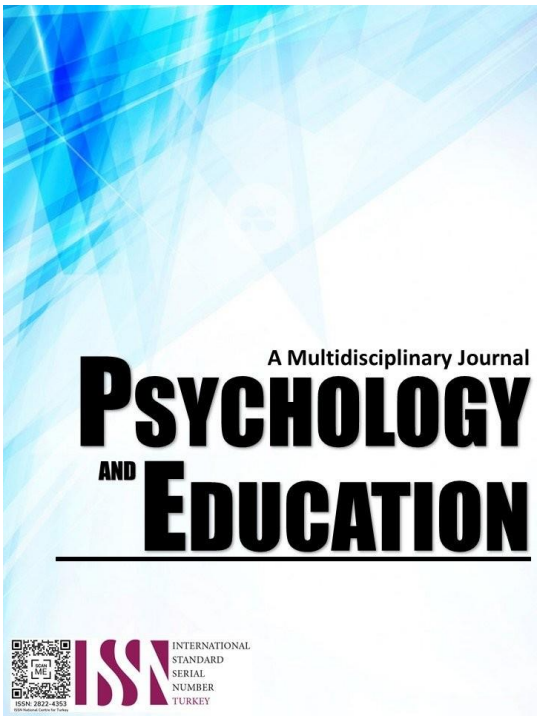
UNRAVELLING THE LIVED EXPERIENCES WITH INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN THE LENS OF NEWLY HIRED TEACHERS: A PHENOMENOLOGICAL INQUIRY



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Research Article

Unravelling the Lived Experiences with Information and Communication Technology (ICT) in the Lens of Newly Hired Teachers: A Phenomenological Inquiry

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Abstract

The transition into the teaching profession presented numerous challenges for newly hired educators, especially in adapting to 21st-century demands. This qualitative phenomenological study explored the lived experiences of newly hired teachers, focusing on the challenges they encountered, their sources of motivation, the strategies they employed, and the role of Information and Communication Technology (ICT) in their instructional practices. In-depth interviews were conducted with ten purposively selected teachers from various schools in the South President Quirino District. The findings revealed five central themes: frustrating yet persevering journeys marked by emotional and professional struggles; varying levels of ICT competence; the use of innovative instructional strategies and methodologies; disruptions during the transition from theory to practice; and the navigation of barriers, including limited access to resources and poor internet connectivity. Despite these difficulties, participants demonstrated strong resilience and adaptability by utilizing ICT tools to create engaging learning environments. Their ability to manage responsibilities while facing technical and institutional challenges reflected their commitment to effective teaching. This study emphasized the need for sustained support, professional development, and improved access to ICT in order to empower beginning teachers and enable them to succeed in modern educational settings.

Keywords: *information and communication technology (ICT), newly hired teachers, challenges, motivation, perseverance*

Introduction

One of the most important aspects should a person had been to be able to manipulate a computer or had a better knowledge in the era of Information and communication technology because we all know we are now living in the digital era and a better helpful in the industry and in professional growth in a profession. ICT manipulate an important role in all sectors include a society and the schools a place who should be able to adequate the needs and overcome the difficulties students have, preparing them for the constant changes that technology provides.

Information and communication technology, or ICT, is a key component of teacher education programs that teach educators how to improve their topic knowledge and pedagogical abilities. Having up-to-date Information and Communication Technology (ICT) knowledge aids teachers in creating lesson plans that maximize learning and teaching. Furthermore, Cetin (2016) held the opinion that the usage of Information and Communication Technology (ICT) instructional devices in the classroom aids in keeping the classroom dynamic, which in turn encourages students to actively and interactively participate in the learning process, particularly during class time. Recent findings by Afari, et al. (2023) further support this, demonstrating that ICT integration increases teachers' self-efficacy and motivation to adopt innovative teaching strategies, leading to more interactive classrooms.

Teachers are the nation's future developers, tasked with preparing the next generation to meet the difficulties of the modern world. However, this cannot be done if they do not have the necessary control over the appropriate use of Information and Communication Technology (ICT) instructional equipment. It is true that having an understanding of Information and Communication Technology (ICT) enables instructors to stay current on their expertise and employ cutting-edge teaching technology in the classroom. Additionally, Information and Communication Technology (ICT) is now a global necessity, and no industry can function well without it. It is essential to improving the teaching and learning process in training and education. In order to improve student learning, teachers are realizing that utilizing Information and Communication Technology (ICT) resources in the classroom is essential and has become a requirement for teacher training programs. Haarala-Muhonen, et al. (2023) affirmed that pedagogical training combined with ICT competence significantly enhances teachers' capacity to foster deep learning environments, while Bishnu & Shambhu. (2024) emphasized the global necessity of ICT in education amidst rapid technological change.

Additionally, Jones defined and highlighted the barriers to Information and Communication Technology (ICT) integration in education in 2004. He claims that even though he finished his studies ten years ago, there are still many difficulties. Particularly in the area of education, our teachers' predicaments and issues still exist. Despite the fact that other nations have advanced and implemented policies more successfully, there are still several obstacles, one of which is a lack of technological expertise.

Furthermore, Dotong et al. (2016) pointed out that there is currently insufficient teacher preparation in the Philippines. Information and communication technology (ICT) is still not widely used by teachers, and some teachers are even terrified of it, which makes it difficult for them to integrate ICT into their lessons. This aligns with Rajapakse, et al. (2024), who found that many teachers experience low ICT-related self-efficacy, often due to limited training and emotional barriers, which hinders effective integration of digital tools in instruction.

This study provides insightful information for educators, curriculum developers, and policymakers who seek to implement innovative teaching strategies that improve student engagement, foster a deeper understanding of concepts, and elevate academic performance. It does this by building on the findings of prior research and highlighting the effectiveness of information and communication technology in the professional development of teachers. Bandura's self-efficacy theory (1997) is essential since it focuses on people's belief in their power to manage their behavior and change their lives. Self-efficacy affects motivation, resilience, and the ability to conquer obstacles. It highlights the value of mastering experiences and the notion that is possible to emerge victorious in the face of hardship. The study uses self-efficacy theory to determine how teachers' perceptions of their skills influence their teaching techniques and resilience in remote environments. These psychological dynamics are central to understanding how teachers adapt to technological demands and persist in using ICT despite institutional or personal barriers (Afari et al., 2023; Rajapakse et al., 2024).

