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Teachers' Level of Preparedness and Proficiency in the Use of Instructional Technology: Effects on Learning Enhancement

Jana Evianne Villaluna, Cristina Caponpon & Melanie Sadiasa

Occidental Mindoro State College

janaeviannedayandayan@gmail.com, cristinacaponpon14@gmail.com &

marquez.melanie0321@gmail.com

Abstract

The abrupt shift in learning challenged teachers' knowledge, mindsets, and skills due to the pandemic. The need to update and train the educator workforce related to instructional technology became the trend that can convert teachers to become versed in deploying technology in teaching. The need to be knowledgeable, well prepared, and skilled in applying instructional technology became the trend for people who believed that the use of it benefits the education process. With these, the researchers were prompted to conduct this research about teachers' level of preparedness and proficiency in instructional technology to determine what specific knowledge and skills must be enhanced and appropriately developed to cater to the needs of students and the community. Eighteen faculty members from the College of Teacher Education for the second semester of the Academic Year 2020- 2021 participated in this research study. Wherein descriptive-correlational research design was employed. While with the use of frequency, percentage, mean, and Pearson r as statistical treatments to analyze and interpret data gathered, it was determined that the level of preparedness on the use of instructional technology of the respondents as to IT training and seminars attended has a positive relationship with their proficiency as to communication and

information access. On the other hand, their preparedness for technological tools used in teaching negatively affects their proficiency in integrating technology instruction.

***Keywords:** Preparedness, Proficiency, Instructional Technology, Teacher's Profile*

Introduction

The COVID-19 pandemic has profoundly disrupted the education system, changing what classrooms and learning look like daily. Educators are navigating a constantly shifting landscape, with the health of students, teachers, and the community at stake.

This pandemic has resulted in drastic changes in education. Part of it is the shift from face-to-face classes to different learning modalities, which include distance and modular learning modes. Since education is believed to continue despite the circumstances, teachers have started to prepare for modular and online distance learning. Teaching became possible but raised multiple challenges (De Villa & Manalo, 2020).

Most of the time, people hear about the difficulties of parents and students with the learning modes nowadays, but teachers have a fair share of those challenges and difficulties. Teachers are the ones who ensure the quality of learning even in the absence of face-to-face experience, from the preparation of lesson plans to conducting classes and distributing assignments/activities (Mayol, 2020).

According to Johnson (2020), the abrupt learning shift directly challenged teachers' knowledge, mindsets, and skills. Formerly "nice-to-have" skills in digital integration became "must-haves." Traditional classroom management and instructional design methods are no longer applied, and everyone was required to embrace a high level of comfort with ambiguity as guidelines and expectations shifted every week in education.

Moreover, although the need to update and train the educator workforce existed long ahead of the novel Coronavirus, the need to convert teachers to become versed in deploying

technology in teaching even at the most basic level became the main objective of the education sectors in many countries. In the same vein, they need to become equipped with the life skills that will inspire them to build resilience and provide solutions to the educational needs that arise around them.

The need to be knowledgeable and skilled in applying instructional technology became the trend (LSU, 2020). Experts widely agree that instructional technology provides many benefits to the education process, including better access to information, more opportunities for collaboration, and better capabilities for meeting diverse learners' needs.

Furthermore, instructional technology is the theory and practice of using technology for education. Instructional technology can take many forms to encompass the design, development, use, management, and evaluation of technology in education. Anything from electronic whiteboards to online courses or virtual reality classrooms can be considered instructional technology (Kurt, 2017).

With these, the researchers were prompted to conduct this research study about the teachers' level of preparedness and proficiency in the use of instructional technology to determine what specific knowledge and skills must be enhanced and developed for the teachers to adequately cater to the needs of the students and community during this time of the pandemic.

This research study aimed to determine the interrelationship between teachers' profile and their level of preparedness and proficiency in using instructional technology in the College of Teacher Education of Occidental Mindoro State College – Mamburao Campus for the First semester of AY 2020 – 2021.

