of Education Computerization Program (DCP). The Department of Education is transforming education through DCP. DCP aims to provide public schools with proper technologies to enhance the teaching-learning process and meet the challenges of the 21st century. It is the department's initiative to ensure that schools can adapt to the fast-changing world in which Technology plays a huge role. This program shall respond to the computer backlog of public schools by providing them with hardware, software, and training on simple troubleshooting.

Likewise, one of the objectives of the DCP is to raise the ICT literacy of teachers. The program aims to empower all teachers to use ICT in instruction and assessment. The use of ICT in education has improved the quality of instruction given to students. It also helped shape how teachers and students interacted in the classrooms. ICT implementation is fully practiced in some schools due to wide technological expertise and experience on the part of the DCP implementer. Moreover, the school was provided with the necessary ICT tools and equipment for a seamless implementation of the curriculum.

In addition, the following factors were taken into consideration when implementing DCP: first, teachers' limited exposure to computers due to a lack of technological knowledge. Second, the caliber of ICT training. Third, the curriculum where ICT education should be taught in schools, and fourth, the expertise of technology leaders in managing the program (Tomaro et al., 2018). As a result, the government and business community in the Philippines have started projects to provide schools with computer hardware, software, Internet connectivity, and teacher training. However, there are still a lot of implementation holes for ICT programs. Thus, time, money, and human resources are wasted. Finally, more teacher education is required in computer literacy and curriculum integration of ICT. Before ICT may significantly affects teaching and learning in Philippine schools, these deficiencies must be adequately filled.

Furthermore, results indicate that attaining these objectives depends heavily on human variables like leadership and teacher engagement. The more the teachers are motivated and inspired in their job, the better they will use ICT in integrating into the teaching and learning process Castillo (2017). This support from the school heads and other stakeholders in the different ICT-related programs such as proper DCP implementation, will encourage teachers to develop their ICT skills. As a result, the school principal and teachers' dedication to and efforts to provide the students with meaningful learning using the DCP packages were crucial to the program's implementation and learning outcomes. Although there may be many obstacles, the future of the students will be meaningful and fruitful thanks to the leadership of the school administrators and the cooperation of the teachers (Lupina , 2022).

2. Methodology

This study adopted the descriptive-correlational method; hence it employed quantitative methods in describing and interpreting the Teachers' ICT Competencies and Teachers' performance and the conditions and relationships that exist between the variables that are presented in the conceptual framework. The research used survey questions based on Teachers' Demographic profiles and according to the National ICT Competency Standard (NICS). This was deemed appropriate for this study because this intends to investigate if there is a significant relationship specifically between Teachers' Characteristics to Teachers' ICT Competencies. Accordingly, to Descriptive-Correlational Design seek to present static images of situations and determine the relationship between various variables. Thus, studies that describe variables and the relationships that naturally exist between and among them are known as descriptive-correlational studies.

The following statistical treatments were used for the analysis and interpretation of data of the statements of the problem. For Problem 1, the demographic profile utilized the code namely for Age (1,2,3 and 4), Gender (1 and 2), Educational Qualification (1,2,3,4 and 5), Years in Teaching (1,2,3 and 4), ICT-related Seminars Attended (1,2,3 and 4) and Teaching Position (1,2,3,4,5 and 6). Additionally, for Problem 2, on the questionnaire according to NICS for teachers' Technology and Operation, Weighted Mean and Standard Deviation were utilized. Lastly, to prove if there was a correlation between Teachers' Characteristics and ICT Competence, Pearson's r Correlation was utilized. Thus, the Pearson correlation examines whether there was a significant relationship between the respondents' ICT Awareness and the teaching performance of West II District Public Elementary School Teachers in the Division of Cagayan de Oro City.

3. Results and Discussion

Problem 1. What is the level of Teachers' Characteristics in terms of:

        1.1 Age;
        1.2 Gender;
        1.3 Educational Qualification;
        1.4 Length of Service;
        1.5 ICT-Related Seminars; and
        1.6 Position?

Table 1 on the next page presents the frequency and percentage distribution of the teacher respondents according to the Teachers' Characteristics based on age, gender, educational qualification, years in teaching, ICT-related seminar, and teaching position. According to Age, the data reveals that out of 100 teachers, 1 (1%) respondent belonged to Generation Z, 52 (52%) respondents were Millennials, 43 (43%) respondents were Generation X, and 4 (4%) respondents were Boomers. The highest number of respondents belonged to Millennials, while the lowest number belonged to Generation Z.

