



Technology in Classrooms among Gen X Teachers in Basic Education Schools in Panabo City: A Case Study

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Technology is pivotal in modern education, revolutionizing teaching and learning processes. Effective management of technology resources in educational settings is crucial for maximizing their potential benefits. This research explores the experiences, challenges, and recommendations for implementing technology in classrooms among the twelve (12) Generation X teachers in Basic Education Schools in the Division of Panabo City. Hence, this study uses a qualitative case study design and purposeful sampling to select participants for basic education teaching. The research interview guide used was validated and enhanced by three (3) experts in the field of education. The three (3) primary themes of the experience were identified: easy access to information, diverse strategies for teaching, and interaction. While on the challenges of implementing technology in basic education classrooms, there are four (4) themes: poor network connections, lack of skills in ICT, insufficient budget, and unmotivated to adapt. As to the teachers' recommendations on the implementation of technology, four (4) significant themes were identified: provide ICT training, support access to resources, foster collaboration and teamwork, and adapt to the new trend.

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Recommendations include assessing needs and goals, professional development and support for teachers, adapting various new trends, and promoting digital competence to teachers.

Keywords: Educational technology; Generation X teachers; basic education; Panabo City.

1. INTRODUCTION

1.1 Background of the Study

The educational global community is determined to ensure sustainable and inclusive development to support the needs of the present and future generations [1]. However, 21st-century innovations change the nature of the educational landscape, necessitating changes in what it delivers and how it is done [2]. Thus, education now needs to address the challenges in extending the availability of efficient quality education to all in line with the goals and furnish educators to deal with the rapid technostructural changes in the Digital Age that demand skills with the use of technology to produce globally competent learners [3].

In today's digital era, profound and universal changes, and transformations across the various facets of human development trigger and generate significant changes to shift the paradigm in education. Moreover, emerging technologies require educators to have physical access to various ICT and equip themselves with technological and digital skills [4]. However, within the digital age, concurrent issues and concerns, such as the preeminent phenomenon known as the "digital divide," are the gap between those with ample knowledge of and access to technology [5]. This inequality of ICT access and inadequate skills generates multifaceted problems in education, especially in basic education [6].

In the Philippines, the conventional approach, or teacher-centered pedagogy, has transformed into a student-centered environment that fosters learning by embracing digital innovations and resources. Curriculum integration of digital learning in the Department of Education (DepEd) ensures that the teaching and learning environment is consumed by digital content and skilled in utilizing technology for learning and problem-solving [7]. However, this change has disputes and intricacies among Generation X, born between 1965 and 1980, who need help navigating the digital age's complex and dynamic features [8].

This case study on technology in classrooms among Generation X teachers in basic education schools has not been conducted in the Davao Region, explicitly exploring the experiences of the basic education teachers in the implementation of technology-based education in classrooms. In this context, the researchers aimed to explore the utilization of technology in basic education school settings and to give additional inputs and recommendations to provide aid to improve the programs and activities that need the digital skills of the teachers. Thus, the researchers wanted to conduct this study.

1.2 Theoretical Lens

This case study is anchored to Edwin Hutchins's Distributed Cognitive Theory (2020), which emphasizes that knowledge is not purely individual but dependent on the social and physical environment in analyzing educational technologies and human-computer interaction. In addition, this theory describes how information processing is dispersed across people and their workplace, their technologies, and their social organizations and how information processing evolves.

It is also supported by the Technology Acceptance Model (TAM) Davis, [9], which emphasizes how users come to accept and use a technology and the behavioral response of a person. A number of factors influence a person's decision about how and when they will use the new technology that was presented to them.

1.3 Conceptual Flow

The researchers' conceptual flow was based on the essential milestones in finishing this investigation. Using purposive sampling, research participants in this study consist of Generation X (Gen X) Educators, individuals born between 1965 and 1980, who have been actively involved in the teaching profession and have firsthand experience in 21st-century classroom settings.