Research Questions

This study aimed to explore and describe the perspectives of teachers, especially the lived experiences with Information communication and technology in the lens of newly hired teachers. This research sought to understand how teachers interpret the importance of being a newly hired teachers, their methods for incorporating Information and communication technology and the challenges they face in implementing these practices in the local context. Specifically, this study sought to address the following questions:

1. What are the specific challenges of newly hired teachers facing when integrating Information and Communication Technology (ICT) into their teaching practices?
2. How do newly hired teachers perceive their own competence in using Information and Communication Technology (ICT) for educational purposes, and what factors influence this perception?
3. In what ways does the use of Information and Communication Technology (ICT) impact the teaching methodologies and classroom management strategies of newly hired teachers?
4. How do the lived experiences of newly hired teachers with Information and Communication Technology (ICT) reflect broaden trends in educational technology adopted within their schools?

Literature Review

Information and Communication Technology

Information and Communication Technology (ICT) plays an increasingly vital role in modern education, serving as a powerful tool for both instructional delivery and administrative efficiency. According to Wajszczyk (2014), ICT encompasses a range of technological tools and software used to retrieve, process, and disseminate educational information, thereby enriching the knowledge and experiences of teachers. In today's learning environment, not only educators but also administrative staff, support personnel, and students utilize ICT tools to achieve their academic and professional objectives. These include laptops, projectors, LCD screens, multimedia devices, smartphones, and personal computers—each contributing to more dynamic and interactive classroom experiences.

The integration of ICT into teaching practices also significantly contributes to teachers' professional development. Fu (2019) emphasized that ICT enhances teaching quality by promoting autonomy, creativity, and adaptability among students, which reflects back on teaching effectiveness. With ICT tools, teachers can personalize learning materials and adopt innovative pedagogical strategies tailored to diverse student needs. However, to effectively harness these technologies, educators must undergo continuous professional development. This includes participation in workshops, training sessions, and other skill-building programs to strengthen their ICT competencies and equip them to face the ever-evolving challenges of modern education.

Despite the numerous benefits of ICT in education, its integration is not without obstacles. Teachers often encounter barriers such as limited time, inadequate training, and lack of institutional support, which can hinder the effective use of technology in the classroom. Addressing these issues requires a multifaceted approach that includes technical assistance, ongoing professional learning, and a supportive school environment. A positive school culture—shaped by proactive leadership—is essential for fostering a climate that encourages ICT use. School leaders must advocate for and provide resources that empower teachers to integrate technology meaningfully, ultimately advancing educational outcomes and preparing students for a digitally-driven future.

Challenges Encountered by Teachers in Using ICT

The integration of information and communication technology (ICT) in teaching and learning has been widely acknowledged as an effective approach. However, many teachers still struggle to incorporate new technologies into their instructional practices, although some innovative technologies into their instructional practices, although some innovative educators have found creative ways to leverage ICT in their lessons (Cubukcuoglu, 2013).

According to Hsu and Kuan (2013) conducted a multilevel analysis to examine the factors influencing ICT usage among teachers in Taiwan. The study revealed that ICT integration in teaching is influenced by characteristics at both the teachers and school levels. Teachers' beliefs and the amount of training they received in the previous year emerged as significant predictors of their ICT utilization.

Additionally, school-level factors, such as the number of training hours and the perceived level of support from the school, played a crucial role in ICT integration. Factors like internet accessibility, availability of projectors, and computer stability were also found to

be vital at the school level. These findings emphasize the importance of individual teachers and schools in promoting ICT integration (Hsu & Kuan, 2013).

In summary, teachers face various challenges when integrating information and communication technology (ICT) into education. These challenges encompass factors at both the individual teachers and school levels. Additionally, discipline-specific challenges, time constraints, and gender and age-related factors contribute to the difficulties experienced by teachers in utilizing information and communication technology (ICT) effectively. Addressing these challenges requires targeted support increased training opportunities, and a comprehensive understanding of the unique needs and constraints within educational contexts.

Technological Competence of Teachers

Technological competence has become a critical component of effective teaching in the 21st century. As emphasized by Sahu (2016), the quality of education is intricately linked to the competence of teachers, who must not only understand how learners acquire knowledge but also be proficient in utilizing advanced technologies to enhance instruction. Learning is an active and engaging process, and it is the responsibility of the teacher to facilitate this through well-structured and interactive methods supported by technology. Teachers must possess up-to-date knowledge and be willing to integrate digital tools that enrich the learning experience, promoting both student engagement and deeper understanding.

Recent Philippine-based studies reinforce the urgency of enhancing teachers' technological competencies. Cabansag (2025) found that while elementary teachers in Apayao demonstrated high proficiency in basic ICT tools like Microsoft Word, challenges such as poor internet connectivity and outdated equipment remained prevalent. Similarly, Lambunao (2024) reported that teachers in Bukidnon exhibited intermediate-level ICT competence but lacked confidence and skill in using these tools for teaching. The study emphasized the need for more targeted training and improved infrastructure to address these limitations. Legarde (2023) employed the TPACK framework at Palawan State University and concluded that teachers with greater technological competence showed higher acceptance and use of digital tools, although ongoing training and support were essential for sustained growth. In the context of remote and underserved schools, Ballenas, Tidong, and Paglinawan (2024) revealed that teachers in Maramag, Bukidnon, were proficient with technological tools but were significantly hindered by unreliable power supply and limited access to ICT resources. Furthermore, Castañeros, Sumbilon, and Paglinawan (2024) found that secondary school teachers in the Quezon III District displayed strong capability in designing and modeling learning with technology, underscoring the importance of continuous professional development to maintain and improve technological competence in evolving educational environments.

Information and Communication Technology Integration

The use of Information and Communication Technology (ICT) in education is widely recognized as essential for preparing students to become productive members of the digital society. Ratheeswari (2018) emphasizes that high-quality education demands that teachers not only use educational technologies effectively but also empower students to utilize them meaningfully. In the Philippine context, recent studies highlight the complex reality of ICT integration in classrooms. Quimbo (2023) observed that at San Isidro National High School in Leyte, ICT transformed traditional teaching strategies, leading to more engaging and interactive learning experiences. However, the study also noted that sufficient training and accessible resources are crucial for this transformation to be sustained. Similarly, Celeste and Nimfa (2024) identified access-related challenges among teachers in the Baungon District, Bukidnon, noting that despite limited resources, educators made significant efforts to use ICT for communication and instructional purposes. Their findings call for targeted support to address infrastructure and training gaps.

On a broader comparative scale, Hero et al. (2021) analyzed ICT integration among teachers in the Philippines, Thailand, and Vietnam, concluding that Filipino teachers were competent in using technology but needed continuous professional development to maintain their effectiveness. Magallanes et al. (2024) focused on senior high school physical education teachers in Pampanga and found that ICT proficiency played a vital role in instructional efficiency and career development, stressing the importance of specialized training across different subject areas. Meanwhile, Valdez and Mendoza (2024) studied preschool teachers and confirmed that Filipino educators possessed foundational ICT skills, which are crucial for early childhood education. The study emphasized the need for structured training programs to advance these foundational skills into more complex and pedagogically integrated practices.