Specifically, it aimed to identify the respondents' profile, measure and assess both their level of preparedness and proficiency in the use of instructional technology, and test if there is a significant relationship between their profile and level of preparedness and

proficiency in the use of instructional technology, and determine if there is a significant relationship between respondents' level of preparedness and proficiency on the use of instructional technology.

<div align="center">Review of Related Literature</div>

Instructional Technology

According to Kurt (2015), educational technology is a branch of study that focuses on assessing, creating, developing, implementing, and evaluating the instructional environment and learning materials to improve teaching and learning. It is crucial to remember that educational technology (also known as instructional technology) exists to improve education.

Furthermore, whether or not they use media, this instructional technology incorporates practical instructional delivery approaches that systematically strive for effective learning. One of the primary goals of instructional technology is to encourage and facilitate using these well-known and well-validated techniques in the design and delivery of education (Gagne, 2013).

According to the United States, Schools can employ educational technology to assist teaching and learning by infusing the classroom with useful digital tools, expanding course offerings, enhancing student engagement, and speeding up learning, according to the Department of Education. Although instructional technology has practically limitless applications, experts have identified three significant areas where incorporating technology can have a substantial impact: collaborative learning, virtual classrooms, and online learning, as well as real-time feedback (LSU, 2020).

Teachers' Preparedness on Technology

According to Hagger and McIntyre (2000), instructors' preparation stems from teacher education, a specific curriculum that assists teachers in establishing quality and effective teaching and learning practices. Teacher education is thought to have originated with

Benjamin Franklin in the 18th century. Franklin was concerned and recognized a pressing need for highly certified, high-quality teachers who could train others to teach. Teachers were finally given alternative teaching strategies and other instructional abilities due to these initiatives.

According to Kiamba and Mutua (2017), teacher trainees go through a teacher education program with one primary purpose: to learn the fundamentals and be prepared to create classrooms that would help them overcome their fears as teachers. Teacher readiness is frequently required since it aids in acquiring fundamental classroom management skills. Teaching, according to Zhou (2003), is a complex and multidimensional process that necessitates deep knowledge and understanding in a variety of areas, as well as the ability of the teacher to synthesize, integrate, and apply the knowledge in various situations, as well as the ability to integrate technologies.

While it is vital to study and comprehend teachers' readiness to use digital technology in education to incorporate it, there has been a surge in interest in digital competence (Pettersson, 2018). However, digital competence should be viewed as a pluralistic concept representing "a network of intricately connected purposes, domains, and levels of ICT use." Johannesen, Orgrim, and Giaever (2014) advocate for a broad and holistic definition of digital competence, emphasizing the role of ICT in learning.

Digital competence is defined in some studies as the set of knowledge, abilities, and attitudes required for utilizing ICT. Researchers in more recent studies define it as instructors' ability to use ICT in a professional environment with strong pedagogic-didactic judgment and understanding of its consequences for learning methodologies (Krumsvik, 2011).

Technology Proficiency of Teachers

Although there is agreement that online teaching necessitates various teaching tasks and skills (Major, 2010) when analyzing the current literature on the competencies online

teachers must possess to function well, two alternative approaches emerge. Some authors claim that the skills required for online education are similar to those required for face-to-face instruction (Bautista, Borges, & Forés, 2006). Others, on the other hand, contend that some competencies are unique to online teaching, even if others appear to be relatively similar (Laat, Lally, Lipponen & Simons, 2007). Varvel (2007) claims that online teaching entails creating an effective learning environment by employing scattered activities and materials, which is a difficult challenge. According to Bawane and Spector (2009), the abilities teachers should acquire are determined by program characteristics, available resources, and the teacher's function.

On the other hand, student learning and achievement are two critical aspects of any classroom. Steinman (2007) concluded that a good education is essential regardless of how it is delivered. As a result, technology must not obstruct the learning process in an online classroom. Technology can improve educational processes in online classrooms (Baghdadi, 2011). As a result, it is critical to comprehend how online classrooms might be designed to give high-quality, effective learning experiences for all students.

