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Coping with the new norm: ICT-pedagogy integration awareness and competencies of TEI faculty

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Abstract

This study examined the Information and Communications Technology (ICT) - pedagogy integration awareness and competencies of faculty members of a teacher education institution (TEI). Descriptive research method was employed through the use of survey questionnaire to collect data. Fifty (50) faculty members served as respondents in this study. Most of the respondents perceived themselves to be extremely aware of utilizing ICT tools/ equipment and moderately aware of using application software despite reporting that they were self-taught in acquiring basic ICT skills. They were also found to be proficient in terms of level of competency in integration. It was also discovered that most areas of their competency were significantly related to respondents' awareness in using ICT. This paper suggests that higher education institutions should devise innovative teacher training programs that will increase the ICT pedagogy awareness and integration of teacher education faculty members.

Keywords: Educational technology, information communication technology, teacher education, technology integration

Introduction

Over the years, different technological innovations and ideas have had a continuous impact on the way communities and institutions live around the world. Taking advantage of its potential effect on the teaching and learning process, Information and Communications Technology (ICT) advances have also been used as a catalyst for improvements in the field of education (Villalba et al., 2017). Many studies have shown that ICT significantly benefits teaching and learning outcomes. As a result, educational institutions worldwide are equipped with ICT and have begun providing electronic, hybrid and/or online courses and programs to increase the relevance and attainment of student learning opportunities (Barber, et al., 2016; Jääskelä et al., 2017; Villalba et al., 2017).

ICT has become prevalent in most institutions. High results in the attainment of student learning outcomes are associated with the use of computers, laptops and smartphones in schools (Barber et al., 2016). Also, the vast majority of educators, with little or no training or practical experience in the pedagogical use of ICT, are still pleased to use ICT with their learners. This optimistic ICT pedagogical attitudes were mainly based on perceptions of what specific student learning devices and applications promise and offer (Mertala, 2017).

However, increasing access to ICT seems to be insufficient to ensure that technology is used effectively in education. Successful integration of technology in education is still a problem faced by teachers and schools, despite the extensive efforts of educational heads and institutional leaders to provide professional development programs and skills training (Tondeur et al., 2017). Technology remains primarily used to support traditional teaching methods, such as sharing information or simple exercises. As the use of ICT in education requires a new form of teaching skills, therefore, this is highly needed for teachers to cope with the new norm – integrating ICT and pedagogy in the teaching and learning process.

Literature review

As Stephen (2017) explained, advanced pedagogical practices do not spread on their own with the development of modern ICT tools. Technology is often used in existing educational structures, methods and curricula, and it does not act alone as a catalyst for educational reform. Technology must be carefully and appropriately tailored to facilitate the learning process in a given environment. Teachers need to consider (a) the relationship between technology and content; (2) the relationship between technology and pedagogy; (c) the relationship between content and pedagogy. They need to be aware of the intersection of technology, pedagogy and content (Stephen, 2017).

Stephen (2017) also emphasized that this integration must take place at different levels for a long-lasting and desirable impact: first at teachers' pre-service education, second at the orientation level soon after completing teacher education program and then periodically during refresher courses or continuing professional development programs. This is important because technology is changing rapidly, students are quick to catch up and do not find a teacher out of the ark.

Babu and Kalaiyarasan (2017) highlighted the importance of policy and curriculum change in relation to the use of ICT in educational and teacher training. They argue that the success of technology integration (a) requires a change in pedagogical approaches (inspired by constructivism) and (b) the reform of teacher education programs. These recommendations pinpoint the crucial role of teacher education institutions (TEI) in equipping future teachers with necessary skills in integrating content, pedagogy, and technology

As argued by Jääskelä et al. (2017), there is a need for transparent concepts and reflections on the standard of learning and pedagogy through the use of ICT in contemporary universities. The aim is to think about the type of learning to be facilitated and what kind of pedagogical arrangements are needed. In addition, the added value of integrating ICT into learning support must be considered.