The researchers conducted the study at the selected Elementary Schools within the Four

Districts of the Division of Panabo City. The twelve (12) Gen X teachers from Panabo Central SPED Learning Center and Rizal Elementary School were interviewed in-depth by the researchers following the data analysis using Colaizzi's approach [10]. The researchers then presented the results and discussed the experiences of Gen X teachers in basic education schools using technology in classrooms. Lastly, the researchers gave recommendations to support the improvement of the teachers' digital skills.

1.4 Research Questions

This is a case study on the implementation of technology in classrooms among Generation X teachers in Basic Education Schools in Panabo City Division to elicit suggestions, which can be drawn out from the elementary teachers for the improvement of technology in classrooms in their respective workplaces. Specifically, this study sought to answer the following questions:

1. What are the experiences of the Basic Education Public Schools in the Division of Panabo City on the implementation of technology in classrooms?
2. What challenges are encountered in the implementation of technology by basic education teachers?
3. What are the recommendations that can be drawn out from the implementers that can help improve performance in using technology?

2. METHODOLOGY

2.1 Research Design

This study utilized a case study, a qualitative approach in which the researchers explored a bounded system through detailed, in-depth interview (IDI) data collection utilizing contextualized research questions. A qualitative approach is most appropriate for this study because it fosters a better understanding of the lived experiences of the informants, Generation X educators in Basic Education. The critical description provides in-depth and detailed accounts of the participant's experiences.

2.2 Research Instrument

An In-Depth Interview (IDI) guide sheet was used to gather participant data. The research instrument contained open-ended questions to

merit the investigation. The researchers conducted a pilot test of the interview guide to at least three (3) Generation X basic education teachers who were not participants in the study. This is to endure the extensive exploration of the guide questions for the researchers to obtain the data saturation point. The guide questions were validated by three (3) experts in the field of education so that the researchers develop a valid and reliable instrument.

2.3 Data Analysis

The study gathered qualitative data, following specific procedures of Colaizzi (2009) in the data analysis strategy. After the in-depth interview, all recorded audio and video clips were transcribed. The qualitative data were analyzed and underwent thematic analysis; actual responses were coded in the data presentation. The researchers used coding for the respondents' responses to maintain their privacy.

2.4 Ethical Considerations

This case study addressed some issues and concerns, specifically in the technological aspects. The respondents were protected, and protocols were followed in response to ethical considerations. This study followed the standards of the Ethical procedure set by the Department of Education for the guidelines of ethical consideration. The researchers observed complete ethical standards in the conduct of the study following the study protocol assessments criteria, particularly in managing the population and data such as, but not limited to:

The participation of the respondents was entirely voluntary. All study participants were given the free will to participate without any form of consequence and/or penalty. The study participants were given consent for voluntary participation in the research. Therefore, after the purposes and benefits of the study are described and presented to the participants, the rights of the participants to contribute to the body of knowledge are carefully considered and adhered to. Further, if the respondents would want to withdraw his/her participation for any reason/s, the respondents were free from any liabilities and given consideration.

Also, in conducting the study, the researchers were under an informed consent process so that the research interview would be free of technical terms and easily understandable to the study

participants. It provided the population with a clear view of the benefits of the teachers, administrators, and future researchers that were generated after the study was conducted. The research interviews were administered with the consent and support of the school's authorities and the Department of Education. Therefore, the research questionnaire was only given to the study participants with approval from the authorized channels.

Meanwhile, the researchers ensured the privacy and confidentiality of the participants' identities. The participant's personal information was one of the requirements in the study, which was kept private, and the confidentiality of the participant's data was adhered to. This is because in attaining ethical consideration, it is a must for every researcher to consider the confidentiality of the participants in the process of the study. It was emphasized that the researchers focused on critical ethical issues such as confidentiality, respect for participants' opinions, and integrity.

The respondents' participation in the study did not bring any foreseeable risks to their personal health or well-being. Suppose the respondent becomes upset or distressed due to answering the questions that are part of the researchers' standard battery. In that case, the researchers aid in obtaining a referral for the respondent to see a trained professional to help process these feelings. Further, the study concentrated only on the experiences of Generation X teachers teaching basic education using technology.

Furthermore, potential respondents who participated were based on the consent letter. This provided the researchers with adequate information and assurances about participating to allow participants to fully understand the importance of participating and reach well-informed, considered decisions of their own free will about whether to do so or be free from any coercion.