Many students have been able to attend universities because of the flexibility and convenience of online courses; otherwise, they would not have had that opportunity (Armstrong, 2011). While online course enrollment continues to rise, student retention has become a problem (Park & Choi, 2009). Although the number of students enrolling in courses looks to be increasing yearly, online course attrition remains a problem for universities and community institutions. Exploring why students drop out of online courses is thus both necessary and beneficial. According to DeTure (2004), the online course retention problem can be understood "by identifying student characteristics that correspond with distance learning course success..." With such a low retention rate, it is clear that both the professor and the student must make changes if online courses are practical (Bennett &

Green, 2001).

Framework

This research study was based on the theoretical framework below for teachers' readiness to teach using instructional technology adapted from Health Behavior Change e-Book by Rollnick, Mason, and Butler (2010). The researchers take preparedness in using instructional technology as the knowledge, importance (attitude), and readiness, while confidence (ability) is the proficiency and skills in using instructional technology. Preparedness refers to the state of readiness regarding knowledge, attitude, behavior, materials, and support needed to use instructional technology. On the other hand, proficiency pertains to a high degree of competence or skill in access, application, operation, and integration of instructional technology in instruction/education.

Since teaching in the new modality is different from teaching in the classroom, teachers' competencies to teach online require adjustment in attitudes, skills, knowledge, and enthusiasm towards technology and teaching itself (Martin, Budhrani & Wang, 2019).