In a study conducted by Reyes et al. (2017) on integrating ICT into teacher education programs from a TPACK perspective, they found out the existence of various levels of disconnect between the knowledge and practice of combining ICT, content and teaching among university lecturers. These represent the "distance" between the "disconnect" of how lecturers use ICT and how lecturers teach about ICT. They also argued that integration of technology, pedagogy and content knowledge is not that simple and is actually fraught with challenges. They emphasized that the biggest challenge that they have uncovered in their analysis is the need to initially "bridge the disconnect" before massive and probably wasteful

investments on ICT (i.e. joining the TPACK bandwagon) training is undertaken (Reyes et al., 2017).

Furthermore, Karamti (2016) explained the gap in knowledge about the effects of ICT on education in developing countries. A multi-level analysis of the impact of ICT access and use has been conducted with survey data involving 377 college students and teachers, in addition to other attributes that can affect academic performance. The results showed a distinctive but negative impact of ICT on performance, which questions the effectiveness of education policy. She also suggested that university support as a whole is essential in increasing the impact of ICT learning.

To address issues regarding use of ICT in classroom instruction, Figg and Jaipal-Jamani (2017) conducted an eLearning Mentor Strategy in developing TPACK among Higher Education Faculty. Their aim was to build faculty knowledge about technology-enhanced teaching through a collaboration between teacher educators tasked with designing new courses and eLearning specialists/mentors tasked with supporting the technical needs of the design process. Findings indicated that eLearning specialists' availability during the course design and initial stage of implementation has contributed to teaching capacity with technology in various ways: 1) build knowledge on how to teach through technology and design enhanced technological learning activities, 2) promote the comfort level of the instrument in the course of teaching, and 3) promote adoption.

In a study conducted by Marcial (2018) about the facilitating and hindering factors of technology-assisted teaching and learning in a developing country, he found out that portability, usability, creativity, independent learning, commitment, dedication and administrative support are the facilitating factors in ICT integration in the classroom while time constraint, lack of technical and administrative support, and poor flexibility of the technology are the hindering factors in technology-assisted teaching and learning. Also, he explained that there is a positive change experienced by teachers in using the technology in the classroom, in spite of obstructions which are always present in any classroom integration of technology.

Conceptual framework

This research is based on ICT Teacher Competence Standards (ICT-CST) of the United Nations Educational, Scientific and Cultural Organization (UNESCO). The general purpose of this system is to improve the education of teachers. It also seeks to do it in a way that leads to a better-informed citizenry and higher-quality workplace education system. ICT-CST UNESCO's goal is "to link education reform with economic growth and social development which can enhance the teaching quality, reduce poverty and inequality, advance living standards and prepare the citizens of a country for the challenges of the 21st century". The organization also encourages teachers to become models for students to be competitive, problem-solving, innovative learners and to be able to become able citizens and successful employees. It deals with all aspects of teacher work, including policy awareness, curriculum and evaluation, pedagogy, ICT, organization and management, and professional teaching (UNESCO, 2008).

Research objectives

The main purpose of this study was to determine the competency level and practices of College of Education (CED) faculty members in ICT-pedagogy integration. Specifically, it aimed to: [1] describe the socio-demographic profile of the respondents in terms of personal characteristics (age, sex, religion, civil status, monthly income), professional characteristics

(academic rank, number of years in teaching, subject(s) taught, highest educational attainment, eligibility/ board examination passed), number of hours spent in using ICT equipment/ tools and application software, ICT skills development and trainings attended; [2] determine the respondents' awareness in utilizing ICT equipment/ tools and application software; [3] assess the respondents' level of ICT competency in terms of policy, curriculum and assessment, pedagogy, ICT tools, organization and management, and teacher development; [4] identify the interrelationship between the respondents' socio-demographic profile and awareness in utilizing ICT; and [5] determine whether the respondents' socio-demographic profile and awareness in utilizing ICT are associated with their level of ICT competency.