It can be gleaned from the table on the previous page that as to age, the highest number of teachers, fifty-two (52), are still young in the profession since they belong to the Millennial group, ages 23-38. Thus, this means that they are capable, able, and have enough power and strength to face the many challenges in the job related to ICT. Since they are young, this also means that they are adaptable, flexible, and patient enough to learn and improve professionally. Bhat et al. 2018) said in their study that age significantly affects teachers' perceptions of the ICT's pedagogical usefulness. Thus, younger respondents (under 40) concluded that ICT had increased their knowledge and made their work comfortable and easier compared to their senior coworkers.

On the other hand, the lowest number of teacher participants belonged to the age group Generation Z, ages 19-22, which only has a single respondent. This means that they are rare newbies hired or assigned in the district. Furthermore, this generation belongs to the digitally native, which implies that they are born possessing technological skills. According to the findings, there are only a few age differences in how they use ICT for personal purposes (Kerzic et al. 2021).

Table 1

Teachers' Characteristics based on Age, Gender, Educational Qualification, Years in Teaching, ICT-related Seminars, and Teaching Position

Characteristics	Categorization	Frequency	Percentage
Age	19-22	1	1%
	23-38	52	52%
	39.54	43	43%
	55.65	4	4%
Gender	Male	31	31%
	Female	69	69%
Educational Qualification	Bachelor's Degree	45	45%
	Master's Degree (Unit)	41	41%
	Master's Degree (Graduate)	14	14%
	Doctorate Degree (Unit)	0	0%
	Doctorate Degree (Graduate)	0	0%
Years in Teaching	1-10	59	59%
	11-20	32	32%
	21-30	8	8%
	31 up	1	1%
ICT-Related Seminars	1-3	59	59%
	4-6	30	30%
	7-9	5	5%
	10 up	6	6%
Position	Teacher 1	84	84%
	Teacher 2	5	5%
	Teacher 3	8	8%
	Master Teacher 1	3	3%
	Master Teacher 2	0	0%
	Master Teacher 3	0	0%

According to Gender, the data shows the respondents do not have a fair gender distribution. Out of the 100 population, the female respondents are more than half of the population, which is sixty-nine (69),

while the male respondents are only 31. This is based on Department of Education statistics showing that women teachers are more common than men.

In another study by Tašner et al. (2017), the statistics gathered to support the hypothesis that most teachers are women because of the blending of the habits and perceptions of the female respondents about the field they are entering. The information gathered supported the well-known trend that more women choose to work as teachers than in other fields in the humanities, the arts, the service industry, healthcare, and administration sciences. This means that a teaching career is more enticing to women rather than men.

On the contrary, the lowest number of respondents belonged to the male group, with thirty-one (31) respondents. This is based on Department of Education statistics showing that men make up a smaller percentage of instructors than women. This indicates that men have reservations about pursuing a profession in education. In line with this, Han et al. (2020), boys were usually less likely than girls to expect to work as teachers, according to the results, but the size of the gender disparity differed across nations.

As reflected from the previous page, out of the 100 respondents, 45% of the respondents are bachelor's degree holders, 41% have taken units in the Master's Degree, 14% are Master's Degree holders, and no respondents have taken the Doctoral degree. This means that most of the teacher respondents are almost equally the same as Bachelor's Degree holders and Master's Degree undergraduates. However, these findings also revealed that no participants had enrolled in Doctor's degrees. Although the prerequisite for employment as a regular teacher is passing the teacher licensure examination, it should not stop on it. Thus, professional development is necessary, and one of these is by starting or finishing a graduate degree program.

Moreover, the highest educational attainment of most of the respondents had obtained a bachelor's degree, with forty-five (45) respondents. This means that most of the respondents had not pursued a higher degree of education. This implies that these respondents had only a little background knowledge and comprehension of the teacher's role. Thus, it also signifies that teachers may lack the necessary skills that can only be developed with advanced degree programs. According to Araiz (2018), educational attainment affects teachers' ICT competence. Thus, it is vital that teachers must enroll in higher education programs to uplift skills and abilities.

