

The Effect of the Growing Integration of Technology into Education

Nomel Alyssa Andan*, Shayne Albiso, April Arañas, Julliane Barbarona, Ronah Bukiron, Jomari Cabalog, Rhoda Mae Seballo

Bachelor of Elementary Education Department Cebu Normal University Cebu, Philippines

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ABSTRACT

The study aimed to know about pre-service teachers' view about effectively implementing ICT in the classroom to promote lifelong learning, and its potential drawbacks. The researchers used the phenomenological research design. The participants were chosen using a quota sampling technique. The data were gathered from seven pre-service teachers in a chosen state university utilizing the structured interview through *Google Meet*. The gathered data were analyzed using thematic analysis. The study revealed thirteen (13) themes. The findings of the study found out that pre-service teachers are willing to integrate technology into their lessons for lifelong learning. There is personal desire in using technological tools in classroom instruction to enrich discussion and classroom interaction which leads to academic achievement. It also saves time while maximizing productivity. However, there were several drawbacks such as financial constraints, lack of computer literacy skills, struggle in using unfamiliar and not user-friendly applications, and the lack of physical interaction.

Keywords: Technology, education, growing integration, academic achievement, lifelong learning

INTRODUCTION

Chalk, blackboard, torn school textbooks, manila paper taped on the wall, and realia. These are the usual things that are used in a typical classroom years ago. However, when the pandemic started to devour the life people used to have in school, everyone gradually shifted from face-to-face classes to the online set-up that is optimized today. Now that the students have become so familiar with technology, it is challenging to wean off their increasing reliance on technology. This boosted the potential of technology to the field of education. Thus, shedding light on how technology can be used to make people, especially pre-service teachers more effective and life-long learners is deemed necessary.

In Southwest Nigeria, using multimedia in instruction provides more accurate predictions of students' performance in writing in English than the traditional approach to teaching (Aladesusi, Deji-Afuye, & Olowoyeye, 2022). Information and Communications Technologies (ICTs) have improved understanding of education's role in society, development of novel communication models, creation of new venues for instruction, information, debate, reflection, and breaking down traditional classroom barriers in Peru (Hernandez, 2017). E-learning improves classroom instruction in Durban, South Africa. It improves teacher and student classroom experiences. It is imperative that Nigerian universities adopt such a system so that they do not fall behind (Coopasami, Knight, & Pete, 2017). In a study in Germany, teachers saw good impacts from students using smartphones in class and did not regard it as an interruption (Omaid & Wali, 2020). Furthermore, in Finland, weekly digital lessons affect technology-enhanced learning in Math. They found that teachers place a high importance on topic integration when choosing classroom materials and digital technologies. Adding computer-assisted learning to the curriculum should be a priority (Kaila, Kurvinen, Laakso, & Salakoski, 2020). However, there was a study in South Africa, where teachers who lack the necessary skills, knowledge, and comfort with technology may be reluctant to use it in the classroom (Condy & Tiba, 2020).

Thailand is one of several Asian countries with an online learning system. Thailand's administration is working on strategies and measures to improve the country's educational system by using more cutting-edge methods.

Thailand must adapt and adopt online education due to its rise in global higher education institutions (Wansavatkul, 2017). Furthermore, physics educators in Indonesia are optimistic that students will benefit much from using ICT in the classroom (Ahdiani, Lirag, & Sulisworo, 2017). In India, using technology in teacher education could improve classroom instruction. An effective teacher training program is essential in order to accommodate requirements of the educators of today who seek to include ICT into their lesson plans (Ratheeswari, 2018). In another study in India, the usage of technology like projectors in the classroom was found to boost both student interest and motivation (Nagasubramani & Raja, 2018). Despite modern technology's many alternatives, most teachers still rely on tried-and-true methods. Teachers chose online resources that worked well with their preferred teaching approaches while bringing new technologies into the classroom (Wang, 2020). In contrast, despite the availability of technological components, ICT is not properly integrated in the teaching-learning of higher education in Bangladesh because the majority of components for effective ICT integration are missing (Chowdhury, 2018).