Methodology

Research design

This study used a descriptive research method. It has been descriptive research in trying to identify respondents in terms of their socio-demographic characteristics and their level of awareness of the use of ICT equipment / tools and application software; level of ICT competence in policy, curricula and evaluation, pedagogy, ICT equipment, organization, administration and the development of teachers; This research also explored the relationship between the social demographic profile of the respondents, the level of knowledge of the usage of ICT equipment / tools and application software, and the level of ICT competence.

Respondents of the study

As the aim of the study was to measure the level of expertise, awareness and integration of ICT into CED faculty instruction, the researcher used a specific sampling method. Purposive sampling as described by Etikan, Musa, and Alkassim (2016) is a form of unlikely sampling, which happens when "elements selected for the sample are selected in the researcher's assessment." The study respondents have been drawn from two (2) colleges and two (2) secondary schools, faculty members of the College of Education, the Central Luzon State University.

Instrumentation

A survey questionnaire was used in data collection for this study. A comprehensive survey of related literature, both books and previous research articles, was performed by the researcher to ascertain the appropriateness of the form and completeness of the data that will be gathered through this questionnaire. It was composed of four major parts.

The first part of the questionnaire asked for the socio-demographic profile of the respondents, to wit: personal characteristics (age, sex, religion, civil status, monthly income), professional characteristics (academic rank, number of years in teaching, subject(s) taught, highest educational attainment, eligibility/ board examination passed), number of hours spent in using ICT equipment/ tools and application software, ICT skills development and trainings attended. In the second part of the questionnaire, the awareness of the respondents in utilizing ICT was assessed. They were asked to rate the level of their awareness in utilizing ICT using a four-point Likert scale. The items in the scale were classified into two groups to indicate the two major areas in ICT (equipment/ tools and application software). Furthermore, the third part was about the level of ICT competency of the respondents. In here, the respondents were asked to indicate the level of their competency in terms of the domains listed from the

UNESCO's ICT Competency Framework for Teachers (ICT-CFT) through answering a 26-item test using a four-point Likert scale. Lastly, interview questions were incorporated to determine the respondents' disposition and practices in integrating ICT in classroom instruction. The coding of responses was applied to analyze data for emergent themes.

Validation and reliability

Before the administration of this instrument to the target respondents, it was pre-tested among the selected faculty members of the Core Gateway College, San Jose City, Nueva Ecija on February 18, 2019. The reliability coefficient of the survey instrument in the pilot study was good as indicated by the Cronbach's alpha obtained, α=.88. All of the items were retained as suggested by the results of the analysis.

Data gathering procedure and data analysis

Prior to the distribution of the research tool, formal communications were arranged for the final distribution and recruitment schedule. Following the approval of the required documents, the respondents were informed of the study nature and asked to reply to the research instrument.

Data analyze were based on the objectives of the study using the following statistical methods in the Social Science Statistics Package (SPSS): (1) Descriptive statistics such as mean, standard differentiation, percentages, ranks and frequency counts were used to describe the personal profile of ICT equipment / tools and application software, level of ICT competency and (2) The correlation between independent and dependent variables was used by Pearson Product Moment.

For the qualitative part, i.e. questions for interviews, the coding was used to analyze data on emerging subjects (Wolcott, 2008). After repeated readings, the overlap between codes was reduced by the clustering of similar codes together in several broad categories or topics. The topics were analyzed to reveal the frequency of the replies and converted into a percentage for the easier use of the data summary to provide more detailed background information.

Findings and discussion

Personal and professional characteristics

The respondents were aged from 20 to 63 years, with an average of 36,63 years (SD=1,10) and about half (43,75 per cent) aged 31 to 40 years. The 41-50 year-old and more than 50 year-old group comprised very little respondents (14.58% and 10.42%, respectively). Respondents were also distributed similarly among sex groups. Half of the interviewees were male while the other half were female. The majority of respondents had Php21,000-Php25,000 monthly sales (47.62%). Many of the respondents were married (60.0%) with 1-2 children (66.67%).