Methodology

Research Design

This study utilized a qualitative research design, particularly adopting the transcendental Phenomenological Method as its qualitative research method (Moustakas, 1994). This qualitative method, rooted in the works of Moustakas (1994), was selected for its ability to capture raw, unfiltered experiences, allowing participants' voices to emerge authentically.

Central to this design was the practice of epoche, or bracketing, wherein the researcher set aside personal biases and preconceptions to focus solely on the lived experiences of newly hired teachers. By situating the study within the context of their early years in the teaching profession, this research aimed to uncover how these educators navigate, interpret, and integrate Information and Communication Technology (ICT) in their practice. This approach emphasized the importance of understanding how their emerging

professional identity, institutional expectations, and local contextual challenges shape their use of ICT, as well as their perceptions of its role in effective teaching and learning.

Participants

The participants in this study were ten (10) newly hired teachers of President Quirino, Sultan Kudarat. The participants were chosen based on the following inclusion criteria: a) Bonafide teacher of SDO-Sultan Kudarat b) certified teacher of President Quirino District c) newly hired teacher at least 1-4years in service.) they are willing to share reflective insights regarding their lived experiences with ICT. Consequently, participants were coded to safeguard their confidentiality. The selection of these participants was based on purposive sampling, aiming to capture a range of perspectives from school in the districts in the division of Sultan Kudarat.

Instrument

This study utilized an interview guide questionnaire specifically aligned with the research objectives. To ensure reliability and validity, a panel of experts reviewed and refined the guide, enhancing its clarity and relevance (Creswell & Creswell, 2018; Patton, 2015). The validated guide provided a structured framework for consistent and dependable data collection (Yin, 2018). Based on this guide, a research questionnaire was developed and distributed to gather firsthand insights. In-depth interviews (IDI) served as the primary qualitative method, offering detailed understanding of participants' experiences and attitudes. As Boyce et al. (2018) noted, IDIs are valuable for exploring complex topics and uncovering contextual insights.

Procedure

The data-gathering procedure for this study followed a clear, step-by-step approach to enhance transparency, and replicability, as recommended by Creswell and Creswell (2023). First, necessary approvals were secured from the Dean of the Graduate School of Sultan Kudarat State University, the Schools Division Superintendent of Sultan Kudarat, the District Supervisor of President Quirino District, and the respective school heads where the newly hired teachers were assigned. Formal letters were then issued to request permission for the use of official time and access to participants.

Next, trial interviews were conducted to refine the approach and ensure the effectiveness of the validated interview guide questionnaire. After obtaining written consent from all participants to uphold ethical compliance, semi-structured interviews were conducted and audio-recorded in a conducive environment. The recorded interviews were subsequently transcribed following established qualitative procedures. This systematic and sequential process ensured clarity and transparency in data collection and laid a strong foundation for rigorous data analysis.

Data Analysis

In order to concisely capture the responses of the ten (10) participants, an interpretative approach was employed using thematic content analysis. As described by Braun and Clarke (2023), this method involves identifying, analyzing, and reporting patterns or themes within qualitative data. In this study, key themes emerging from the in-depth interviews were identified to represent the participants lived educational experiences in a conflict-affected environment.

The analysis followed six phases: familiarization with the data through repeated reading of transcripts; generation of initial codes by highlighting significant statements; searching for themes by grouping related codes; reviewing themes to ensure coherence and accuracy; defining and naming themes to capture their essence; and finally, writing the report by presenting themes supported with participant quotations. This process allowed for a nuanced interpretation of teachers' challenges, aspirations, and perspectives shaped by their unique context.

Ethical Considerations

A significant ethical aspect with specific ramifications for this qualitative research arose primarily from the methodology employed in the study. Ethical challenges pertinent to the proper conduct of the research, ensuring confidentiality, and maintaining anonymity were identified. Thus, adherence to ethical guidelines governed various aspects of the study concerning population and data, encompassing but not limited to these considerations.

Results and Discussion

Fourteen (14) emerging themes and fifty-four (54) Sub-themes captured the perspectives and lived experiences of newly hired teachers regarding the integration of Information and Communication Technology (ICT) in education. These emerging themes were: (1) Technical Challenges, (2) Internet and Connectivity Issues, (3) Varying Perceptions of Preparedness, (4) Workshops, Training, and Continuous Professional Development, (5) Varying Perceptions of ICT Competence, (6) Use of Self-Assessment and Reflection, (7) Confidence through Experience, (8) Pedagogical and Institutional Influences on ICT Confidence, (9) ICT for Student Engagement and Interactive Learning, (10) Enhancing Engagement and Interactivity in Teaching, (11) ICT for Classroom Management and Discipline, (12) Institutional Support and Digital Readiness, (13) Leadership and Institutional Influence, and (14) Teacher Feedback and Policy Alignment.

Specific Challenges of Newly Hired Teachers Face in Integrating Information and Communication Technology (ICT).

Theme 1: Technical challenges

The participants of this study expressed experiencing a range of challenge related to ICT infrastructure, including unreliable internet, lack of devices, technical problems, and insufficient IT support. These challenges included, but are not limited to, sources issues and stress to deliver lesson. Evidently, newly hired teachers face huge challenges which significantly impact their teaching practice. That participants stated that:

"Integration of ICT is one of the most essential things in our daily life as teachers. Of course, there's a lot of challenges we faced while integrating ICT in our teaching. One of these challenges is the internet or shall I say wi-fi barriers, adopting technology in your school sounds great until you run into wi-fi problems. Second d learner's focuses more on the pictures shown to them not the topic itself". - Nessah

"The specific challenges of newly hired teachers face when integrating ICT into our teaching are student engagement while technology can enhance learning, it can also be a distraction. As newly hired teacher I must develop strategies to keep students focused and engaged to our lesson while using ICT Tools". – Joy

"As a newly hired teacher, I face challenges in integrating ICT, such as limited training, technical difficulties, lack of support, time constraints, and student accessibility issues. With the right training, resources, and mentorship, I can adapt more effectively and enhance my teaching with technology". – Ana

Theme: 1.2 Pedagogical and Students Engagement Issues

The participants of this study expressed their ideas on the limited access to technology and internet, insufficient teacher training, and challenges in integrating technology effectively into the curriculum which can lead to disengagement and hinder learning outcomes. The participants stated that:

"In my 1 year or almost running two years' experience as Newly hired teachers often face several challenges when integrating Information and Communication Technology (ICT) tools into their in my classrooms. Ok These challenges can vary depending on my background, ok so especially in classroom management. However, some common difficulties include Limited Familiarity with ICT Tools Learning Curve Confidence Issues: The complexity and variety of available tools can be overwhelming, affecting teachers' confidence in effectively using them in the classroom". – Lyn