Because the digital transformation of education is fresh in the Philippine education system, most teachers' experiences concentrate on the issues and difficulties they faced while implementing online classes and how they managed to overcome them. In Bacolod City, teaching educators said that the use of accessible technology is vital for incorporating new technologies into learning environments (Petalla, 2022). In the Philippines province of Bulacan, E-learning integration programs are found to be effective, user-friendly, and reliable by junior high school students (Dela Cruz & Hero, 2021). A study conducted in Iloilo reveals that more senior teachers are opting for online courses during the current COVID-19 pandemic because they may be cognizant that there is an increased risk of acquiring a severe case of the illness as one gets older (Moralista & Oducado, 2020).

A research conducted in six universities in Cebu City reveal that incorporating the media and technological tools into the classroom helps keep content fresh and gives students more exciting things to do. Teaching students to use information, media, and technology effectively is thought to have a multiplicative effect that decreases wasted time and maximizes productivity. They can spend less time writing on the board and more time preparing PowerPoint presentations, during which students can take notes, which relieves both the educators and the students. ICT is a valuable tool for the classroom by pre-service teachers. It is a great way to enrich class conversations. It not only simplifies procedures and improves the user experience but also provides learners with a genuine and up-to-date learning environment (Boholano, 2018). Moreover, in Balamban, Cebu, a study showed that using technology in the classroom instruction makes the teachers from solely a dispenser of knowledge to being a facilitator of learning. If this keeps up, students will see more significant improvements in their education, opening up previously unimaginable avenues of knowledge acquisition (Alda, Balo, Boholano, & Pogoy, 2020).

The research team behind this study aimed to know about pre-service teachers' view about effectively implementing ICT in the classroom to promote lifelong learning, as well as any potential drawbacks to doing so.

Conceptual Framework

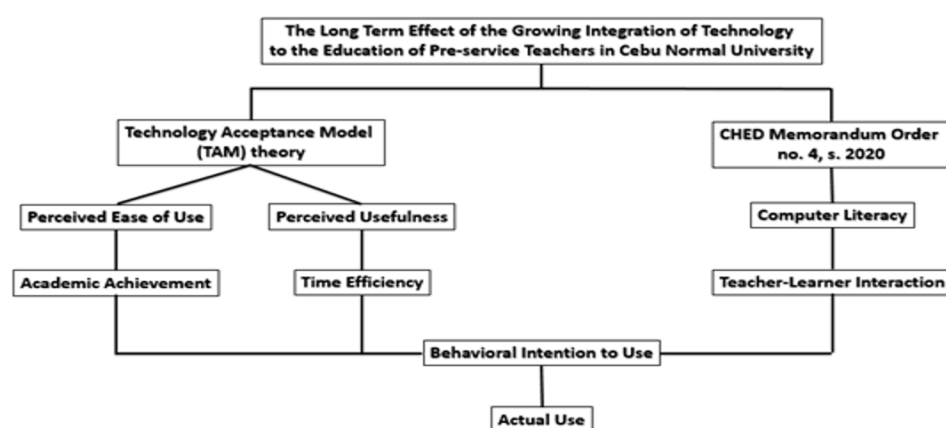


Fig. 1: Theoretical and Conceptual Framework of the Study

Technology Acceptance Model TAM (Davis, 1987). There is one theory that can be helpful in describing how digital information resources are used. The TAM model, abbreviation for the Technology Acceptance Model, is a theory in the field of information technology that describes the steps people take to become comfortable with and proficient with new forms of technology. More specifically, the idea focuses on the adoption of technology by users. There are a variety of considerations that go into users' choices regarding when and how they will implement a new technological tool, and the model presents these. Included in this category are the individuals' Perceived or Expected Usefulness, Perceived or Expected Ease of Use, Behavioral Intention to Use, and Actual Use. The researchers went with this approach because it provided the best explanation for the problem at hand.

Perceived usefulness (PU) is crucial to the study because pre-service teachers think computers give them access to distant databases (Davis, 1989). The use of mobile devices and other forms of technology in the classroom has many benefits over conventional approaches. Technology has made reading and researching easier for students.

The concept of perceived ease-of-use (PEOU) is also important to the research. Digital information resources (DIRs) make learning easier and have an impact on students' day-to-day academic activities to the extent that students are able to embrace and apply technological devices. The search for traditional information searching is easier by using technology. The researchers went with this approach because they felt it provided the best explanation for the problem at hand.

This conceptual framework shows the long-term effect of the growing integration of technology to education. Pre-service teachers are greatly encouraged to incorporate technology into their teaching-learning process. Since the pandemic impedes traditional learning, it enables the emergence of a new learning mode, which is online learning involving technology (CHED Memorandum Order no. 4, s. 2020). This gave rise to the enhancement of Computer Literacy to both teachers and students. Aside from that, technology has a substantial impact on the Teacher-Learner Interaction.