Besides, the respondents' consent, confidentiality, respect, participation, and withdrawal was guaranteed and made honestly and transparent. Data that was collected from the study were stored in a safe place where the researchers could only retrieve the data for further evaluation of the findings and results. This conformed to the standards that the good ethics application provided a clear and reasoned explanation for and justification. The researchers understood that it was her responsibility to

demonstrate that the research benefits outweigh any risks, inconvenience, or discomfort that may be involved for the research respondents.

Moreover, the researchers also observed other ethical issues, which include plagiarism, fabrication, and falsification. The researchers ensured that the resources being used in this study were cited correctly. The author's ideas were paraphrased and properly synthesized to avoid plagiarism. No fabrication or inclusion of data, survey, or enactment ever arises in gathering data. The researchers only made conclusions based on the study's results.

Lastly, suppose the respondents have questions, concerns, or complaints about the research. Respondents can contact the researchers at a given mobile number and email address on the informed consent form. Also, the researchers ensured that the benefits of the study would be shared during meetings and conferences and would have stakeholders as part of the audience.

3. RESULTS AND DISCUSSION

The data gathered through in-depth interviews with the respondents is presented in this chapter. From the responses of the Generation X basic education teachers, as regards the experience in the implementation of technology in basic education schools, three (3) major themes came out, namely: easy access to information, provides diverse strategies for teaching, and create interaction. As regards the challenges of implementing technology in basic education classrooms, there are four (4) themes namely poor network connections, lack of skills in ICT, insufficient budget, and unmotivated to adapt. Regarding recommendations on the implementation of technology in basic education schools, there are four (4) major themes, which are to provide ICT training, support access to resources, foster collaboration and teamwork, and adapt to the new trend.

3.1 Experiences in the Implementation of Technology in Basic Education Schools

3.1.1 Easy access to information

As a new era arrived with the worldwide use of the internet and various connected devices, educators saw this as a potential to revolutionize education such that efficiency and sufficient learning are accessible to everyone. Based on

the study of Haleem, Javaid, Qadri, and Suman (2022), the use of technology in teaching and learning made a paradigm shift in the entire educational system wherein it provides commendable significant effect in delivering education to learners such as providing easy access to the body of knowledge and make learning engaging while fostering creativity. This idea was emphasized in the responses of the participants, who shared that:

I make use of technology inside my classroom because it increases educational opportunities and allows my learners access to a wide range of online resources. -R1

Technology provides learners with easy access to information, online resources, and digital libraries- R2

In my experience, through technology, it is easier to work and teach by using search engines. With just one click on gadgets such as cellphones and TVs, even searching YouTube for topics related to my lessons appears to be much easier. -R8

Ahhh... Technology helps teachers teach better and students learn easier. - R9

Technology improves the lives of all those who choose to use it (based on my experience) by providing an accessible platform for individuals to get educated- R12

With these responses, we can prove that Generation X teachers at the Basic Education School in Panabo City use technology to access learning, greatly expanding the educational opportunities of learners by providing a new approach to the availability of resources for modern-day education [11].

I utilized online platforms to continue the basic education of my learners. For example, in my class, there are days when we conduct online learning due to the interruption of face-to-face courses because of the weather, which eventually helps them access the lesson conveniently without going to school. -R3

Also, opportunities for asynchronous learning to function were fully considered, especially during situations due to unpredictable weather and health constraints, such as the COVID-19 pandemic, wherein learners and educators were

heavily affected by the transition to a flexible approach of blended learning [12].

Technology provides opportunities for learning control, can help learners investigate and answer complex questions, develop new thinking skills, and support teachers in enhancing learning, creating opportunities to connect with pupils, and encouraging learners to access learning in new and exciting ways. -R11

The nature of ICT makes teachers' monitoring of their learner's academic performance more convenient and easily accessible online. Also, educators can choose how to use technology in several ways in teaching and classroom management such as controlling pupil's behavior with digital punishments and rewards to encourage and promote the use of technology in learning. Kilag et al., [13].