Figure 1
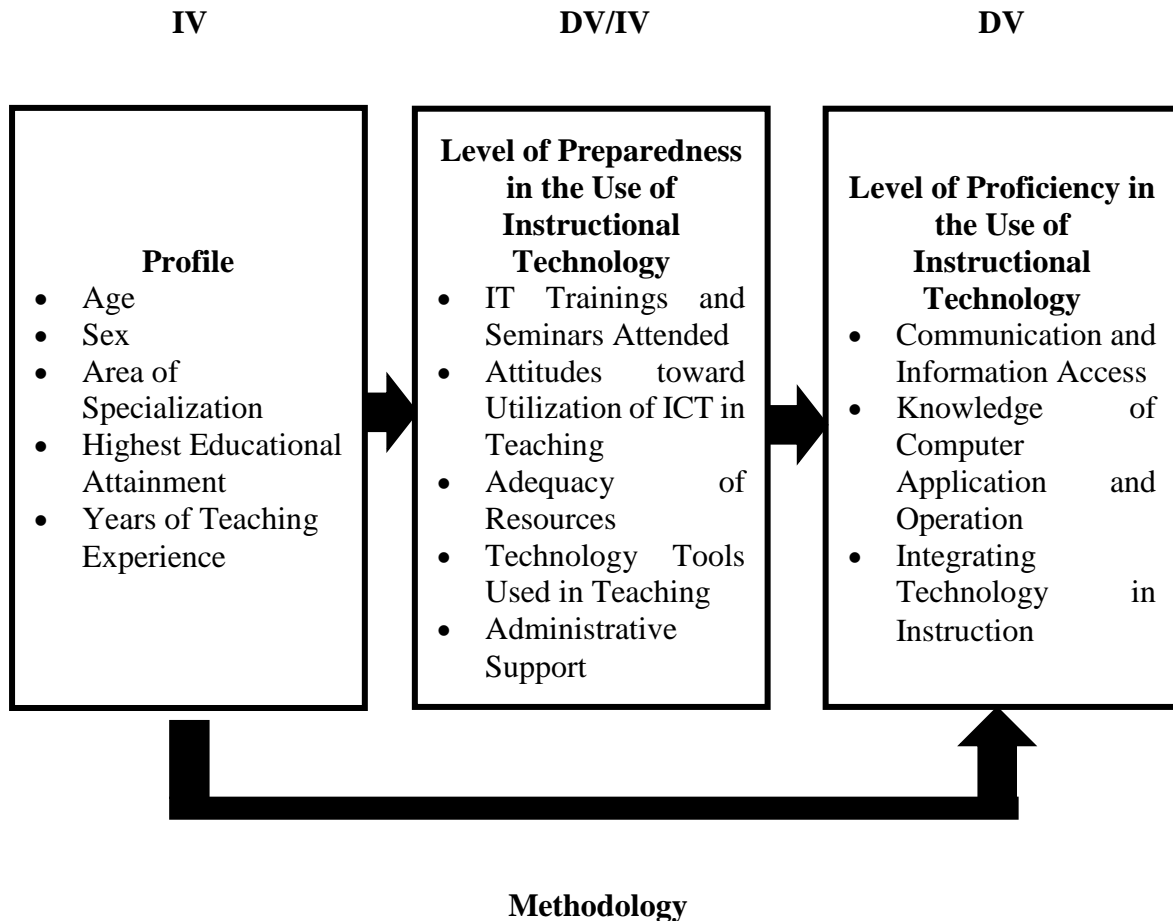
Paradigm of health behavior change
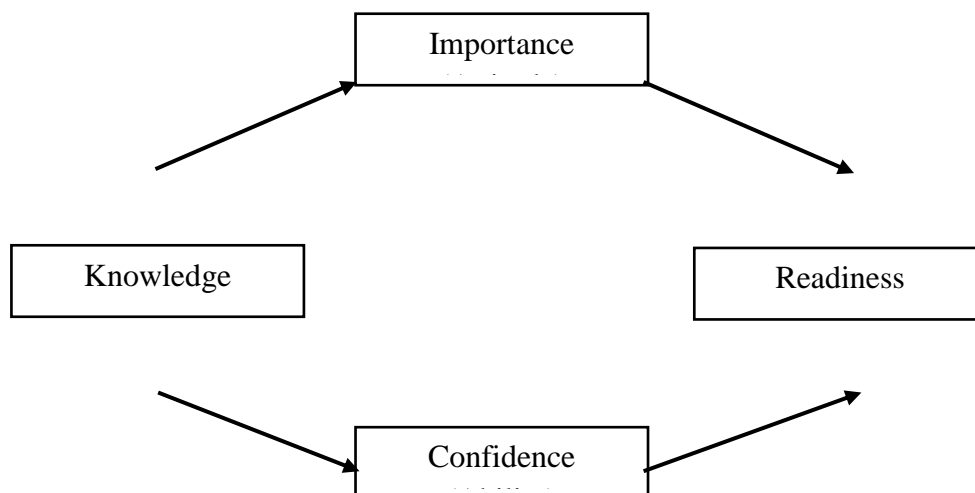
The framework that guided the research study is the presented figure below in the form of the IV-DV (Independent and Dependent Variables) style. Figure 2 shows the three main variables of the study. The independent variables are the respondent's profile as to age, sex, area of specialization, highest educational attainment, and years of experience, as well as the level of preparedness for the use of instructional technology in terms of IT training and seminars attended, attitudes toward utilization of ICT in teaching, adequacy of resources, technological tools used in teaching, and administrative support. While the dependent variables are the respondent's level of preparedness and proficiency in the use of instructional technology in terms of communication and information access, knowledge of computer application and operation, and integration of technology in instruction.

As shown in the paradigm, the level of preparedness for using instructional technology served as independent and dependent variables depending on which variable it was associated with. On the other hand, the ray connecting the independent variables to the dependent variables signifies the relationship between the variables.

Figure 2

Research paradigm of teacher's level of preparedness and proficiency in using instructional technology affects learning enhancement

IV	DV/IV	DV

Profile
- Age
- Sex
- Area of Specialization
- Highest Educational Attainment
- Years of Teaching Experience

Level of Preparedness in the Use of Instructional Technology
- IT Trainings and Seminars Attended
- Attitudes toward Utilization of ICT in Teaching
- Adequacy of Resources
- Technology Tools Used in Teaching
- Administrative Support

Level of Proficiency in the Use of Instructional Technology
- Communication and Information Access
- Knowledge of Computer Application and Operation
- Integrating Technology in Instruction

Methodology

The study's respondents were the faculty members of the College of Teacher Education of Occidental Mindoro State College – Mamburao campus for the second semester of the Academic Year 2020 – 2021. The researchers used descriptive-correlational research design to determine the teachers' profile, measure and assess their level of preparedness and proficiency in the use of instructional technology, as well as the variable's relationships with each other.