REVIEW OF RELATED LITERATURE AND STUDIES

Academic Achievement

Researchers in Bulacan, a province in the Philippines, reported that E-learning integration programs were trustworthy, easy to use, and helpful to Junior High School students. There is a significant connection between the students' utilization of the E-learning system and their general approaches to learning in general. Moreover, this research confirmed that the use of E-learning was positively correlated with student engagement (Dela Cruz & Hero, 2021). Furthermore, the Multimedia Instructional Approach for English writing is a significant factor because it provides more accurate predictions of students' performance in writing in English than the traditional approach to teaching (Aladesusi et al., 2022). PowerPoint presentations can help students grasp complex ideas. Students are more likely to be engaged and invested in their learning when they have access to and can effectively use educational technology, particularly in teaching mathematical subjects. It will lay the groundwork for substantial learning that will carry over into their academic careers. There is no denying that technology in the classroom has boosted everyone's confidence to tackle tough topics (Ermac & Suson, 2020). Learners benefit much from using technology in the classroom. The findings showed that students had not identified any major new technical challenges that posed a challenge to or distracted from their education. The students agreed that incorporating technology into the classroom may help them learn more effectively (Popal & Wali, 2020). Teachers are not opposed to using technological tools into the classroom, and many see the smartphone as an indispensable tool for achieving pedagogical goals (Omaid & Wali, 2020). Students' subject-specific learning outcomes are influenced by teachers' attitudes and knowledge of ICT. It implies that the teacher will assist the students in seeking and sharing information in order to improve their level of comprehension (Ahdiani et al., 2017). In addition, it shifts the focus of classroom activities from the instructor to the students. If this keeps up, students will see more significant improvements in their education, opening up previously unimaginable avenues of knowledge acquisition (Alda et al., 2020).

Time Efficiency

The benefits of technology-enhanced learning may be obtained with just one weekly class in mathematics, leaving plenty of time for more conventional approaches (Kaila et al., 2020). The way and pace in which students learn is being driven forward by e-learning (Coopasami et al., (2017). The impact of teaching students how to use information, media, and technology effectively is considered to be a reduction in effort and an increase in efficiency. It is reassuring for educators because they will not need to spend as much time writing on the board and using papers; instead, they can focus on preparing PowerPoint presentations, during which students can take notes (Boholano, 2018).

Computer Literacy

To see how students' readiness for online learning changed after being exposed to education that was delivered entirely through digital means, one study showed that the mandatory online learning environment and the Information Technologies Course contributed to a rise in students' ICT skills. The participants also saw significant improvements in their scores on measures of computer literacy, internet literacy, and e-learning (Ilic, 2021). Implementing a comprehensive and well-developed training program for educators is crucial to satisfy the needs of today's educators who want to incorporate information and communication technology (ICT) in their teaching (Ratheeswari, 2018). Pre-service teachers' proficiency with e-learning tools, the design of instructional materials with software development tools, and the completion of online assignments and tasks improved as a result of the mandatory distance education process initiated by the pandemic (Elçiçek, 2020). To fully grasp and enhance online education's prospects, educators need ongoing support, training, and improvement as they adjust to the new normal in higher education (Moralista & Oducado, 2020).

Teacher-Learner Interaction

Visuals have more impact than words can ever have. Another fantastic technological application uses projectors and other visual aids to supplement classroom instruction. Today, the world's outstanding academic institutions use cutting-edge PowerPoint presentations and projections as standard practice to keep classrooms engaging and students involved. Technology like projectors used in the classroom have been proved to boost students' interest and effort in learning. Many pupils would rather look at something thought-provoking and visually pleasing than read something. In addition to the efficiency gains in the teaching process, technological advancements have had a positive impact on the learning phase (Nagasubramani & Raja, 2018). The use of media and technology makes lessons more relevant and up to date, as well as provides students with more engaging assignments. It adds depth to classroom discussions. In addition to streamlining processes and enhancing user experience, it also gives students an authentic, modern-day education (Boholano, 2018). It's a tremendous tool for bettering the classroom experience for both teacher and student (Coopasami et al., 2017). Future educators tend to favor using technology in the classroom. Pre-service teachers recognize that their students' enthusiasm for technology extends into the classroom. Teachers can encourage more student participation by making use of technological tools. Although they worry about diversions and technology failure, future educators are eager to expand their knowledge. With any luck, this eagerness to use technology will triumph over fears of technological failure and distraction, leading to more enjoyable and interactive learning experiences for all (Newton & Zakrzewski, 2022). There is more interaction between the teacher and students, and among the students themselves than in a conventional classroom setting, leading to more active learning (Wansavatkul, 2017). Educators will be more comfortable incorporating technological tools into their lessons and classrooms if they are exposed to and given opportunities to develop the TPACK during their training (Davis, 2017). As a result, educators might have used the best-known piece of student technology as a tool to pique the students' interest and keep them actively engaged in the classroom (Omaid & Wali, 2020).