The majority of respondents were instructors (52.00 percent) and taught for less than five years (34.15 percent) in terms of their professional characteristics. In 11 to 15 years, 24.39 percent of respondents were taught, while the remaining groups were taught for 5 to 10 years (12.20 percent), 16 to 20 years (9.76 percent), 21 to 25 years (7.32 percent), and more than 25 years (12.20%). In addition, respondents in technical education earned the highest rating of

17.91% following the language arts (14.93%), MAPEH (11.94%) and EPP / TLE. (11,94 percent of the population).

Most were professional teachers with licenses (71.43%) and holders of a master's degree (70.00%). Bachelor's degree holders make up 18.00 percent of those surveyed while 12.00 percent hold doctorates. Based on the data from the Higher Education Commission (2012), nearly half (59.714% or 45.89%) of the total number of faculty members in the country have a bachelor's degree only; 53.925 (41.44%), but only 16.479 (12.66%), has obtained a Doctorate.

Number of hours spent in using ICT

Among the ICT equipment/ tools listed in the survey questionnaire, the respondents used cellular/ mobile phone for an average of 5.24 hours (SD=3.34) daily personal usage while personal computers and LCD projector were used for an average of 5.05 and 3.83 hours for teaching (SD=2.19, 1.46). These results show significant data regarding respondents' knowledge on using various ICT devices in classroom teaching. Though teachers use various ICT devices in classroom instruction, the use of each ICT equipment is very limited. Teachers tend to use computer and projector most of the time during classroom instruction. This reflects that they still prefer the use of these devices that they are familiar with in handling their classes.

On the other hand, respondents used web-based application software for personal use accounting for an average of 3.23 hours. In terms of instructional usage, the most commonly used application software were presentation and word processing applications with an average usage of 4.41 hours and 3.01 hours respectively. When asked about the factors affecting their instructional use of ICT, a majority of the respondents considers convenience in instructional planning and delivery. One of the respondents said that "*ICT aids instruction and It helps teachers to present topics with ease*". Another respondent even answered "*suitable learning materials are available in the net*" which makes it much easier for teachers to download materials for presentation.

Respondents also determined the importance of ICT in their instruction and daily lives. Most of them expressed that ICT helps them deliver lessons efficiently and effectively. One of the respondents stated that *"It [ICT] is important for instruction because it can save time in teaching. Even students can get information from many sources". Furthermore, ICT is deemed important by the respondents because of its use in communication. Through the use of ICT, "connecting with others becomes easier*".

ICT skills development

As shown in Table 5, almost all of the respondents reported that they were self-taught in acquiring basic ICT skills (94.00%). Some of the respondents, however, undergone private courses with certification (6.00%). In terms of keeping their skills up-to-date, almost all of the respondents undergone self-learning (98.00%). However, majority of the respondents did not attend ICT-related trainings (86.00%) to keep their skills and knowledge updated. As Marcial (2018) explained, too often educators are required to integrate technology into classroom learning without proper training and, despite the obstacles that are always present in any technology integration in the classroom, they still manage to integrate ICT into their training. Hence, this self-learning process of developing basic ICT skills and keeping ICT skills up-to-date could hinder the capability of teachers in integrating ICT in their classes. This is supported by the study by Figg and Jaipal-Jamani (2017) which found that inadequate technology training creates a barrier for teachers when implementing technology resources.

Level of awareness in utilizing ICT

Table 1 shows the respondents' level of awareness in utilizing ICT in the two areas considered (ICT equipment/ tools and application software. It can be noted that among the ICT equipment/ tools listed, the highest level of awareness was on "television" "(Mean=3.71, SD=0.46). It was followed by "cellular/ mobile phone" (Mean =3.65, SD=0.60) and "printer/ scanner" (Mean =3.59, SD=0.61). The lowest level of awareness was on "digital/ video camera" (Mean =3.21, SD=0.72). In terms of level of awareness in utilizing application software, respondents reported that they are extremely aware of using "word processing" (Mean =3.46, SD=0.50), "presentation" (Mean =3.39, SD=0.57), and "web-based" (Mean =3.33, SD=0.55) applications.