For the research instrument, the researchers adapted the questions/statements for the survey questionnaire from the study by Caponpon (2014) entitled "College Instructors Level of Preparedness and Proficiency in the Use of Instructional Technology: Its Effects on

Learning Enhancement" for the preparedness on the use of instructional technology, while questions/statements for proficiency on the use of instructional technology was adapted from the study of Soomro, Kale, Curtis and Alcaoglu (2018) entitled, "Development of an Instrument to Measure Faculty's Information and Communication Technology Access ."The survey instrument comprises three parts: part 1 for the respondents' profile, part 2 for the level of preparedness for the use of instructional technology, and part 3 for the level of proficiency in the use of instructional technology. For the scoring, 4 – a point Likert scale was used, which was presented below:

Table 1

Points, intervals, and interpretation of the Likert scale for the level of preparedness and proficiency in using instructional technology.

Point	Interval	Interpretation
1	1.00 – 1.50	Very High
2	1.51 – 2.50	High
3	2.51- 3.50	Low
4	3.51 – 4.00	Very Low

While for the validity testing of the survey instrument, we can consider that the instrument is valid, for it was adapted from standard questionnaires of published research studies. On the other hand, pilot testing was conducted on 15 teachers of other departments on the Occidental Mindoro State College – Mamburao campus that was randomly selected to test the reliability of the possible results.

Moreover, the statistical treatments used in this study are frequency, percentage, mean, and Pearson Product Moment Correlation Coefficient to interpret the results coming from the survey questionnaire. Pearson r is employed to determine if there are significant relationships between the teachers' profile, level of preparedness, and proficiency in using instructional technology in teaching.

Discussion of Results

Table 2

Respondents' profiles in terms of age, sex, area of specialization, highest educational attainment, and years of teaching experience.

Profile	Frequency	Percentage
Age		
20 – 25 years old	3	16.67
26 – 30 years old	4	22.22
31 – 35 years old	3	16.67
36 – 40 years old	1	5.56
41 - 45 years old	4	22.22
46 – 50 years old	3	16.67
Above 50 years old	0	0
Sex		
Male	7	38.89
Female	11	61.11
Area of Specialization		
General Education	5	27.78
Filipino	1	5.56
English	5	27.78
Mathematics	3	16.67
Science	2	11.11
MAPEH	2	11.11
Highest Educational Attainment		
College Graduate	1	5.56
With Masteral Units	6	33.33
Masteral Graduate	4	22.22
With Doctoral Units	1	5.56
Doctoral Graduate	6	33.33
Years of Teaching Experience		
Five years and Below	8	44.44
6 – 10 years	4	22.22
11 – 15 years	2	11.11
16 – 20 years	2	11.11
21- 25 years	1	5.56
26 years and Above	1	5.56
Total	**18**	**100**

Table 2 shows the distribution of the respondents according to their profiles. As shown in the table, the majority (4) of the respondents were aged 26 - 30 and 41 - 45 years, or

22.22% of the population. Three respondents (16.67%) claimed they belonged to 20 - 25, 31 - 35, and 46 - 50 years. In comparison, only 1 (5.56%) belonged in the age bracket of 36 - 40.

In terms of sex, there were 11 female respondents (61.11%) of the respondents. At the same time, there were only seven male respondents (38.39%). This showed that the female respondents greatly outnumbered the male respondents.

As to areas of specialization, there were 5 (27.78%) with General Education and English as their fields of specialization. Only 3 (16. 67%) were Mathematics majors, and 2 (11.11%) were Science and MAPEH majors. At the same time, only one individual responded that Filipino was his/her specialization, equal to 5.56% of the total respondents.