3.1.2 Provides diverse strategies for teaching

Using technology-based applications in teaching can empower teachers because it allows them to use a wide range of teaching methods for their learners. Using technology makes pupils' learning more convenient and conventional in the new educational landscape. Educators inside the classroom use different strategies in using technology, which allows them to tailor lessons to meet the needs of the learners through engaging activities which were based on their convenience and learning styles [13].

Using different strategies for using technology in teaching my learners, such as PowerPoints, games, internet anecdotes, and learning activity sheets/worksheets, can make the teaching and learning experience easier. -R1

Nowadays, children are more inclined to use technology, so exposing them to different learning strategies to cater to their needs, particularly those who belong to the auditory, visual, and kinesthetic learning styles, makes learning more effective and engaging. -R4

We teachers must have a deeper understanding of how to cater to the learning of their pupils, considering that pupils have different learning styles and all levels of intelligence and social status. - R10

Technology introduces many tools and strategies to help stimulate real-time teacher interaction with students. For example, while teachers used to put paper over a question on an overhead projector and remove it to reveal the answers. -R12

The effective use of technology in digital learning in schools enables learners to explore and delve more into new subjects. Also, to support the statement of the respondent, a study by Sofi-Karim, Bali, and Rached [14] found that advancement in technology helps learners explore and acquire deeper understanding whenever new concepts are promoted through technology.

In subject exploration, technology enables teachers to use a wide range of teaching strategies and lets students explore new learning about the subject. -R2

3.1.3 Create interaction

Educational technology provides a platform for individuals to socialize and function in the learning arena. We consider schools to be complex systems that can cater to learners for them to function in the learning environment itself, well as through social interaction with peers and engaging interpersonal relationships that are embedded in the educational learning and teaching process Valiente et al., [15]. Which corresponds to the statement of the respondents:

It improved my life as a teacher, as I used it by providing a platform for individuals to get educated and engage with peers/classmates. -R1

Based on my own experiences, implementing technology in my classroom helped my pupils feel more connected to the learning process and it can encourage them to take an active role in their studies. It provides an interactive and collaborative learning experience. -R10

Learners engaging in expressing interest in performing in class using different digital learning resources such as interactive educational technology-based tools, applications, sites, and online platforms have changed 21st-century education by permitting learners to participate and engage in technology-centered spaces while navigating the use of technology learning resources [16].

Technology is very useful because it helps me as a classroom teacher to conduct the lessons more engaging and interacting and makes teaching easier. -R3

Audiovisual learners are more active in class when the teacher uses technology, such as lessons involving smart TV, interactive PowerPoint presentations, and YouTube videos. -R6

In my experience using technology, I use interactive board activities for quizzes, educational apps, online platforms for extra resources, and digital tests for quick grading, making teaching and learning more enjoyable and engaging for everyone. -R9

Providing rich content while also challenging students to analyze, apply, evaluate, and create through active and engaging learning strategies and formative assessments -R12

3.2 Challenges of the Implementation of Technology in Basic Education Schools

3.2.1 Poor network connections

The revolution of education using technology, such as its prominent tool of the internet, has heavily shaken the lives of educators and learners [17].

Lack of ICT resources such as internet connection -R1

Poor Signal-P6

I encountered challenges using the technology, most especially the slow internet connection which takes like forever to reconnect. - R7

I encountered many challenges when I implemented this technology in my class. Since I'm not techy with computers, sometimes poor network connections were encountered. -R10

However, the responses of the participants in the current field stated that they deal with problems regarding having adequate internet connectivity, which hinders teachers from mastering the use of technology education.

Slow internet connections may hinder teachers in master technology. -R11

Table 1. Major themes and core ideas on the experiences in the implementation of technology in basic education schools

| Major Themes | Core Ideas |
|--|--|
| Easy access to information | <ul style="list-style-type: none"> • Increase educational opportunities -R1, R9 • Easy access to information, online resources, and digital libraries- R2 • Utilize accessible online platforms -R3, R12 • Use of search engines-R8 • Provides opportunities for learning control-R11 |
| Provides diverse strategies for teaching | <ul style="list-style-type: none"> • Utilize different strategies in using technology -R1 • Use a wide range of teaching strategies to explore new learning -R2 • Deeper understanding of pupils' different learning styles, levels of intelligence, and social status. – R4, R10 • Introduce tools and strategies to stimulate real-time teacher-student interaction -R12 |
| Create interaction | <ul style="list-style-type: none"> • Provide a platform for individuals to get educated and engage -R1, R10 • Conduct the lessons to get engaged and interact using technology -R3, R6, R9, R12 |