Table 1. Respondents' level of awareness in utilizing ICT.

Category	**Mean**	**SD**	**Descriptive Rating**
ICT Equipment/ Tools			
Cellular/ Mobile Phone	3.65	0.60	Extremely aware
Phablet/ Tablet	3.36	0.86	Extremely aware
Personal Computer	3.57	0.50	Extremely aware
LCD Projector	3.52	0.55	Extremely aware
Printer/ Scanner	3.59	0.61	Extremely aware
Digital/ Video Camera	3.21	0.72	Moderately aware
Audio Devices	3.43	0.62	Extremely aware
CD/ DVD Player	3.50	0.59	Extremely aware
Television	3.71	0.46	Extremely aware
OHP/ Slide Projector	3.16	0.95	Moderately aware
Mean ($\bar{X}$) =	3.46	0.49	Extremely aware
Application Software			
Word Processing Applications	3.46	0.50	Extremely aware
Spreadsheet Applications	3.23	0.59	Moderately aware
Presentation Applications	3.39	0.57	Extremely aware
Publication Applications	2.64	0.99	Moderately aware
Video Editing Applications	2.53	0.93	Moderately aware
Photo Editing Applications	2.55	0.93	Moderately aware
Web-Based Applications	3.33	0.55	Extremely aware
Learning Management Systems	2.13	0.97	Slightly aware
Mean ($\bar{X}$) =	2.91	0.56	Moderately aware
Overall Mean	**3.19**	**0.47**	**Moderately aware**

Legend:

3.26-4.00	*Extremely aware*
2.51-3.25	*Moderately aware*
1.76-2.50	*Slightly aware*
1.00-1.75	*Not at all aware*

By looking at Table 1, it was indicated that respondents are moderately aware on matters concerning usage of ICT equipment and application software based on the overall mean obtained (Mean =3.19). Moreover, the standard deviation of 0.56 implied that responses

were not widely dispersed. The level of awareness of respondents in utilizing ICT tools/ equipment got a mean of 3.46 (SD=0.49) implying that they have the ability to perform and carry out the task related to ICT devices proficiently without the help of an expert. In terms of using application software, respondents reported a mean of 2.91 (SD=0.56) suggesting that they have the ability to perform and carry out the task related to application software but needs the help, advice and guidance from an expert.

Level of ICT competency

Table 2 presents the summary of respondents' level of ICT competency. Respondents posted an overall ICT Competency level mean of 3.07 which determined that respondents were "highly proficient" in integrating ICT in their instruction. Also, the overall standard deviation was 0.41 indicating a narrow distribution of responses. It can also be noticed that respondents were found to be proficient in all domains except for the domain policy awareness and practice which has a descriptive rating of "Very high proficiency" (Mean=3.30, SD=0.52).

Table 2. Respondents' level of ICT competency.

Domains	**Mean**	**SD**	**Descriptive Rating**
Policy Awareness and Practice	3.30	0.52	Very high proficiency
Curriculum and Assessment	3.18	0.52	High proficiency
Pedagogy	3.11	0.59	High proficiency
ICT Tools	2.82	0.60	High proficiency
Organization and Management	2.97	0.59	High proficiency
Teacher Development	3.03	0.60	High proficiency
Overall Mean	3.07	0.49	High proficiency

Legend:
3.26-4.00 *Very high proficiency*
2.51-3.25 *High proficiency*
1.76-2.50 *Low proficiency*
1.00-1.75 *Very low proficiency*

Policy awareness and practice. The respondents' level of ICT competency in terms of policy awareness and practice, as shown in Table 8, had an overall mean of 3.30 and standard deviation of 0.52, which means that respondents' proficiency on policy awareness and classroom practice implementing ICT policies was "very high". It also showed in the survey that all statements under this domain received a very high descriptive rating among the respondents. This result shows that respondents are confident in researching, evaluating and supporting school and national policy and vision for ICT integration across all subject areas (Mean=3.29, SD=0.61). They also reported that they are very proficient in designing, adapting and developing classroom practices and school programs that implement national ICT and education reform policies (Mean =3.31, SD=0.55).