Behavioral Intention to Use

Any institution of higher education that aspires to be recognized as a university of the 21st century must make e-learning technology a central component of their curriculum (Coopasami et al., (2017). When it comes to effectively incorporating technology into the classroom, the mindset of the teacher is absolutely essential (Omaid & Wali, 2020). Participating pre-service educators all reported high levels of confidence in their

ability to perform in the classroom when they enter the world of work. Participants in the study expressed high levels of assurance in their abilities to manage a classroom, execute policy requirements, and uphold ethical principles. This demonstrates that they have a deep understanding of the ethics, legal utilization, and private ownership associated with the technologies they employ (Elçiçek, 2021). More research showed that aspiring teachers' confidence in their own talents affects how they implement technology in English classes. These findings should shed light on the importance of teachers' attitudes and students' senses of their own competence as predictors of student conduct when introducing ICT into the classroom (Vadia, 2020). Pre-service teachers reported feeling quite confident in their ability to "teach with technology." This is likely connected to the enthusiasm and propensity for new technology among future educators and their use of these tools in their studies and classrooms (Elcicek, 2020). However, despite having access to a wide variety of resources made possible by modern technology, most educators stick with the methods they feel most comfortable with (Wang, 2020).

METHODOLOGY

The study used qualitative research, an approach that considers the participants' subjective perspectives and social backgrounds, as well as their academic viewpoints and practices in their field (Flick, 2018). The use of a phenomenological design was utilized as this provided distinctively new and unique understandings and insights into the phenomenal nature of human experiences. It was the quest to gain comprehension of the phenomenal nature of one's own lived experience (Manen, 2017). Interview questionnaires were utilized as an instrument to gather data from the chosen Pre-service Teachers from a specific state university in Cebu City. Specifically, under the College of Teacher Education. The respondents belonged to a part of these degree programs: BEEd, BSNEd, BSEd, BPed, BECED, BTLEd, BCAEd under the College of Teacher Education to identify that they are the right person to be the respondents. The researchers opted to accept one (1) respondent from each degree program to conduct the interview.

Researchers submitted a letter, requesting authorization to conduct the study as part of the process in conducting any research project at the University. Upon approval, participants were provided with a digital informed consent that will correspond with the aim and their participation in the study as a sign of agreement. Data were gathered through Google Meet, Zoom, and the audiovisual feature of Facebook Messenger, and participants were asked about their experiences, followed by detailed follow-up questions. Since internet connectivity and personal challenges may be an issue during the interview, the researchers gave participants enough time to complete their responses. Significant information was taken down and a screen recording of the talk was made to document the whole session for data transcription. The researchers analyzed and comprehended the participants' responses, and significant responses were assimilated to gather the necessary answers to the study's asserted problems.

The data was analyzed using thematic analysis, which entailed transcription and translation of responses, elaboration of the statements' contexts, and identification of recurring themes. The research aimed to shed light on the topic of what the long-term effects of widespread adoption of technology in classrooms actually were. Transcripts from the interviews were analyzed thematically to determine common threads in the participants' responses. A table was used to organize the most frequent answers obtained, and key informants were singled out while retaining their anonymity.

Participants were given a consent form in advance to fill out, stating their willingness to participate in the study and emphasizing that there be no direct benefit in this study. The researchers were the only ones who had access to any of the conversations or responses. All recordings utilized in this study were eliminated after they had served their instructional purpose. It was of the utmost significance that the participants maintain their privacy and confidentiality. The researchers took great care to ensure that the interview questions they create do not contain any derogatory, discriminatory, or otherwise improper wording. The participants were given the authority to access the research's results. In addition, participants were free to stop participating in the study whenever they like for any reason they mention.