Furthermore, the same table shows that the lowest number of respondents, fourteen(14), are Master's degree holders. This means that only a few continued to pursue and finish their Master's degrees. This may imply that there are several factors that may contribute to the respondent's eagerness to pursue graduate studies. A study by Vural et al. (2021) stated that master's degree holders have a variety of reasons to pursue a master's degree program, such as professional advancement, academic career pursuit, in-depth understanding of the area, and personal growth or self-improvement in the field of education.

Thus, the failure to continue the master's degree programs teachers reasons were economic conditions, scarcity of time, interview and language barrier, and the institution based. Kamaruddin et al. (2017) stated that both the ability of teachers to manage ICT programs and their professional development are crucial factors. Thus, teachers must continually improve their skills and stay up to date through continuous professional development to maintain their confidence in their expertise in the application of technology. Thus, it is important for teachers to continue higher education programs for professional growth.

Furthermore, on the same table, most of the respondents were still new in the service ranging from 1 – 10 years, which garnered 59% or 59 out of 100.32% or 32 out of 100 were in the service for 11-20 years, eight (8) were in the service for 21-30 years and only 1 was 31 up years in the service. The findings revealed that a greater number of teacher respondents comprising 59%, are still neophytes in the position since they have been in the service for 1-10 years. Zhao (2021) stated that less experienced instructors identified themselves as more competent, whereas more experienced teachers showed a lower level of self-perception of digital competence.

On the other hand, findings revealed that the least number of teacher respondents, which is one (1), has a thirty-one (31) and up years length of service which means that this respondent has been in the service for more than three decades. This implies that this teacher has been in the service for a long period of time and

almost retiring. Araiz's (2018) on his study's findings indicates that there was no significant correlation between the ICT coordinators' degree of competence and their length of service. The study suggests that older educators' ICT skills are still up to par with those of younger educators. As a result, there is no discernible difference between younger in-service teachers and older in-service teachers in terms of their ICT competencies.

Subsequently, 59% of the participants had attended at least 1-3 ICT-related seminars, which is 1-3. This is followed by 30% of the participants with 4-6 ICT-related seminars attended. 5% of the participants had 7-9 ICT-related seminars attended, while the remaining 6% attended 10 up ICT-related seminars.

The findings revealed that the greatest number of teacher respondents had attended very few ICT-related seminars. The outcome suggests the following factor in teachers' perceptions of the value of attending ICT-related seminars in relation to their implementation of ICT integration in the classroom.

However, Saprikis et al. (2019) examined whether teachers' beliefs and willingness to integrate ICT into their teaching processes are impacted by the various levels of ICT training, which range from no training to a one-year seminar. Similar to Caluza (2017), study findings clearly revealed that teachers possess a basic ICT understanding. This does not, however, imply that instructors are already proficient in ICT. It is thus advised that educators take part in training that will advance their understanding of and proficiency with computers. Therefore, since they equip teachers with the information and abilities needed to integrate ICT in the classroom, ICT professional development courses or ICT-related training and seminars are indeed essential to enhancing educational practices.

Moreover, the least number of participants had only 7-9, which is five(5) and one (1) more than those who had ten(10) and up ICT-related seminars attended. Thus, this implies that only a few have attended more than six (6) training and seminars on ICT. This implies that only a few teachers had been provided with the opportunity to attend the seminar or that limited teachers had an interest in attending seminars and pieces of training related to ICT. The accessibility of training and seminars and the instructors' desire to participate in them are both essential components in helping teachers acquire the requisite ICT skills.

According to Kubota et al. (2018), teacher-training courses are provided by the Philippine Department of Education conducted several times a year to promote ICT literacy but only present in big cities like Manila and Cebu Dela Fuente (2020). And so, Dadhe et al. (2021) said that the focus should be on determining the teachers' ability level and giving them the specialized training they need to realize their potential and play a part in the country's development. Thus, to develop teachers' ICT skills, ICT-related training should be provided according to the needs of the teachers.

As regards the respondent's position of the respondents, Table 1 shows that out of 100 respondents, there is no Master Teacher 2 and 3 participated. There were 3 (3%) Master Teacher 1, 5 (5%) Teacher 2, 8 (8%) Teacher 3, and 84 (84%) Teacher 1.