This result coincides with the respondents' belief about the use of ICT in the school. Respondents emphasized that ICT integration across all subject areas is a "necessity" and needed to "deliver lessons effectively". One of the responses answered was "we are now living in 21st century where ICT is very trending. I believe that the use of ICTs in our school today is necessity because students must be exposed to these so they can be more globally competitive in ICT skills". Respondents' goal of implementing technology integration in classroom instruction inspired them to develop ICT skills even without proper training.

Curriculum and assessment. Respondents' level of ICT competency under the domain curriculum and assessment were reported as "highly proficient" based on the overall mean obtained (Mean =3.18). Moreover, the standard deviation of 0.52 implied that responses were not widely dispersed.

It also revealed that among the statements presented in the survey under this domain, the statement "I can design or adapt units or classroom activities that incorporate a range of ICT tools and devices to promote student learning" received the highest mean (Mean =3.33, SD=0.63), followed by the statement "I can identify technology tools that can support learning environments for enabling student's understanding of key subject-specific concepts" (Mean =3.29, SD=0.61), and "I can select and use digital media to communicate and collaborate with students, peers and parents." (Mean =3.29, SD=0.65).

These results were also reflected on their responses to the interview questions. Their responses focused on ICT's impact on curriculum, learning environment, and communication. When asked if they have explored opportunities to use ICT in your curriculum/ for instructional purposes, the respondents answered that they use ICT (1) in instructional preparation and delivery; (2) to create and/ or prepare instructional materials; (3) to communicate with my students; and (4) in assessment and evaluation of student learning. One response was "I use the basic ones like MS PowerPoint during discussion to save the time in writing. I also use videos or links for students to watch to summarize our discussion and better way for them to understand."

Pedagogy. As shown in Table 2, the overall mean of the statements was 3.11 with a descriptive rating of "high proficiency" and the standard deviation was 0.59. Among the statements listed in the survey, the statement "I can design or adapt unit plans and classroom activities to engage students in exploring real world issues and solving authentic problems using technology tools and resources" obtained the highest mean of 3.22 (SD=0.69) followed by the statement "I can promote project-based learning using technology tools and resources to support student social interaction, collaboration and reflection on their own learning" with a mean of 3.13 (SD=0.64).

During interview, a majority of the respondents also revealed that their students use various ICT devices in (1) developing reports and presentations, (2) creating outputs, and (3) doing research. One respondent stated that in his "research subject, most of the students use laptop to compute their statistics and browse internet for additional information".

ICT tools. As shown in Table 2, respondents reported that their knowledge in this domain was "highly proficient". With an overall mean of 2.82 and standard deviation of 0.60, respondents were found to be proficient in utilizing ICT, both equipment and application software.

Among the statements in the survey, the statement "I can evaluate and use educational software to support students' knowledge acquisition, thinking, reflection, planning and creative processes" received the highest mean of 2.98 (SD=0.72), followed by the statement "I can use common communication and collaboration technologies to locate information, people and resources for developing local and global collaborative projects" (Mean =2.92, SD=0.67), and "I can use technology software to manage, monitor and assess development and progress of student learning and projects" (Mean =2.88, SD=0.72).

Most of the respondents were highly proficient in using ICT as an educational software. They also use ICT tools for communication, collaboration, and administration. In fact, most of them make their own technology-based instructional materials to improve student learning while involving their students in producing these tools.