RESULTS AND DISCUSSIONS

This chapter presents the data gathered from seven (7) pre-service teachers from a chosen state university in Cebu. To present an organized discussion, data are analyzed and interpreted through thematic analysis and are presented in tables.

Table 1. Pre-service teacher's experiences on today's mode of learning

Question	Theme	Theme Cluster	Key Informants
1. Tell me how you are doing with today's mode of learning now that it involves a huge amount of technology?	Technology opens opportunities for independent learning	Independent learning can be a springboard for more creativity and flexibility.	P1, P5, P6
	The new mode of learning is challenging	Experiencing a dramatic change in learning modalities can be challenging.	P2, P3, P4, P7

Technology opens opportunity for independent learning

When participants were asked regarding today's mode of learning, the first emerging theme shows that technology opens opportunities for independent learning. Participant 1 shared that, *It allows me to do things on my own and it enables my capabilities in creativity and flexibility.* The participant's answer signifies that there is personal growth when using technology. Participant 6 had a similar response towards the question to which he/she answered *As time went by, I learned how to navigate the technology in the online set-up.* When a person is given the freedom to learn on their own, they often wind up discovering several new skills. According to Dela Cruz & Hero (2021), there is a significant connection between the students' utilization of the E-learning system and their general approaches to learning in general.

The new mode of learning is challenging

The second emerging theme shows that the new mode of learning is challenging as it requires few adjustments from what we were accustomed to do. Participant 4 shared that *There are applications that are difficult to learn and require an ample amount of time to understand which makes it challenging.* Moreover, Participant 7 shared, *I find it really hard to learn with today's mode of learning. I am the type of person who learns in a spatial setting so it is really difficult for me to learn without having physical interactions.* The new mode of learning poses difficulties for participants, as it requires considerable time to perfect, and a downside for those who prefer physical engagement while learning. According to Wang (2020), despite having access to a wide variety of resources made possible by modern technology, most educators stick with the methods they feel most comfortable with.

Table 2. Reasons in utilizing technology

Question	Theme	Theme Cluster	Key Informants
2. Tell us which of the three instructional technology tools you found most useful in the classroom? Why did you use these technology tools?	Technology integration enhances engagement	The use of technological tools increases pupil's interest in participating.	P1, P3
	Technological tools provide convenience	It is simple to use and facilitates smooth communication.	P2, P4, P5, P7

Technology integration enhances engagement

The third emerging theme shows that technology integration enhances engagement. When Participant 3 was asked about why he/she used technology tools, he/she shared that *It is very interactive. You can play videos,*

present presentations, and others have a touchscreen feature wherein the students can answer. I have also observed that the videos are very engaging, and the students are really having fun. In addition, Participant 1 shared that *I can choose from a variety of ready-made fully customizable activities which enhance engagement with students.* With technology in the classroom, students are more actively involved in the learning process and more prepared to contribute to class discussions. This is in line with Ermac & Suson (2020)'s statement that students are more likely to be engaged and invested in their learning when they have access to and can effectively use educational technology.

Technological tools provide convenience

Technological tools provide convenience is the fourth emerging theme. Participant 5 shared that *I use these technology tools because they have a lot of free features which I use most of the time for my online class.* Moreover, Participant 7 shared that *It offer me endless ideas to formulate answers, be more creative in my presentations, and also it is very convenient to access.* This implies that there is preference in using applications that are convenient, give endless ideas and boost creativity. According to Boholano (2018), it is reassuring for educators because they will not need to spend as much time writing on the board and using papers; instead, they can focus on preparing PowerPoint presentations, during which students can take notes.

Table 3. Pre-service teachers' view on technological tools

Question	Theme	Theme Cluster	Key Informant
3. Tell us which of the three instructional technology tools you found least useful in the classroom and why?	Hesitation to use because of unfamiliarity	Difficulty in knowing how to put complicated technology to use.	P1, P2, P4
	Most of the technological tools used were helpful	The use of numerous technological aids proved useful.	P3, P5, P6, P7

Hesitant and unfamiliarity

The fifth emerging theme is hesitation to use because of unfamiliarity. When technological tools are presented to people who have not encountered it ever since, there will be growing hesitation in using these tools. Participant 2 shared that *I'm not really into that kind of applications (Jamboard and Mentimeter). I don't know what these are, whether these are applications or websites, so I don't really use them.* Moreover, Participant 4 shared that *next is the Socrative thing because you can use Google Form. Why are you using those complicated applications that a lot of students don't know how to use it?*

Most of the technological tools used were helpful

The sixth emerging theme shows that most of the technological tools used were helpful. Participant 3 shared that *I believe that all tools have purpose and goals. It is up to the person using it on how he or she will utilize these.* Participant 6 also added that *I don't have any apps that are least useful to me because they are all useful. All the apps that I've been using are very useful.* This implies that technological tools that are utilized are helpful and have a purpose. Omaid & Wali (2020) stated that when it comes to effectively incorporating technology into the classroom, the mindset of the teacher is absolutely essential.