The highest number of participants, which is eighty-four (84), has a Teacher 1 position. This implies that most of the respondents are still in the entry position for DepEd school teachers. This result coincides with the age, length of service and educational attainment of the respondents. Thus, most respondents are young, with fewer years in service, and with just starting to pursue higher education programs. This implies that there is a need for teachers to develop while serving to advance in position or status. However, different factors will be considered to grow in rank and position, and this will all be connected to the willingness and desire of the teacher participants to seek promotion. So according to a study, ICT coordinators in all positions perform at basically or completely the same level of competence in the classroom. Correspondingly, results also revealed that position had no significant relationship with the level of competence of the ICT coordinators (Araiz,2018).

Moreover, the least number of participants, which is 3%, have a Master Teacher 1 position. Thus, the duration of service combined with excellent work performance and educational qualification is one consideration for promotion. This implies that only very few among the 100 respondents had moved to a higher rank or position. Several factors may contribute to it, which are lack of interest in promotion, no vacant

position or item for the said promotion, not enough documents to pursue ranking for the said promotion, or less teacher empowerment. A multivariate model is presented in the study to forecast teachers' attitudes toward managerial promotion based on their professional roles and feelings of empowerment. The more teachers feel empowered, the more they want to be promoted in the future and think the promotion process is fair (Avidov-Ungar et al., 2018).

The study by Arviv-Elyashiv et al. (2017) emphasized that policymakers and school administrators should work to develop models that will increase teachers' sense of empowerment as a resource that inspires, tests, and promotes vertical professional development. In addition, Araiz (2018) emphasized also that rank position has a weak correlation between individual competencies and the total scores for all competencies measured by faculty evaluations. This means that regardless of the teaching position, teachers are equally competent when it comes to ICT competence.

Problem 2. What is the teachers' ICT Competence based on NICS Technology, Operations, and Concept as to :

    2.1 Standard 1 - Basic Computer operation;
    2.2 Standard 2 - Office and Teaching Productivity Tool;
    2.3 Standard 3- Internet and Network Application Resources; and
    2.4 Standard 4- Information and Data Management?

Table 2
Summary of Results of Teachers' ICT competence based on NICS Technology, Operation and Concept

Indicators	Mean	SD	Description	Interpretation
Standard 1	3.50	0.84	Well Learned	High
Standard 2	3.56	0.85	Well Learned	High
Standard 3	3.55	0.84	Well Learned	High
Standard 4	3.51	0.84	Well Learned	High
Overall	**3.53**	**0.84**	**Well Learned**	**High**

Note: 1:00-1.80–Least Learned , 1.81-2.60-Fairly Learned, 2.61-3.40-Learned, 3.41-4.20-Well Learned,   4.21-5.00-Very   Well Learned

Table 6 presents the teachers' ICT competence based on NICS for teachers' Technology Operation and Concepts. It has an Overall Mean of 3.53 with SD=0.84, which is described as Well Learned and interpreted as High. All 4 standards have also a mean equivalent to high interpretation and has standard deviation ranges from 0.84-0.85 which implies low dispersion of responses. The overall standard deviation basically means that respondents' responses are closely dispersed and that it is reliable.

Further, Standard 2 on Office and Teaching Productivity tool got the highest mean of 3.56 with SD=0.85, which is described as Well Learned and interpreted as High. Its standard deviation basically means that respondents' responses are closely dispersed and that it is reliable. According to Egbert et al. (2022), tools for productivity and creativity assist users in creating models, publishing, organizing and planning, outlining ideas, generating the content, gathering information, and developing and presenting other creative works. In line with this, the availability of computer technology in classrooms impacts how teachers view the teaching and learning process. Because of this factor, instructors must demonstrate their computer literacy by utilizing office and teaching productivity tool technology while carrying out their duties.

Further, Standard 1, Basic Computer and Operation, got the lowest Mean of 3.50 with SD=0.84, which is described as Well Learned and interpreted as High. This means that teachers are proficient at

defining and identifying how the primary components and computer peripherals (printer, scanner, etc.) work. Teachers are also capable of setting up peripherals, configuring key components, and installing drivers as needed. They can also configure hardware and software settings and recognize the fundamental operations of the operating system. They easily manage and arrange computer files, directories, and folders. They can easily store and share computer files, use a storage device, and make backup copies of critical files. They can defend the computer from malware, hackers, spyware, adware, and other threats. And lastly, for application maintenance, updating, and troubleshooting, they can utilize offline and online help resources. However, Chetty (2018) argued that infrastructure should be given in the communities most affected by the digital divide since access to technological tools is a barrier to the incorporation of ICTs into teaching and learning. It is necessary to have access to technological tools to enhance the teacher's utilization of skill.