3.2.2 Lack of skills in ICT

Introducing technology in education has brought challenges to educators' planning and conducting their assessments [18]. Regarding the encountered concerns to equip teachers with the new learning skills that promote teaching and learning to be efficient, timely, and relevant with the use of technology in the classroom, the teachers in the field believed that there is a need for training and hands-on demonstrations to comply with the new digital trends of learning Ng et al., [19], which was emphasized in the shared statements of the respondents:

Need to have adequate exposure to ICT education and sought experiences in using technology- R1

When I encounter new, unfamiliar applications promoted by our division for us to use in class, I need adequate time to learn and study them before applying them to my classroom teaching. -R2

If you are not aware of how to use the application, you need to adapt to overcome so that children can be part of this kind of implementation- R3

Lack of proper training and expert technical staffs in the field to help troubleshoot problems in using technology-R12

Meanwhile, many individuals in other countries are familiar with basic ICT skills and how to utilize them in the current digital society. In our context in the education sector, it is more challenging because the fast-paced digital environment requires teachers who are experts on the lesson to be familiar with the role of technology, which can also benefit learners, particularly in understanding a certain subject area [20].

Teaching is more challenging because we need to learn more about (making use of) PPT and other new ICT applications. Although I know how to teach the subject area, I still need to be trained in using technology in my classroom.-R5

Later, there will come a time when all teachers need to learn to manipulate technology in the classroom because if not, we will be behind. -R8

They need support and training to overcome these challenges and ensure all students benefit from technology in the classroom. - R9

3.2.3 Insufficient budget

The paper of Pellas, Dengel, and Christopoulos [21] emphasized in the results of their study that the high cost of technology-based learning

resources has a great effect in immersing the learners as well as the teachers in making use of technology in teaching specific areas.. In connection with this, the respondents emphasized their statement:

The current high cost of technology and limited budget makes adapting to digital changes more challenging. - R1

There is a need to provide resources to support modern teaching using Google and apply new technology in the classroom so that learners will be active learners- R3

Despite significant investment in integrating technology, teachers can need help with disruptions caused by a lack of devices in the classroom. We have to spend our money on the needed materials. - R4

outdated resources in using technology in teaching due to insufficient fund-R5

Need budget for (internet) load-R6

budget limitations in securing the load. -R10

In the process of making my lessons more engaging, I faced challenges such as limited resources and technical issues. -R9

However, even if modern technology allows educators to develop and create real-world simulated integration using ICT, due to deficient learning materials, opportunities for a new way of learning may be difficult to achieve [21]

Lack of technology media facilities which leads to deficient teaching materials. Due to financial constraints, I need help to provide technological learning resources to help me gain familiarity with using technology as a new way of teaching. - R11

A common challenge or struggle I encountered is how to fully integrate technology in reality mode for our learners, who are too used to "paper and pencil" learning due to a lack of finances to upgrade. - R12

3.2.4 Unmotivated to adapt

Schools across the country associate their ways of providing learning beyond the classroom by using developed strategies to develop the teachers' ability and skills to deal with the different technological trends and to maintain the quality of learning and teaching [22]. However,

barriers like lacking technical knowledge can cause teachers to have difficulties in integrating technology in conducting classes, which can interfere with how they are motivated to utilize the role of technology and upgrade their strategies in the classroom to adapt to the new trends Joshi et al., [23], which was discussed by some respondents,

I didn't want to practice using technology because I didn't want to feel burdened by the responsibility that may be given to me. - R8

Some traditional teachers are unmotivated to upgrade themselves to new technology trends, which leads to a lot of workloads being passed on to young ones. -R12

Educators need to adapt a more engaging learning approach using technology and a diverse variety of techniques such as using advanced technological resources. Pellas, [21], However, due to the rapid acceleration of the adaption of digital technology, learners and educators had to make much bigger adjustments in classrooms; thus, many of them may not be well equipped with technological tools for teaching and learning in the new era. As asserted by one of the respondents,