For the highest educational attainment, Doctorate graduates with Units in master's degree are the majority of respondents which has 33.33%, followed by master's degree holder has 22.22%, while Bachelor's Degree Holder and units in doctorate has 5.56% of the total respondents.

Lastly, for the number of years in teaching, 8 out of 18 respondents have five years and below (44.44%). At the same time, four already served for 6 -10 years (22.22%). Furthermore, there were two respondents, or 11. 11% had served for 11 -15 years and 16-20 years, and only 1 (5.56%) had served for both 21 - 25 years and 26 years and above.

Table 3

Level of preparedness in the use of instructional technology.

Indicator	Mean	Interpretation
IT Trainings and Seminars Attended	3.10	High
Attitudes toward Utilization of ICT in Teaching	3.39	High
Adequacy of Resources	1.89	Low
Technology Tools Used in Teaching	1.92	Low
Administrative Support	2.29	Low
Composite Mean	**2.52**	**High**

(Scale: 4.00 – 3.51 Very High; 3.50 – 2.51 High; 2.50- 1.51 Low; 1.50 – 1.00 Very Low)

Table 3 highlights the summary of the respondents' level of preparedness for the use of instructional technology. It can be gleaned from the table that, generally, the teachers of the College of Teacher Education at Occidental Mindoro State College – Mamburao campus have a high level of preparedness for using instructional technology (2.52).

Teachers who felt more prepared to use technology in teaching were more likely to use instructional technology than teachers who stated that they felt unprepared, according to the National Center for Education Statistics (2021). Teachers' preparedness for using technology is linked to their sentiments of preparedness; thus, it is crucial to understand their technical training and how it links to their feelings of preparedness.

Respondents' level of preparedness in terms of IT training and seminars attended (3.10) and attitudes toward using ICT in teaching (3.39) got high. While adequacy of resources (1.89), technology tools used in teaching (1.92), and administrative support (2.29) got low levels. The finding implies that the teachers attended enough training and seminars, which supplemented their knowledge about instructional technology and its uses in teaching. However, there is a lack of administrative support for instructional resources and technological tools for teaching.

Table 4

Level of proficiency in the use of instructional technology.

Indicator	Mean	Interpretation
Communication and Information Access	3.67	Very High
Knowledge of Computer Application and Operation	3.76	Very High
Integrating Technology in Instruction	3.37	High
Composite Mean	**3.60**	**Very High**

(Scale: 4.00 – 3.51 Very High; 3.50 – 2.51 High; 2.50- 1.51 Low; 1.50 – 1.00 Very Low)

The capacity to utilize technology to communicate effectively and professionally, organize information, develop high-quality goods, and improve thinking abilities is known as

technical competence. Technology competence in the classroom refers to a teacher's capacity to use technology to teach, assist, and promote learning, productivity, and performance. These skills are required to function in today's technological society. Teachers with technology competency can identify and investigate various technical tools and equipment to determine and select the best reaction to teaching and learning content (Saad & Sankaran, 2020).

Table 4 highlights the summary of the respondents' level of proficiency in the use of instructional technology. It can be gleaned from the table that, generally, the teachers of the College of Teacher Education at Occidental Mindoro State College – Mamburao campus have a very high level of proficiency in using instructional technology (3.60).

Respondents' proficiency in communication and information access (3.67) and knowledge of computer application and operation (3.76) were very high. While integrating technology in instruction (3.37) was high. The finding implies that the teachers are skillful in using instructional technology as a communication, information source, and instruction material.

Table 5

Relationship between respondents' profile and their preparedness level on using instructional technology.