Table 4. Beneficial to students with special needs

Question	Theme	Theme Cluster	Key Informant
4. Tell me about your thoughts on technology integration in education?	Technology is beneficial to students with special needs	Assistive Technology helps students with special needs and if properly used could create a more engaging learning environment.	P3

Technology is beneficial to students with special needs

The seventh emerging theme shows that technology is beneficial to students with special needs. Participant 3 shared that *As a Special Education major, we have this thing called Assistive Technology that assists or supports students with special needs for mobility or other impairments to perform functions that might otherwise be too difficult or impossible like for example the text to speech systems, large print materials and more.* Technology plays a big role in providing ease in learning especially to people with special needs.

Table 5. Advantages of technology

Question	Theme	Theme Cluster	Key Informant
5. Could you share to us the advantages of technology as a tool in teaching?	Technology produces effective instructional materials	Teachers can utilize technology to let students experience different things which lead to further acquisition of knowledge.	P1, P2, P3, P4, P5, P7
	Enhances computer literacy skills for future development	Consistently using technology improves computer literacy skills.	P1, P2, P3, P5, P7

Produces effective instructional materials

Instructional materials are the partner of teachers in order to bring quality lesson content. The eighth emerging theme shows that technology produces effective instructional materials. Participant 1 shared that *If you, the teacher, is literate and knowledgeable in technology, it would be easier for you to make instructional materials for your students creatively and effectively.* Moreover, Participant 2 also shared that *it's because of technology that we will be able to produce a quality output that we can present to our students.* According to Nagasubramani & Raja (2018), many pupils would rather look at something thought-provoking and visually pleasing than read something. In addition to the efficiency gains in the teaching process, technological advancements have had a positive impact on the learning phase.

Enhances computer literacy skills for future development

The ninth emerging theme shows that technology enhances computer literacy skills for future development. Participant 3 shared that *If you have computer literacy skills, you can make use of online learning platforms available on the internet. Since technology increases the prominence of the educational and social world, it is important for students to have these skills so that students will have a strong foundation for future development.* The same is true for Participant 5 who shared that *Through consistent utilizing technology, my literacy in computers increases because I keep on discovering and learning something new about the technology.* Davis (2017) stated that educators will be more comfortable incorporating technological tools into their lessons and classrooms if they are exposed to and given opportunities to develop the TPACK during their training.

Table 6. Lifelong learning

Question	Theme	Theme Cluster	Key Informant
6. Tell me how you feel about using instructional technology in your classroom. Why do you think it's effective?	Technology enables lifelong learning	Interactivity, creativity, and the potential of lifelong learning are all reinforced by technological tools for the classroom.	P1, P2, P3, P4, P5, P6, P7

Technology enables lifelong learning

The tenth emerging theme shows that technology enables lifelong learning. Participant 1 shared that *Once the children's learning will be active, and if they will like the activities, they will put it in their minds and will never forget it and they will learn it.* In addition, Participant 7 said that *It is genuinely effective since it helps me to discover the hidden capabilities that I did not know before, just like I discovered that I am creative in using digital applications.* Technology allows lifelong learning because it enhances students' skills which will be helpful when they enter the world of work. According to Ermac & Suson (2020), it will lay the groundwork for substantial learning that will carry over into their academic careers. There is no denying that technology in the classroom has boosted everyone's confidence to tackle tough topics.