Problem 3. Is there a significant relationship between the teachers' characteristics and their ICT competence?

Table 3 explains the Correlation Analysis between Respondents' Profiles and Technology Operations and Concepts. The result of the analysis showed that teachers' ICT competence differed significantly from the teachers' profiles. The findings revealed that, in totality, Gender and Length of Service do not have a significant relationship with teachers' ICT competence. Thus, the null hypothesis is accepted.

On the contrary, Age, Educational Qualification, ICT-related seminars attended, and Teaching position has a significant relationship with ICT competence which leaves the null hypothesis to be rejected. Hence, the null hypothesis that there is no significant relationship when grouped according to Gender and ICT competence is accepted. According to the result, regardless of gender, whether male or female, has "no" or a "little effect" on the ICT competence of the teachers. This result may not reflect the totality since participants were not equally distributed. The findings align with Araiz (2018), who states that gender is not a basis for a teacher's ICT competencies.

Table 3
Correlation Analysis Between R*espondents' Profile and* Technology Operations and Concepts

Respondents Profile	Standard 1		Standard 2		Standard 3		Standard 4	
	r	P	r	P	r	P	r	P
Age	-0.1	0.337	-0.25	0.011*	-0.3	0.012*	-0.3	0.003*
Gender	-0.6	0.601	-0.07	0.506	-0.2	0.081	-0.2	0.041*
Educational Qualification	0.32	0.001*	0.33	0.001*	0.27	0.007*	0.20	0.052
Length of Service	-0.03	0.764	-0.18	0.066	-0.2	0.089	-0.2	0.017*
ICT Seminars	0.29	0.003*	0.29	0.004*	0.28	0.004*	0.24	0.017*
Position	0.35	0.000*	0.46	0.000*	0.35	0.000*	0.31	0.002*

Note: r = Pearson r correlation; P = probability value; Significant at 0.05 level.

On the contrary, Grande-de-Prado (2020) states that the disparities between men's and women's

digital competence that have been observed. Men are more likely to utilize technology rather than women. Thus, the research draws attention to several demographic characteristics, and an example is gender which is correlated with teacher use of technology (Islahi,2019).

On the other hand, length of service also has no significant relationship with ICT competence. The findings revealed that most participants were novices, and the rest had a long service experience. The outcome may suggest that older in-service teachers are still flexible and prepared to adapt to technology.

In line with this, as cited by Dogan et al. (2021) states that teaching experience had a negligible significant effect on the use of technology in instruction. Dogan et al. also cited another study that technology utilization varied depending on the length of service. Thus, the younger the teacher, the more they use technology and vice versa. In addition, Araiz (2018) states the findings of his study indicate that there was no significant correlation between the ICT coordinators' degree of competence and their length of service.

Further, the null hypothesis that there is no significant relationship when grouped according to Age, Educational Qualification, ICT-related seminars attended, Teaching position, and ICT competence is rejected. This result is both in contrary and in line with Dela Fuente et al. (2020) study that states that age, gender, highest educational level, area of specialization, and position as a teacher have relatively little impact on teachers' ICT proficiency except for the number of teachers' ICT seminars and training attended which has significantly affected teachers' ICT competence.

Hence out of the four standards, three showed that there is a significant difference, while only Standard 1 has no significant relationship. The conclusion suggests that teachers' ICT ability level is significantly influenced by their age. This suggests that the level of ICT proficiency among instructors varies depending on their age. The finding relates to the study of Guillén-Gámez et al. (2020), who found that age was a significant variable and a predictor of the general attitude toward ICT use in their investigation of Spanish higher education teachers.

In the same vein, Islami et al. (2019) also agreed that age has a significant correlation with both younger and more experienced educators. Thus, the level of ICT ability increases with the teacher's age. On the contrary, a more recent survey of college professors and instructors in basic and secondary schools also found no evidence of age-based disparities in ICT use (Suárez-Rodríguez et al.,2018).

Additionally, Educational qualification is significantly related to 3 out of 4 standards which are Standards 1-3, and only Standard 4 has no significant relationship. The conclusion suggests that teachers' ICT ability level is significantly influenced by their educational qualifications. This implies that the ICT proficiency of instructors varies according to their level of education. Thus, teachers who have completed supplementary education requirements possess a high level of ICT proficiency.