Dependent Variable	Independent Variable	Correlation Coefficient	p-value	Interpretation
Age	Level of Preparedness	-0.638	0.004	Significant
Gender	Level of Preparedness	-0.026	0.917	Not Significant
Area of Specialization	Level of Preparedness	0.112	0.658	Not Significant
Highest Educational Attainment	Level of Preparedness	-0.139	0.582	Not Significant
Years of Teaching Experience	Level of Preparedness	-0.420	0.083	Not Significant

Profile	Level of Preparedness	-0.214	0.393	Not Significant

Level of Significance = 0.05

Personal Characteristics refer to the age, sex, area of specialization, highest educational attainment, and years of teaching of the faculty of the College of Teacher Education at Occidental Mindoro State College – Mamburao campus concerning the level of preparedness for the use of instructional technology. Technology is regarded as the most powerful factor influencing the educational landscape in this New Normal. Schools are attempting to provide various electronic equipment to aid instruction and adopt programs to enhance computer literacy among instructors and pupils. According to Hero's (2020) research, teachers' readiness and acceptability of ICT integration are strongly linked to ICT integration practice. Furthermore, schools should give instructors ICT training and professional development programs to be better equipped to facilitate teaching and learning.

Table 5 presents the relationship between respondents' profile and their preparedness level for using instructional technology. As shown in the table, the relationship between the respondents' profile in terms of gender (r = -0.026, p-value = 0.917), area of specialization (r = -0.052, p-value = 0.836), highest educational attainment (r = -0.139, p-value = 0.582), and years of teaching experience (r = -0.420, p-value = 0.065) and their level of preparedness on the use of instructional technology was not significant. While the relationship between respondents' profiles in terms of age (r = -0.638, p-value = 0.004) and their level of preparedness for using instructional technology were significant.

This implies a significant relationship between the respondents' profiles in terms of age and their level of preparedness for using instructional technology, which means that those who are in early and middle adulthood have a high level of preparedness for the use of instructional technology compared to those who are in late adulthood. The findings suggest

that the more the teacher's age, the less they will become ready to deal with the use of technology in instruction or teaching.

Tweed (2013) found that teachers' characteristics, such as age, years of teaching experience, gender, seminars, and training attended, did not significantly impact their self-efficacy and technological resources. On the other hand, teachers' self-efficacy is significantly linked to their use of classroom technology.

Table 6

Relationship between respondents' profile and their level of proficiency in the use of instructional technology.

Dependent Variable	Independent Variable	Correlation Coefficient	p-value	Interpretation
Age	Level of Proficiency	-0.013	0.960	Not Significant
Gender	Level of Proficiency	0.023	0.927	Not Significant
Area of Specialization	Level of Proficiency	-0.067	0.790	Not Significant
Highest Educational Attainment	Level of Proficiency	-0.107	0.673	Not Significant
Years of Teaching Experience	Level of Proficiency	-0.390	0.110	Not Significant
Profile	**Level of Proficiency**	**-0.214**	**0.393**	**Not Significant**

Level of Significance = 0.05

Table 6 presents the relationship between respondents' profile and respondents' profile and their level of proficiency in the use of instructional technology. As shown in the table, the relationship between the respondents' profile in terms of age (r = -0.013, p-value = 0.960), gender (r = 0.023, p-value = 0.927), area of specialization (r = -0.067, p-value = 0.790), highest educational attainment (r = -0.401, p-value = 0.100), and years of teaching experience (r = -0.390, p-value = 0.110) to respondents' profile and their level of preparedness on the use of instructional technology was not significant. While the relationship between respondents'

profiles in terms of age (r = -0.638, p-value = 0.004) and their level of proficiency in using instructional technology were not significant.

According to Buaneng (2012), the gender, age, educational credentials, and teaching experiences of instructors are all important factors in the efficacy of ICT implementation in the classroom. Teachers' perceptions of their ICT skills in the classroom are influenced by non-manipulative and manipulative factors (Basargekar & Singhavi, 2017). Benolirao (2016) found a substantial association between perception of competency profile and the use of technological-based teaching and learning for software and hardware of specific technology in his study.