Organization and management. On the aspect of organization and management, respondents revealed that they had sufficient understanding of their roles in developing a classroom practice infused with technology. With an overall mean of 2.97 and standard

deviation of 0.59, respondents were found to be "highly proficient" in this domain. The data gathered also revealed that the statement "I can advocate, model and teach procedures and policies for safe, ethical and responsible use of technology and the Internet" obtained the highest mean (Mean =3.06, SD=0.75).

These results were supported by their responses to the interview questions. Respondents often show their support ICT integration in the organization by participating in faculty meetings and by giving suggestions, feedbacks, and comments. They also encourage other faculty members to use ICT.

Teacher development. This domain obtained an overall mean of 3.03 with a descriptive rating of "highly proficient" and standard deviation of 0.60. All of the statements under this domain also got a descriptive rating of "proficient". Furthermore, the survey reveals that the statement "I can contribute to the effective use of technology to enhance the teaching profession and the school community" obtained the highest mean (Mean =3.18, SD=0.63), followed by the statement "I can participate in local and global learning communities to explore creative applications of technology and share and discuss good practices" (Mean =3.02, SD=0.66).

This shows that respondents have the willingness to participate in the promotion of ICT integration in various learning spaces. Moreover, they also expressed their willingness to attend seminars and trainings to further enhance their skills in using ICT tools in teaching.

Socio-demographic profile and level of awareness in utilizing ICT

It was revealed that some variables of respondents' socio-demographic profile had highly significant but negative relationship with their level of awareness in utilizing ICT. As shown in Table 3, age, civil status and subjects handled were found to be negatively related to respondents' level of awareness in utilizing application software. This indicated that single and younger faculty members are more adept in using different application software. These results coincide with the study of Marcial (2017). He found out that single respondents are higher in terms of the level of ICT competency. Though almost all of the respondents were handling non-ICT courses, they were still found to be proficient in using software and digital tools in personal and instructional use. In addition to this, number of children was also found to have negative relationship with respondents' level of awareness in using tools and equipment which indicated that respondents without child or had lower number of children are more confident in using ICT equipment and tools. This result explains the financial capability of a teacher to procure and use varied ICT equipment and tools because of his civil status and availability of his time (Marcial, 2017).

Table 3. Relationship between socio-demographic profile and level of ICT awareness.

Socio-demographic Profile	ICT Tools and Equipment	Application Software
Age	-0.198	-0.509**
Sex	-0.139	-0.117
Monthly Income	0.094	-0.039
Civil Status	0.011	-0.368**
Number of Children	-0.535**	-0.368
Length of Service	0.026	-0.101
Subjects Taught	-0.255	-0.442**
Eligibility	-0.024	0.202
Trainings Attended	0.021	0.127
Number of Trainings Attended	-0.136	-0.236
Academic Rank	-0.741	-0.562
Highest Educational Attainment	-0.033	-0.226

***Correlation is significant at p<0.01. *Correlation is significant at p<0.0*

Socio-demographic profile and level of ICT competency

Table 4 shows the relationship between the socio-demographic profile of respondents and the level of ICT skills. Variables in the socio-demographic profile, age, status, number of children, duration of service, academic rank and educational achievement have been found to have a significant effect on the level of ICT competence of the respondents. It is important to note that the age and length of service have been shown to be closely related to most of the areas identified in the ICT competence framework. This suggests that the integration of ICT into classroom training was more noticeable among younger faculty members with less teaching experience. Marcial (2017) also supported this claim that the young adult teachers have higher capacity for social and ethical integration of ICT than mature teachers.

Table 4. Relationship between socio-demographic profile and level of ICT competency.