It is challenging for seasoned teachers like me, who struggle to integrate technology into our classrooms even though we have enough experience and knowledge to teach the lesson. We are too used to traditional teaching methods. -R11

3.3 Recommendations on the Implementation of Technology in Basic Education Schools

3.3.1 Provide ICT training

The authorities and educational administrators can stipulate access to online learning and seminars regarding technology and produce an effective plan to adjust to the digital era by designing new strategies to assist teachers in embracing educational technology to deal with future challenges that they may face in the educational landscape [23]. This was specified in the responses of the teachers in the field where they stated:

Provide access to online platforms that offer courses, webinars, and forums about technology. -R1

Join seminars to gather information from the experts- R2

Continue to attend ICT training to enhance your skill and never get tired of exploring strategies that will cater the different types of learners. -R7

In my experience, proper training and support help integrate technology in the classroom. Ongoing investment and training are key to making the most of educational technology. Offering continuous ICT training in technology can help teachers adapt to change and enhance teaching performance in the future. -R9

Additionally, there is a need to provide opportunities for staff to learn how to apply technology to enhance student learning and experience.-R11

In the study of Yeni [24], the researcher recommended that teachers should learn firsthand what 21st-century skills are and skills to be applied in the classroom by creating their teaching materials through the use of digital technologies and keeping up with the new trends in education.

Urgent need to conduct hands-on training in using ICT -R5

Hand on using technology helps us to be more updated on the new trends in education. -R8

3.3.2 Support access to resources

The emphasis on the planning strategic plan in equipping teachers to promote technology in

education urged the government to develop an adequate plan to support teachers' needs with the support of the school head and stakeholders [25].

Ensure that the school head and stakeholders are aligned with the technology implementation plan to provide adequate support for teachers' needs. -R2

Furthermore, sufficient access to high-tech gadgets and Wi-Fi connectivity can eliminate barriers to implementing a successful integration of technology in schools and support the learners to prepare for the future by exposing them to collaborative online learning and appropriate timely technostructures [25].

Wi-Fi connection... Teachers need high tech gadget in teaching new generation of learners -R5

Provide one on one computer in the computer room -R6

Since the COVID-19 pandemic, Panabo City public schools have been pushed to improve and provide tools that will help pupils learn better. - R9

DepEd should prioritize infrastructure development, including widespread access to WiFi, to support the effective adaption of new technology trends in academic practice. -R11

Provide the latest technology and upgraded gadgets to use. -R12

Table 2. Major themes and core ideas on the challenges in the implementation of technology in basic education schools

| Major Themes | Core Ideas |
|--------------------------|---|
| Poor network connections | <ul style="list-style-type: none"> Lack of internet connection -R1 Poor internet signal -R6, R7, R10, R11 |
| Lack of skills in ICT | <ul style="list-style-type: none"> Inadequate exposure to ICT education -R1, R9 Encounter unfamiliar applications in teaching. -R2, R3, R5 Need to utilize technology in the classroom -R8 Lack of expert technical staff in the field -R12 |
| Insufficient budget | <ul style="list-style-type: none"> High cost of technology and limited budget - R1, R4, R9, R10, R11 Need to provide resources to support modern teaching - R3, R5, R6, R12 |
| Unmotivated to adapt | <ul style="list-style-type: none"> Burdened by the responsibility - R8 Used to utilize traditional methods in teaching. -R11, R12 |

3.3.3 Foster collaboration and teamwork

As public educators, one of the functions of administrators is to raise efforts to reform teaching quality. Thus, feedback on the development and the needs of the teachers is crucial in improving the quality of the instructional and educational process. That is why technical assistance may be provided to teachers through teamwork to improve teaching competencies in teaching and learning delivery [26].

Collaborate through communication with parents to provide feedback. Encourage teamwork using technology - R1

To improve teaching performance using tech the teacher must practice feedbacking like having a group chat with parents informing the process of their child learning - R10

Increased participation and promote cooperation with the class using technology by video calling to conduct easier pupil assessment. - R12

Promoting collaboration is working toward achieving goals in utilizing technology with

colleagues who are experts in the field by establishing explicit teaching standards in promoting and establishing collaborative instruction to hone teachers' knowledge productively (Torres, 2024).