This implies that there is no significant relationship between the respondents' profile and their proficiency in the use of instructional technology, which means that a teacher's description was not related to the skills and expertise they have concerning the use of instructional technology in teaching. The findings suggest that teachers can be capable, skillful, and talented in using technology in teaching regardless of age, gender, specialization, educational attainment, and several years in the profession.

Table 7

Relationship between the respondents' preparedness level and proficiency in using instructional technology.

Dependent Variable	Independent Variable	Correlation Coefficient	p-value	Interpretation
IT Trainings and Seminars Attended	Level of Proficiency	0.047	0.852	Not Significant
Attitudes toward Utilization of ICT in Teaching	Level of Proficiency	0.050	0.843	Not Significant
Adequacy of Resources	Level of Proficiency	-0.117	0.645	Not Significant

Technological Tools Used in Teaching	Level of Proficiency	-0.427	0.077	Not Significant
Administrative Support	Level of Proficiency	0.076	0.765	Not Significant
Level of Preparedness	**Level of Proficiency**	**-0.109**	**0.667**	**Not Significant**

Level of Significance = 0.05

Table 7 presents the relationship between the respondents' preparedness level and proficiency in using instructional technology. As shown in the table, respondents' level of preparedness on the use of instructional technology in terms of IT trainings and seminars attended ($r = 0.047$, p-value = 0.852), attitudes towards utilization of ICT in teaching ($r = 0.050$, p-value = 0.843), adequacy of resources ($r = -0.117$, p-value = 0.645), technological tools used in teaching ($r = -0.427$, p-value = 0.077), and administrative support ($r = 0.076$, p-value = 0.765) was not significant to their level of proficiency. This was supported by the study of Gonzales (2018), which reveals a high level of teacher confidence, but no significant correlation between confidence and preparedness.

This implies a significant relationship between the respondents' preparedness for IT training and seminars and their proficiency in communication and information access. At the same time, respondents' preparedness in terms of technological tools used in teaching has a significant relationship with their proficiency in using instructional technology in terms of integrating technology instruction. This means that the more the teachers have training and seminars related to Information Technology, the more they will be capable of communicating well with the students and accessing information. Even though there are inadequate technological tools for teaching, they can manage to integrate available technologies for instruction in teaching.

Conclusions

After conducting the study, the researchers came up with the following conclusions:

1. Almost all the study respondents are pursuing and finishing their graduate studies, with teaching experience of 26 years and below. Most females are 50 – 20 years old, specializing in General Education and English subjects.

2. The level of preparedness for the use of instructional technology of the respondents was high.

3. The level of proficiency in the use of instructional technology of the respondents was very high.

4. Respondents' profile as to age can determine their level of preparedness for the use of instructional technology.

5. Respondents' profile has nothing to do with their level of proficiency in the use of instructional technology.

6. The level of preparedness in the use of instructional technology of the respondents to IT training and seminars has a positive relationship with their proficiency in communication and information access. At the same time, their preparedness for technological tools used in teaching negatively affects their proficiency in integrating technology instruction.

Recommendations

Given the conclusions mentioned earlier, the following recommendations are suggested:

1. To enhance and improve the teachers' preparedness for using instructional technology towards Information Technology, the department may conduct advanced training and

seminars for faculty members on technology integration, such as collaborative projects with other departments, campuses, and schools.

2. It is suggested that the school administration provide adequate technology resources for the instructional needs of the faculty members, a sustainable internet connection, sufficient technological tools for teaching different subjects, and support in every endeavor to improve the teachers' preparedness towards resources and technological tools for teaching.

3. Faculty members must implement online grading systems to facilitate lines of communication where they can post students' grades, attendance, and certificate of registration, transcript data, and other students' information which they can access personally.

4. It is also suggested that the department conduct seminars, training, and workshops focusing on the faculty members in late adulthood to improve their preparedness to use instructional technology in teaching, just like those in early and middle adulthood.

5. The department may also conduct an assessment and plan to implement specific standard technological tools for communication, information dissemination and access, instruction, and assessment to enhance proficiency in integrating technology instruction.

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