Table 7. Effects of technology in teaching

Question	Theme	Theme Cluster	Key Informant
7. Tell me your thoughts on how technology can better prepare teachers for the reality of classroom instruction? Could you cite some scenarios that you experienced in the classroom?	Technology makes teaching easier and faster	The usage of technology in teaching and demonstrating lessons, lessens the burden of teachers since it is time efficient and easier to use.	P1, P2, P4, P5, P6, P7

Technology makes teaching easier and faster

The eleventh emerging theme shows that technology makes teaching easier and faster. Participant 2 shared that *I can still remember teachers used their louder voice to teach to be heard at the back. But teachers nowadays use a lapel to make their voice louder and clearer.* Furthermore, Participant 5 shared that *Technology makes the teachers' work a lot easier and convenient. Teachers were able to save time and money from creating the traditional materials.* Integrating technology in classroom discussions saves time and effort while maximizing quality and productivity. According to the study conducted by Omaid & Wali (2020), teachers are not opposed to using technological tools into the classroom, and many see the smartphone as an indispensable tool for achieving pedagogical goals.

Table 8. Technology on teacher effectiveness

Question	Theme	Theme Cluster	Key Informant
8. Tell me if you see yourself integrating technology in your lesson?	Educator effectiveness is greatly aided by technological advancements	Future educators envision integrating technology in the classroom as it assists in developing knowledge.	P1, P2, P3, P5, P7

Educator effectiveness is greatly aided by technological advancements

The twelfth emerging theme shows that educator effectiveness is greatly aided by technological advancements.

As a future educator with a new set of learning, integrating technology could be a big help because this allows me and the students to have a variety of sources that could deepen our knowledge. Moreover, Participant 2 shared that *I don't think without technology I'll be an effective teacher," (Participant 1).*

Teachers have become dependent on technology because of how it evidently made them effective educators. According to Elcicek (2020), pre-service teachers reported feeling quite confident in their ability to "teach with technology." This is likely connected to the enthusiasm and propensity for new technology among future educators and their use of these tools in their studies and classrooms.

Table 9. Personal decisions on utilizing technology

Question	Theme	Theme Cluster	Key Informant
9. Tell me your insights on how you will continue learning instructional technology tools in classroom instruction.	A personal desire to explore more technology tools aside from what was mastered.	Utilizing to explore the depths of technology and keeping updated on the trends to achieve more discoveries.	P1, P2, P3, P4, P5, P6, P7

A personal desire to explore more technology tools aside from what was mastered

The thirteenth emerging theme shows that there is a personal desire to explore more technology tools aside from what was mastered. Participant 1 shared that *I have to continue learning instructional tools in the classroom by being open to new sets of information from instructors or even searching and learning on social media*. In line with this, Participant 2 shared that *I do believe in the saying, “Unless you try to do something beyond what you have already mastered, you will never grow”. As a teacher, you won’t just settle for one instructional technology tool*. This suggests that pre-service teachers are eager to acquire new skills, such as the use of various technological tools, for the benefit of both them and their pupils. According to a study conducted by Newton & Zakrzewski (2022), although they worry about diversions and technology failure, future educators are eager to expand their knowledge. With any luck, this eagerness to use technology will triumph over fears of technological failure and distraction, leading to more enjoyable and interactive learning experiences for all.

Scope And Delimitations Of The Study

This study aimed at identifying the long-term effect of the growing integration of technology to education. The study was qualitative, phenomenological research design. The results of this research were analyzed and employed thematic analysis. The research is delimited only to the College of Teacher Education of the chosen state university in Cebu. The quota sampling method was used to choose the participants. Given the ongoing pandemic, researchers have resorted to conducting interviews via Google Meet.

CONCLUSION

The lived experiences of pre-service teachers showed that the new mode of learning which involves a huge amount of technology is challenging because of unfamiliarity with certain technological tools, however it offers convenience most of the time and opens opportunities for independent learning. It was also shown that continued use of technology helps pre-service teachers enhance their computer literacy skills and produce effective instructional materials which in turn enhances engagement and enables lifelong learning.

Moreover, educator effectiveness is greatly aided by technological advancements. With this, pre-service teachers are very open for personal improvement and there is a personal desire to explore more technology tools aside from what was mastered.

RECOMMENDATIONS

The following are a few suggestions and recommendations made by the researchers to effectively integrate technology in the classroom for lifelong learning:

1. school administrators may provide the teachers with opportunities to train in integrating technology in the classroom instruction.
2. educators may reflect on their own teaching practices to determine where improvements can be made;

3. the use of technology in the classroom should no longer be seen as a hindrance to learning; rather, it should be leveraged to assist students in building and maintaining an interactive learning environment; and
4. future researchers may conduct a similar study from different generations of teachers to get more information about how the university can better assist the teaching community

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