"The major barriers were lack of genuine software, inadequate computer in the classroom, low speed internet, lack of motivation from both teacher and students' side to use ICT and lack of proper trainings skills". – Anne

"Integration of ICT is one of the most essential things in our daily life as teachers. Of course, there's a lot of challenges we faced while integrating ICT in our teaching. One of these challenges is the internet or shall I say wi-fi barriers, adopting technology in your school sounds great until you run into wi-fi problems. Second d learner's focuses more on the pictures shown to them not the topic itself". - Nessah

Theme 1.3 Professional Development and Training Gaps

The participants expressed their idea on the lack proper of ICT training, feel overwhelmed by technology, and struggle with confidence. Time constraints and limited professional development opportunities also hinder ICT integration. The participant stated that:

"Lack of Training and Support and inadequate ICT infrastructure These challenges highlight the importance of providing newly hired teachers with adequate training, support, and resources to effectively integrate ICT into their teaching practice. By addressing these challenges, educational institutions can empower novice educators to leverage the power of technology to enhance student learning and prepare them for the demands of the 21st century". – April

"As a Newly hired teachers we face several specific challenges when integrating Information and Communication Technology (ICT) into our teaching practices. These challenges can be both technological and pedagogical in nature. Some of the key challenges include Lack of Experience or Training, Technological Familiarity, Time Constraint. Limited Resources or Access, Pace of Technological Change, Classroom Management with ICT, Technical Support, Professional Development Opportunities". – Rish

According to Japhet & Usman (2018), In integrating ICT into teaching and learning, it is a necessary condition to have access to ICT infrastructure and resources in schools. ICT affects the way knowledge is imparted and students learning process, because the effectiveness of learning is upon learner driven strategies but not the teacher. It is extremely important to state that accessibility is not the same as availability and that in some schools there are ICT infrastructural development but are not accessible to students which contribute immensely to technological illiteracy in the system. Availability and accessibility are very essential for effective adoption and integration in education.

Moreover, (Glatthom, 1995), Professional development, in a broad sense, refers to the development of a person in his or her professional role. More specifically, "Teacher development is the professional growth a teacher achieves as a result of gaining increased experience

and examining his or her teaching systematically.

Technical and Logistical Difficulties in Information and Communication Technology (ICT) Implementation

Theme 2. Internet and Connectivity Issues

These issues refer to problems that prevent devices from establishing or maintaining a stable connection to the internet. These issues had a big impact on the newly hired teachers in delivering their lessons. the poor or inconsistent internet access disrupts lessons, leading to delays and limitations in using ICT tools effectively. The participants stated that:

"Lack of reliable internet access. This can lead to frustrating delays and disruptions during lessons. Logistical challenges, access to technology can be uneven limited resources with some schools lacking enough devices, software or even basic equipment like projectors. Limited activities that can implement". – Joy

"I often encounter technical and logistical difficulties when implementing ICT tools in the classroom, such as: Technical Glitches: I face issues like slow internet, malfunctioning devices, or software problems, making it hard to deliver lessons smoothly". – Lene

Theme 2.1 Insufficient and Outdated ICT Infrastructure

In implementing ICT one of the best ways is to have good access and more sufficient ICT tools to make the teaching practices and delivered well. An updated infrastructure makes the class presentable and for a newly hired teacher to be able to be expressed in an innovative way in teaching, however, teachers struggle with outdated devices, lack of essential equipment, and limited availability of ICT tools. The participants expressed their thoughts about this issue. The participants stated that:

"Inadequate infrastructure: our school have an outdated and insufficient tools and hardware like computers and projectors that can make it hard for us to run the tools". – Anne

"Lack of reliable internet access. This can lead to frustrating delays and disruptions during lessons. Logistical challenges, access to technology can be uneven limited resources with some schools lacking enough devices, software or even basic equipment like projectors. Limited activities that can implement". – Joy

Theme 2.2 Technical Glitches and Compatibility Issues

One of the best practices in delivering the lesson is to be prepared all the time and checking all the ICT tools before staring of the class. However, some participants expressed their ideas on these issues that leads to make it hard for them to deliver lessons smoothly. The participants stated that:

"As a newly hired teacher we also encounter problems with compatibility between the technology available in the classroom such as projectors and other educational tools I am planning to use. This can lead to frustration, and it can be also a major problem when streaming videos or accessing online resources". – Bel

"I often encounter technical and logistical difficulties when implementing ICT tools in the classroom, such as: Technical Glitches: I face issues like slow internet, malfunctioning devices, or software problems, making it hard to deliver lessons smoothly". – Lene

Theme 2.3 Lack of IT Support and Training

To be equipped and effective in integrating ICT in teaching field. Newly hired teachers need to have a strong foundation and strong support in attending seminars and training regarding technologies. Nevertheless, participants expressed their experience difficulties due to insufficient training. The participants stated that:

"I encounter technical challenges such as limited access to devices, poor internet connectivity, and lack of IT support. Additionally, I face logistical difficulties like insufficient training, time constraints, and student accessibility gaps. Without proper resources and support, integrating ICT into my teaching becomes challenging". – Ana

"The most common technical and logistical difficulties of newly hired teacher that they encountered, when implementing ICT tools are the following: connectivity issues and lack of technical support of lack of proper training or skills". – Jacq

Theme 2.4 Logistical Challenges

Being prepared in the classroom and setting up all the ICT tools that needed in delivery of lesson is very important. To anticipate the lesson well and be on time, newly hired teachers need to prepare all the time and always ready. However, some participants shared their experiences regarding with these challenges. The participants stated that:

"Lack of reliable internet access. This can lead to frustrating delays and disruptions during lessons. Logistical challenges, access to technology can be uneven limited resources with some schools lacking enough devices, software or even basic equipment like projectors. Limited activities that can implement". – Joy

"As newly hired teachers we attempt to implement Information and Communication Technology (ICT) tools in the classroom, we often

face a range of technical and logistical difficulties. These challenges can disrupt the learning process and make the integration of technology more complex. Some of the most common difficulties include Technical Difficulties: Device Malfunctions or Incompatibility, Network or Internet Connectivity Issues, Software and Application Issues, Logistical Difficulties, Limited Access to Technology and Inadequate Infrastructure and time constraint for set up and preparation like setting up technology for lesson and take longer than for anticipated". – Rish

Theme 2.5 Over-Reliance on Technology

One of the best ways of being an effective and responsible user of ICT is adopting a balanced approach which lead a newly hired teachers to become wiser user of ICT. Nonetheless, some of the participants depends on ICT and that cause disruption in the learning process when technical issues arise. The participant stated that:

"Technical Issues and Dependency network connectivity issues can disrupt the flow of teaching and learning. Over-reliance on technology can lead to significant setbacks when these issues arise". – April

According to (UNESCO, 2002) It is possible to produce future generation teachers who can effectively use modern ICTs for learning, but this will be possible only when teacher educators play role models for their students in effective use of technology in their own classes. Teaching-Learning through Technology Mediated Approaches The learning and teaching approaches have changed from the past dramatically due to implementation of ICT effectively and its integration with the learning-teaching process. It is expected that the teacher plays the role of a moderator, instructor and facilitator in a technology-mediated learning environment in different situations. Therefore, there is an urgent requirement to reform teacher training programs to enhance new competencies and capabilities in usage of modern ICTs.