When implementing technology is difficult, ask for help from colleagues who are more inclined to utilize the new trend of education. -R3

Sharing tips with colleagues to make the lessons more engaging. Encourage collaboration among teachers to share effective methods of using technology in teaching. - R9

3.3.4 Adapt to the new trend

Do not limit your students by how you learn because every learner is diverse and has different learning styles. Let teaching with the use of technology be adapted in the classroom. Learn more than what you already know, and do not stay with your old learning. You must adapt and impose what was introduced by our department on what is suited to their way of (pupils) learning. -R3.

Table 3. Major themes and core ideas of recommendations on the implementation of technology in basic education schools

| Major Themes | Core Ideas |
|-----------------------------------|--|
| Provide ICT training | <ul style="list-style-type: none"> • Provide access to online platforms -R1 • Join seminars to gather information from the experts- R2, R9, R11 • Conduct hands-on training in using ICT -R5, R8 |
| Support access to resources | <ul style="list-style-type: none"> • Provide adequate support for teachers' needs. -R2, R11 • Need high-tech gadgets in teaching -R5, R6, R9, R12 • Continue attending ICT training -R7 |
| Foster collaboration and teamwork | <ul style="list-style-type: none"> • Collaborate through communication with parents -R1, R10 • Ask for help from colleagues -R3 • Encourage collaboration among teachers - R9 • Increased participation in class using technology - R12 |
| Adapt to the new trend | <ul style="list-style-type: none"> • Teach with the use of technology to be adapted in the classroom -R3 • Awareness of new technology trends -R8 • Effectively shift from traditional to technology-based teaching to promote engaging lessons. -R9 • Proper implementation and incorporation of new trends of technology in the classroom- R12 |

As remarked by the respondents, in adapting to change, teachers are urged to integrate teaching with technology to be more efficient in teaching practice and designing appropriate educational materials in the transition from traditional teaching to technology-based teaching in content distribution [27-30] In addition, Adaptability and flexibility in evaluation require adaptation to the rapid face of technology in the educational sector to cater to the diverse learning styles that can be acquired through new teaching methods that the learners will be greatly affected by De Vera et al., [31-33].

Just like what I learned from the heuristic theory, teachers need to be aware of new technology trends to provide efficient strategies to teach more effectively. -R8

Proper implementation and incorporation of new trends of technology in the classroom- R12

Success in implementing technology depends on the motivation to adapt. To transition from traditional to technology-based teaching more effectively one needs to be motivated to promote engaging lessons. -R9

4. CONCLUSION AND RECOMMENDATION

Implementing technology in the classroom can significantly enhance learning experiences and outcomes. Here are some recommendations for effectively integrating technology based on the statements acquired from the respondents:

Assess Needs and Goals: Before introducing new technology, assess the needs of your learners and the goals you aim to achieve in your classroom. Thus, it ensures the chosen technology is purposeful and aligns with educational objectives.

Professional Development and Support for Teachers: Investing in teacher training and professional development helps educators familiarize themselves with technology and ensure its effective integration into their teaching practices.

Adopting a Variety of New Trends: Educators in the teaching environment are urged to utilize a mix of technological tools to cater to the learners' different learning styles and needs of 21st-

century learners. These can include interactive whiteboards, educational apps, online resources, and learning management systems. Furthermore, in today's educational landscape, wherein technology in the teaching field is rapidly evolving, adopting the latest trends and best practices by connecting with a community of educators, attending workshops, and reading relevant literature is also important.

Promote Digital Competence to Teachers: Educators, especially those who belong to the generation that is used to traditional teaching methods, must be taught how to use technology to prepare them for a digitally interconnected world and their learners in this new era of teaching and learning.

Implementing technology in the classroom is not just about having the latest technology or resources; it's about enhancing educational practices to foster a more engaging, inclusive, and personalized learning experience that educators can offer to produce competent citizens and promote lifelong learning.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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