Socio-demographic Profile	Policy	Curriculum and Assessment	Pedagogy	ICT Tools	Organization and Management	Teacher Development
Age	-0.147	-0.321*	-0.388**	-0.553**	-0.392**	-0.528**
Sex	0.167	0.013	-0.009	-0.072	-0.120	-0.024
Monthly Income	0.011	-0.059	-0.118	-0.123	-0.090	-0.271
Civil Status	-0.220	-0.240	-0.332*	-0.297*	-0.112	-0.347*
Number of Children	0.013	-0.323	-0.383	-0.420*	-0.233	-0.299
Length of Service	-0.127	-0.426**	-0.447**	-0.618**	-0.497**	-0.644**
Subjects Taught	-0.027	0.065	-0.006	0.192	0.016	0.155
Eligibility	-0.273	0.090	0.072	0.098	0.137	0.038
Trainings Attended	0.013	-0.043	0.061	-0.197	-0.115	-0.141
Number of Trainings Attended	-0.586	-0.410	-0.280	-0.267	-0.058	-0.260
Academic Rank	-0.086	-0.197	-0.274	-0.369**	-0.191	-0.425**
Highest Educational Attainment	-0.095	-0.105	-0.132	-0.194	-0.097	-0.315*

***Correlation is significant at p<0.01.*
**Correlation is significant at p<0.0*

Level of ICT competency and level of awareness in utilizing ICT

Table 5 shows the relationship between the respondents' level of ICT competency and level of awareness in utilizing ICT. It was found that all areas of ICT competency were significantly related to respondents' awareness in using ICT except for policy. This indicated that respondents' awareness about various ICT equipment and digital technologies, such as the internet, digital video, interactive whiteboards, and software programs, was significantly related to their competency in ICT-pedagogy integration.

Table 5. Relationship between level of ICT competency and level of ICT awareness.

ICT Integration	ICT Tools and Equipment	Application Software
Policy	0.106	0.101
Curriculum and Assessment	0.486**	0.440**
Pedagogy	0.449**	0.493**
ICT Tools	0.515**	0.663**
Organization and Management	0.537**	0.597**
Teacher Development	0.564**	0.621**

***Correlation is significant at p<0.01.*
**Correlation is significant at p<0.0*

These results can be explained by respondents' awareness of the use of different technologies and the suitability of teaching and learning content. This is in line with the findings of Mustafina (2016) that the confidence and knowledge of the respondents played an important part in their attitudes towards technology. These aspects have predetermined the teacher's acceptance of this technology and their chances of using ICT in teaching / pedagogy.

Conclusions and recommendations

Majority of the College of Education faculty members belong to instructors and assistant professors' level. They use ICT tools for an average of 5.05 hours for teaching. Respondents also used web-based application software for personal use with an average of 3.23 hour/day. In addition to this, majority of them were self-taught in acquiring basic ICT skills and majority of the respondents did not attend ICT-related trainings.

It is therefore recommended that further strengthening of the faculty background in ICT be undertaken specifically in using web-based resources thru in-house trainings. The said action will also strengthen the capability of those faculty members teaching in distance education using the blended learning or full-time approach. It would also be great for higher education institutions to implement innovative ICT-pedagogy training programs that will build their knowledge on how to teach through technology and design ICT-integrated instruction (Figg & Jaipal-Jamani, 2017).

Though respondents had very high proficiency in terms of policy and awareness and had high proficiency in other dimension of UNESCO ICT framework for teachers, formal trainings are still needed to further equip the teachers in successfully integrating ICT in classroom instruction. Trainings and seminars with regard to appropriate and responsible use of ICT and internet platforms should be undertaken. As emphasized by Marcial (2018), portability, usability, creativity, independent learning, commitment, dedication and administrative support are the facilitating factors in ICT integration in the classroom. These factors could be honed to further improve the ICT-pedagogy integration skills among faculty members.

A majority of the faculty members aged 31 and above indicating that they were not exposed to any modern technology during their pre-service teacher training while younger faculty members were seen to be more adept in using different modern ICT devices and application software. Age and length of service were found to have significant relationship with most of the areas indicated in ICT competency framework. The younger faculty members with less teaching experience were found to be more confident in integrating ICT in classroom instruction. Thus, sessions on enhancing ICT skills among senior faculty members and innovating technological integration to accommodate 21st century learners need also to be undertaken (Marcial, 2017).

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