Moreover, (European Commission, 2013) nowadays, teachers still rely far more on technology to prepare lessons than to actually teach them. Nonetheless, reliance, in the discussion of digital content, mostly does not mean to replace other content totally, but to supplement it or replace parts. Nonetheless, it is seldom discussed to give students a choice between analogue and digital. Motivated teachers might deliver lessons with ICT as a required part, whereas those uncomfortable with ICT might simply stick to analogue teaching.

Newly Hired Teachers' Perception of Preparedness and Training in Using ICT For Student Engagement and Learning Outcomes

Theme 3. Varying Perception of Preparedness

Being prepared all the time especially in work is feeling at ease. Less fell pressure to assemble or set up the need to prepare. Newly hired teachers have diverse levels of preparedness in using ICT, with come feeling confident due to prior training, while others feel underprepared. Therefore, some participants expressed their ideas about this. The participants stated that:

"Well, I am well prepared with the help of knowledge I get from an ICT seminar from my previous school and also during MPRE school-based training on how to enhance students' engagement and learning outcomes". – Nessah

"I tend to perceive my preparedness in using ICT as a work in progress, with a desire for more training, resources, and ongoing support to help us integrate technology effectively into our teaching to improve student engagement and learning outcomes". – Lene

Theme 3.1 The Role of Prior Training and Professional Development

Newly hired teachers equipped them with the skills and knowledge to enhance their teaching practices. Therefore, teachers emphasize the importance of training, IT support, and continues professional development in building confidence and competence. In addition, participants expressed their ideas about this. The participants stated that:

"My perception as a new teacher regarding in my own competence in using ICT is shaped by a combination of training, support, resources, self-belief and the perceived value of technology in education. Addressing these factors can help me to become more confident and effective in the use of ICT". – Joy

"As a newly hired teacher one of the common problems and it can affect in teachers' perception in our preparedness is the support provided by our school. Schools should offer ongoing professional development and with the help of Information technologist that can support us to foster a stronger sense of preparedness". – Vel

Theme 3.2 Challenges in Applying ICT and Confidence Issues

Building and boosting confidence is one of the best weapons should a newly hired teachers had. Having this quality will lead to be better presentation in the classroom. Having technical support will lead a teacher to be equipped on using ICT. Nonetheless, the participants expressed their thoughts on how confidence they are with this ICT and how struggle they are in applying technologies or ICT tools due to limited hands-on experience, lack of technical skills and classroom management concerns. The participants stated:

"Newly hired teachers often feel underprepared in using ICT due to limited hands-on experience and insufficient training. While some may have basic knowledge from teacher education programs, many struggle with applying ICT effectively to enhance engagement and learning outcomes. Teachers with prior exposure to digital tools feel more confident, but ongoing professional development is crucial

for improving their skills". – Ana

"I don't have personal experiences, I can share a scenario based on common challenges that newly hired teachers face when integrating ICT into their teaching practices, and the factors that contribute to effective support in overcoming barriers. Here's an example: Imagine as a newly hired teacher, who is struggling to integrate ICT into her classroom. She wants to use a learning management system (LMS) like Google Classroom to organize assignments, communicate with students, and deliver content, but she faces several barriers like Lack of technical skills, uncertainty about classroom management, limited access to reliable technology". – Rish

Theme 3.3 Beliefs in ICT's Potential to Enhance Student Engagement

Information and Communication Technology (ICT) can significantly enhance student engagement by making learning interactive, accessible, and personalized, fostering collaboration, and proving diverse learning materials and tools. The participants expressed that despite challenges they recognize ICT's value in improving engagement, productivity and learning outcomes. The participants stated that:

"Select the appropriate ICT Tools to enhance student engagement and learning outcomes and to improves concentration and increased classroom productivity". – Jacq

"ICT can definitely make my lesson more engaging and help students learn better using it effectively. Exposing the benefits of ICT to both the learners and the teachers can lead to recognize its potential in our daily lives". – Anne

According to Lowe and McAuley (2002) defined ICT as the skills and abilities that will enable the use of computers and related information technologies to meet personal and educational goals. Moreover Dix (2007), The role of ICT in student engagement in learning mathematics has been a source of keen interest among government policy makers, teachers, and researchers worldwide. Therefore, ICT really effective in engaging the interest of students and make a good learning outcome.

While stating these challenges and good side of managing ICT are consider as advantage and disadvantage to each situation, especially in boosting their confidence, effective classroom management and engaging activities. Furthermore, (Al-Batained et al 2008) provide professional development activities related to technology to update teachers' skills and knowledge offer technical support when needed.

Support in Overcoming ICT Integration Barriers

Theme 4. Workshops, Training, and Continuous Professional Development

This professional development can improved skills and knowledge, enhanced career prospects and better performance in the field. The participants posit that school-organized workshops and professional learning programs helped newly hired teachers gain confidence. The participants stated that:

"When I first started using ICT in my classroom, I encountered several obstacles such as lack of equipment and knowledge on how to effectively integrate technology into lessons. Fortunately, our school organized a series of workshops focused on using ICT in teaching. In these workshops, I received practical training and exchanged experiences with others who had experience in this field". – Joy

"The school organizes professional development sessions focused on ICT integration, where teachers can learn about the latest tools and strategies for using technology in the classroom. Factors contributing to support: One on one mentorship and peer collaboration, access to structured professional development programs, Opportunities for continuous learning and focus on practical application and aligning technology with pedagogy". – Anne

Theme 4.1 Mentorship and Peer Collaboration

These flat forms can help boost confidence and equipped teachers in integrating ICT in the classroom and help students create a great learning outcome. Allowed them to exchange strategies and learn from each other's experiences. The participants expressed their ideas into this. The participants stated that:

"When having a mentor who are well experienced in using ICT in the classroom that can provide valuable guidance. I can often feel more confident and supported when I'm collaborating with others, we can share strategies, and we can discuss the effectiveness of various ICT tools. I think peer support can make the transition smoother". – Vel