The result is in line with Araiz (2018) who said that Educational attainment has a very significant impact on ICT coordinators' ICT competence. In addition, the professional development and the ability of teachers to manage ICT programs effectively are both crucial factors (Kamaruddin et al., 2017). Another research by Van Laar et al. (2020) states that age, gender, and educational attainment were commonly cited as significant. Thus, for teachers to keep their trust in their knowledge of the application of technology in their teaching performance, they must continuously expand their abilities and stay current through ongoing professional development.

Moreover, ICT-related seminars attended are significantly related to all four standards. The conclusion suggests that teachers' ICT ability level is significantly influenced by ICT-related seminars attended. This means that teachers ICT skill differs depending on the ICT-related seminars they have attended. Thus, the result suggests that the more ICT-related seminars a teacher attends, the more proficient they are with ICT. This suggests that instructors who have participated in more ICT-related training sessions are more at ease using ICT in their work.

Apparently, this result is in line with Caluza et al. (2017), who state that to increase and enhance the standard of education in schools, ICT integration into instruction and other activities assigned to the teaching force require increased training for instructors. Additionally, Macion (2021) said that ICT-trained teachers'

technological ability is generally quite excellent, but their comprehension of integration and technology is only fair. Thus, Dadhe et al (2022) said that the focus should be on determining the teachers' ability level and giving them the specialized training they need to realize their potential and play a part in the development of the country. Therefore, the availability of ICT-related training and seminars must be considered for ICT competence to develop.

Lastly, the Teaching position is significantly related to all four standards. This means that teachers' ICT ability level is significantly influenced by their teaching position. This shows that depending on their teaching position, instructors' ICT skills vary. The level of ICT skill of the teachers is influenced by their role as teachers. The 84% of the respondents belonged to Teacher 1, while the remaining 16% belonged to Teacher 2,3, and Master Teacher 1. The findings demonstrate that their ICT skills are common, irrespective of the teaching position. The outcome also suggests that they are driven to perform well since most of them are still Teacher 1 and that using their ICT skills will help them get promoted.

The result is contrary to the study of Araiz (2018) that ICT coordinators in all positions function in the classroom at essentially the same level of proficiency. Correspondingly, results also revealed that position had no significant relationship to the level of competence of the ICT coordinators. The findings also differ from a study cited by Araiz (2018) emphasized that rank position has a weak correlation between individual competencies and the total scores for all competencies measured by faculty evaluations.

Moreover, numerous demographic traits have been linked to teachers' use of technology, according to research. Yet, the review of a teacher's overall beliefs will determine how they feel about using technology in the classroom (Instefjord et al., 2017). In line with this, the teacher's attitude toward the use of ICTs affects whether or not they are used in a lesson; if the teacher has a bad attitude towards it despite having good facilities available to them, they will not utilize it in the lesson (Eger et al.,2018).

Thus, regardless of profile, urge all teachers to use computer-based instruction. Give instructors the tools they need to understand the relevance and significance of ICT proficiency in dealing with current education. According to Wiedmann et al. (2019), to ensure high-quality education with digital technologies, technology-related teaching abilities are regarded as essential. As a result, having these abilities enhances the teachers learning and is a significant contributor to bettering the teaching and learning process.

4. Conclusions and Recommendations

Based on the findings of the study, the following conclusions are drawn:

1. Using the characteristics of the teachers as a guide in understanding the level of ICT competence, it would be useful to identify the lower levels of ICT proficiency based on the four standards in NICS for Teachers Technology, Operation and Concepts and check to see if there are any other factors related to these characteristics that could influence how well a teacher can learn ICT skills.

2. Teachers have a good understanding of the four Technology and Operation Standards, but they are most proficient and at ease when using the Office and Teaching Productivity Tool.

3. When it comes to gender and length of service, teachers' ICT proficiency is closely identical. On the other hand, there is a strong correlation between ICT competence and age, educational background, attendance at ICT-related seminars, and teaching position. This implies that taking these characteristics into account, the level of ICT skills varies.

Based on the findings and conclusions, the following recommendations are given:

1. School administrators are urged to evaluate teachers' ICT proficiency in order to create specialized training frameworks that best match the teachers' characteristics.

2. Teachers are encouraged to develop their skills in Basic Computer Operation through mentoring and coaching during the LAC session.

3. Strengthen the mechanism for enhancing teachers' ICT proficiency by incorporating ICT training into In-Service Training (INSET) of teachers which is anchored on the NICS-for teachers.

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