"There was a time when I faced challenges in integrating ICT effectively due to limited access to devices and inconsistent internet connectivity in the classroom. However, I felt supported when the school leadership provided professional development sessions on using free educational tools and platforms, and the IT department worked to ensure that all classrooms had reliable Wi-Fi. Additionally, colleagues collaborated and shared their own experiences, offering advice and strategies for overcoming these barriers. This sense of community, combined with hands-on training and improved resources, helped me feel more confident and prepared to incorporate technology into my teaching practices, leading to a more engaging and dynamic learning environment for students". – April

Theme 4.2 Technical Assistance and IT Support

This provides training and educational opportunities to individuals and organizations. Teachers felt supported when IT staff provided

technical help, especially in troubleshooting and software and hardware issues. This assistance reduced frustration and enabled smoother integration of ICT. The participants stated that:

"There was a time when I faced challenges in integrating ICT effectively due to limited access to devices and inconsistent internet connectivity in the classroom. However, I felt supported when the school leadership provided professional development sessions on using free educational tools and platforms, and the IT department worked to ensure that all classrooms had reliable Wi-Fi. Additionally, colleagues collaborated and shared their own experiences, offering advice and strategies for overcoming these barriers. This sense of community, combined with hands-on training and improved resources, helped me feel more confident and prepared to incorporate technology into my teaching practices, leading to a more engaging and dynamic learning environment for students". – April

"I felt supported in integrating ICT when I received guidance from experienced colleagues, school-led training, and technical assistance. For example, I initially struggled with setting up a learning management system, but after attending a workshop and receiving help from the IT team, I was able to use it effectively in my teaching. A collaborative environment and continuous learning opportunities greatly helped me overcome these challenges". – Ana

Theme 4.3 School Leadership and Institutional Support

This support provides opportunities for teachers to enhance their skills and knowledge through professional development programs. Having supported from school administrators, policy-makers and leadership teams played a key role in overcoming ICT barriers. When school leadership actively promoted ICT integration and provided resources, teachers felt more confident. The participants expressed their opinions on this support. The participants stated that:

"There was a time when I faced challenges in integrating ICT effectively due to limited access to devices and inconsistent internet connectivity in the classroom. However, I felt supported when the school leadership provided professional development sessions on using free educational tools and platforms, and the IT department worked to ensure that all classrooms had reliable Wi-Fi. Additionally, colleagues collaborated and shared their own experiences, offering advice and strategies for overcoming these barriers. This sense of community, combined with hands-on training and improved resources, helped me feel more confident and prepared to incorporate technology into my teaching practices, leading to a more engaging and dynamic learning environment for students". – April

"I faced difficulties integrating ICT into my lessons due to limited access to technology and a lack of training. However, I could have felt supported when my school provided a few key resources and opportunities that helped me overcome these barriers: like training, mentorship, access to resources, and supportive leadership—combined to help the me feel more capable and empowered to use ICT in my teaching practice, ultimately improving student engagement and learning outcomes". – Lene

Theme 4.4 Access to Resources and Reliable ICT Infrastructure

Having access to internet sufficient resources helps them achieve their goals for the learning outcomes of the students. Teachers emphasized that having access to working devices, reliable connection and up-to-date educational tools significantly impacted their ability to integrate ICT. The participants stated that:

"Frankly speaking, in line with the challenges I mention earlier, I have my self-support the barriers I have experiences during that time when I had a problem in internet. The important things to remember in this situation is that accessibility is everything. So educational technology depends on a good wi-fi in most cases, so if that can be provided you will have overcome a significant obstacle". – Nessah

"The school organizes professional development sessions focused on ICT integration, where teachers can learn about the latest tools and strategies for using technology in the classroom. Factors contributing to support: One on one mentorship and peer collaboration, access to structured professional development programs, Opportunities for continuous learning and focus on practical application and aligning technology with pedagogy". – Anne

Consequently, Dogan (2010) points out that, inter alia, teacher training in ICT is vital for future conception and uses of computers for teaching learning process. However, for proper ICT integration in education, the quality of training needs to be taken into account. This means that conducting training and seminars is a vital role for professional development.

Moreover, in general, researchers assume that distributing leadership is normatively "a good thing." Previous studies have indicated that when leadership is not restricted to one leader, schools are more effective and school improvement and organizational change are more likely to occur (Harris, et al. 2007).

Lastly, it proves that continuing seeking professional development and having a good leadership will make the organization specifically the teachers tend to give a good learning outcomes of the students and a confident newly hired teachers in integrating ICT.

Newly Hired Teachers' Perception of Their ICT Competence and Influencing Factors

Theme 5. Varying Perception of ICT Competence

This competence encompassing knowledge, skills, and attitudes related to using technology effectively and critically for various purposes. Newly hired Teachers have different levels of confidence in their ability to use ICT for educational purposes. Some feel well-

prepared, while others struggle with applying ICT in real classroom settings. The participants stated that:

"In terms of perceiving my own competence using ICT. I can say that I am confidently competent in terms of basic ICT skills example MS word, power point, excel, downloading videos but it quite struggles with more advance skills". – Nessah

"As a Newly hired teachers often have varying perceptions of our own competence in using Information and Communication Technology (ICT) for educational purposes only. These perceptions are influenced by a range of internal and external factors, such as prior experience, training, support from colleagues, and the school environment. Below are some insights into how newly hired teachers may perceive their competence in using ICT and the key factors that influence these perceptions". – Rish

Theme 5.1 The Impact of Training and Professional Development

Newly hired teachers equipped them with the skills and knowledge to enhance their teaching practices. Therefore, teachers emphasize the importance of training, IT support, and continues professional development in building confidence and competence. Teachers who received formal ICT training during their teacher education felt more competent than those who did not. Professional development opportunities also contributed to a higher sense of preparedness. In addition, participants expressed their ideas about this. The participants stated that:

"As a newly hired teacher, I feel more confident of using ICT if I received formal ICT training during my teacher-education program. Teachers with ICT focused courses in their education programs feel more prepared and confident in teaching". – Anne

"The perceptions of my own competence in using ICT are shaped by my previous experiences, access to resources and support, peer interactions, feedback from pupils, their personal attitudes, and the professional development available to us. These factors combine to boost my confidence in using technology effectively for educational purposes". – Lene

Theme 5.2 The Role of Experience and Hands-on Practice

This experience and hands-on experience matters, while training provides theoretical knowledge, teachers struggle when they lack real-world experience with ICT integration. Hands-on practice significantly influences their confidence levels. Overcoming challenges and learning from mistakes in a hands-on setting fosters resilience and builds confidence in one's abilities. The participants shared their ideas about this. The participants stated that:

"There are research suggesting that many newly hired teachers report positive attitudes toward technology and some of them believe that ICT can enhance learning. However, even when their pre-service programs or trainings include ICT components, newly hired teachers encounter challenges when translating that knowledge into practice. For example, they might feel comfortable with the basic operations of digital tools, but they lack confidence in applying these skills during lesson planning, classroom management or differentiating instruction using technology". – Joy

"As a newly hired teacher, my perception of my competence in using ICT for educational purposes depends on my training, experience, school support, and access to technology. If I have prior exposure, I feel more confident, but without hands-on practice, I may struggle. Mentorship, student feedback, and my willingness to learn also play a significant role in shaping my confidence in integrating ICT effectively. Sometimes, I feel prepared, but at other times, I face challenges due to limited experience or training. – Ana

Theme 5.3 Support from Colleagues, Mentors, and School Leadership

Having supportive colleagues, mentors, and leadership structures helps teachers feel more confident in using ICT. Schools that foster collaboration and mentorship contribute to a stronger sense of competence. The participants said that:

"The key factors influencing my perception in ICT include the quality and availability of training and professional development opportunities provided by the school or district, the level of support from my colleagues and school leadership, access to necessary tools and resources, and the overall school culture regarding technology use". – April

"As a newly hired teacher, my perception of my competence in using ICT for educational purposes depends on my training, experience, school support, and access to technology. If I have prior exposure, I feel more confident, but without hands-on practice, I may struggle. Mentorship, student feedback, and my willingness to learn also play a significant role in shaping my confidence in integrating ICT effectively. Sometimes, I feel prepared, but at other times, I face challenges due to limited experience or training". – Ana

Theme 5.4 Access to ICT Resources and Technical Support

A lack of resources and IT support negatively impacts teachers' confidence in using ICT. Teachers in schools with reliable resources feel more competent in integrating technology. The participants expressed that:

"ICT in teaching and learning refers to the use of technology to improve the educational experience for both teachers and students. The factors influence this perception are lack of resources and technical support". – Jacq

"The key factors influencing my perception in ICT include the quality and availability of training and professional development opportunities provided by the school or district, the level of support from my colleagues and school leadership, access to necessary

tools and resources, and the overall school culture regarding technology use". – April

Theme 5.5 Self-Efficacy and Personal Attitudes toward ICT

Newly hired teachers with high ICT self-efficacy and positive attitudes are more likely to integrate ICT into their daily routines or teaching. In addition, Teachers who believe in their own abilities and have positive attitudes toward ICT are more likely to feel competent. Some compare themselves with peers, which affects self-perception. The participants stated that:

"Newly hired teachers' perceptions of their own competence in using Information and Communication Technology (ICT) for educational purposes vary based on several factors. Here are the keys: Perception of ICT Competence, Confidence Levels, Self-Efficacy, Comparison with Peers. Factors Influencing Perception, Pre-service training, Professional Development Opportunities, Access to Resources". – Lyn

"As a new teacher my perception of the competence in using ICT are shaped by combination of personal experience, formal training available resources, school support, peer collaboration and our own pedagogical confidence. Because I believe that teacher who have these can be more likely to perceive themselves as competent in integrating ICT in his/her teaching". – Vel

ICT stands for a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information. Existing research has proven a positive relationship between the active and positive role of the teachers and the successful implementation of ICT in the classrooms (Granger et al., 2002).

Moreover, Buaneng-Andoh (2012) stated that personal characteristics like gender, age, educational qualifications and teaching experience of the teachers play an important role in effective implementation of ICT in the classrooms.

Furthermore, (Lau and Sim, 2008; Hernandez-Ramos, 2005) teachers' experience of working with computers is found to have a positive relationship with their use of ICT in the classrooms. Lastly, Gilakjani (2013) state that exposure to technology and knowledge of software application is vitally important for successful implementation of ICT. Granger, et al. (2002) mentioned that computer self-efficacy or teachers' judgment related to their own proficiency in computers plays an important role in their using ICT in the classroom.

Newly Hired Teachers' Evaluation of their ICT Proficiency

Theme 6. Use of Self-Assessment Tools and Reflection Techniques

These tools help teachers to evaluate their capabilities in teaching while integrating ICT. This technique helps also to identify the strength and areas to improve.

Accordingly, teachers use different self-assessment methods to evaluate their ICT Proficiency, including journals, portfolios, surveys, and reflection techniques. Some participants said that:

"In many instances, newly hired teachers assess their proficiency in using information and communication technology (ICT) tools for teaching and learning activities through different self-assessment methods or instructions for example reflective journals, portfolio and survey that can help teachers in finding gaps or issues regarding ICT activities". – Joy

"We evaluate ourselves to the proficiency in using ICT tools for teaching and learning through various self-assessment method, reflection techniques and structure frameworks". – Anne

Theme 6.1 Varying Levels of ICT Confidence Basic vs. Advanced Skills

Being able to manipulate ICT in basic level or advanced level really helps the teachers to enhance their lesson or making it easy for their works. However, many teachers feel confident with basic ICT tools like MS Word, PowerPoint and internet use but they struggle with advanced tools and integrations. The participants stated that:

"I cannot say that I am proficient in ICT cause I believe I have lot of theirs to explore on it. Although I believe in my own ability to learn and master new technologies that can significantly influence the perception I had". – Nessah

"As a newly hired teacher I feel more reasonably confident in using common ICT tools like Microsoft word and power point because I am more comfortable with these tools. I am also confident in using the internet to research teaching resources find lesson plans or access educational websites. I believe that these typically seen as basic skills but it's essential for modern teacher". – Vel

Theme 6.2 Evaluation Based on Student Engagement and Learning Outcomes

These methods to assess engagement levels track the attendance and participation of the students, encourage them to reflect on their learning experiences through reflections. Some teachers evaluate their ICT proficiency by measuring its impact on student learning and engagement. Some participant expressed their ideas:

"To evaluate my own proficiency in using Information and Communication Technology (ICT) tools for teaching and learning activities, I would consider the several factors Self-Assessment of Technical Skills, Student Outcomes and Engagement, Continuous Learning, Professional Development and also the student feedback". – April

Theme 6.4 Feedback from Mentors, Peers, and Structured Evaluations

Gaining feedback from colleagues, peers or mentors helps teachers to assess their capabilities in integrating into ICT. Even though it's strength or an area to improve, that helped a teacher to assess their proficiency in ICT. Some participants stated that:

"By means of quarterly evaluation through written feedback after each classroom observation, for us teachers". – Jacq

"As Newly hired teacher I can evaluate my ICT proficiency by using self-assessment tools, seeking feedback from mentors or colleagues, and actively participating in professional development opportunities focused on technology integration". – Rish

Theme 6.5 Impact of Access to Resources and Support Systems

This impacts individual, fostering resilience and enhanced opportunities for growth and development. Furthermore, teachers highlight that ICT proficiency varies based on access to resources, training, and school support systems. Some participant said that:

"As a Newly hired teachers evaluate our own proficiency in using Information and Communication Technology (ICT) tools for teaching and learning activities based on several factors, including our past experiences, training, access to resources, and the support that we receive. These self-assessments can vary widely depending on individual confidence levels, familiarity with the tools, and the context of their teaching environment". – Lyn

The participants posit that being a competent in manipulating ICT as newly hired teacher boost their confidence in teaching. It allows them to support themselves to teach effectively and had an engaging lesson or activities to have great learning outcomes. They believe that their competence will help them build a good foundation on the delivery of practices. In order for information and communication technologies to be used effectively in the learning-teaching process, it is evaluated that the level of proficiency perception of teachers using information and communication technologies and their attitudes towards information and communication technologies should be increased positively via training and raising competence of teachers in information and communication technologies.

The concept of competence or self-efficacy constitutes an important part of people's motivation and behavior. According to Bandura (1977), self-efficacy is one's belief in his/her competence in planning and carrying out the forms of movement that one needs to manage future situations. Bandura's (1982) self-efficacy theory is based on the belief that people's beliefs about how successful they can shape a part of their performance and motivation (cited in Arseven, 2016).

Moreover, to Özbey (2010), the attitude towards a subject, an object, or event develops before behavior and is also the pioneer of behavior or performance against them. It occurs before behavior and leads to the emergence of behavior or performance (cited in Kalkan, 2011). It is possible to say that our competency concerning something and attitude directly affects our behavior and performance on that thing. Therefore, as much as the knowledge and skills related to information and communication technologies, the competency perception and attitudes of teachers to use them are also very important.

Role of Prior Teaching and Experience with Information and communication technology (ICT) in Shaping Newly Hired Teachers' Confidence

Theme 7. Confidence through Experience

Confidence is a result of experience. Each Experience, whether successful or not, contributes to skill development. As you gain proficiency in a skill or activity, you naturally feel more confidence in your abilities. The participants expressed that:

"My personal experiences play important role of how I am equipped in manipulating basic ICT in teaching. Using ICT tends to feel more confident in using it for educational purposes". – Nessah

"Teacher who has prior experience using ICT in their personal or professional life tend to feel more confident when integrating ICT in teaching. Even I, my familiarity makes me more likely effective in lesson planning, content delivery and even in my assessment". – Vel

Theme 7.1 Importance of Professional Development

On-going training and exposure help solidify skills and boost self-belief. This program can equip teachers with skills and knowledge needed to take on new challenges and responsibilities. Some participants stated that:

"Prior teaching and experience with ICT connected with the aim in professional development and sustained support, play an important role in shaping newly hired teacher's confidence and proficiency in integrating technology into their education practices". – Joy

"My experience with ICT, combined with exposure to various digital tools, professional development, and comfort with technology, significantly influences my confidence in using technology to enhance my teaching practices. I have had more firsthand experience, exposure to professional development, and access to technology are more confident in my ability to integrate ICT effectively". – Lene

Theme 7.2 Value of Mentorship

This fosters individual and organizational growth by providing guidance, support and knowledge sharing, ultimately leading to

improved skills, career advancement, and a more engaged workforce. Some participant stated that:

"For me, prior teaching experience and familiarity with Information and Communication Technology (ICT) play a crucial role in shaping newly hired teachers' confidence in integrating technology into their teaching practices. Experienced teachers who are comfortable with ICT can serve as mentors, offering guidance and demonstrating how technology can enhance lessons and improve student engagement. Their success in using ICT to address classroom challenges can provide newly hired teachers with practical insights and strategies, helping them overcome initial uncertainties. Additionally, experienced teachers can share troubleshooting tips and recommend useful tools, which reassures new teachers and encourages them to experiment with technology in their own classrooms, ultimately boosting their confidence in using ICT effectively". – April

Theme 7.3 Practical Benefits in the classroom

This enhanced understanding, improved retention, and the development of critical thinking of students' engagement. Access to diverse resources, and improved collaboration. This will be preparing students for a digital future and fostering a more dynamic learning environment. Participants said that:

"Teacher who has prior experience using ICT in their personal or professional life tend to feel more confident when integrating ICT in teaching. Even I, my familiarity makes me more likely effective in lesson planning, content delivery and even in my assessment". – Vel

Theme 7.4 Reducing Anxiety, Fostering Innovation

Familiarity builds confidence and encourages innovation. This creates psychologically safe environment, encourage open communication, embrace diverse perspectives, promote a growth mindset, and empower employees to take risks and learn from failures. The participants expressed that:

"My prior teaching and ICT experience play a crucial role in building my confidence in integrating technology into my teaching practices. Having hands-on experience helps me develop problem-solving skills, adapt more easily, and feel less anxious about using digital tools. Familiarity with ICT allows for smoother integration, encourages innovation, and supports interactive learning, making technology a more effective part of my lessons". – Ana

"Prior teaching experience and familiarity with Information and Communication Technology (ICT) play a crucial role in shaping newly hired teachers' confidence in integrating technology into their teaching practices. Here's how: Enhancing Technological Sel-efficacy, teachers with prior exposure to ICT tools develop confidence in using digital platforms, educational software, and interactive technologies". – Lyn

According to Becta (2004), issuing teachers with their own laptop computer has increased positive attitudes and teachers' confidence in using 'hands-on' experience with ICT for education. Additionally, lack of teacher confidence, several researchers indicate that one problem that prevents teachers from using ICT in their teaching is lack of confidence.

Dawes (2001) sees this as a contextual factor which act as a problem. In addition, Becta (2006), much of the research proposes that this is a major problem to the uptake of ICT by teachers in the classroom. Some studies have investigated the reasons for teachers' lack of confidence with the use of ICT. Furthermore, Underwood (1997) there are many studies which have shown that teachers are "not given to questioning their professional practice" Once they have finished their initial training, they do not expect to need much further training therefore do not take the initiative to improve their practice and learn new skills.

According to Harrison and Rainer (1992) found that participants with negative computer attitudes were less skilled in computer use and were therefore less likely to accept and adapt to technology than those with positive attitudes. Therefore, if teachers want to successfully use technology in their classes, they need to possess positive attitude to use technology. Such attitude is developed when teachers are sufficiently comfortable with technology and are knowledgeable on its use.

Pedagogical or Social Factors That Impact to the Newly Hired Teachers and How They Perceive Their Ability To Use Information and Communication Technology (ICT) Effectively for Educational Purposes

Theme 8. The Influence of Pedagogical Factors on ICT Confidence

The participants posited that teachers who receive structured ICT training, professional development and curriculum-aligned instruction feel more confident in using technology. Those lacking pedagogical training struggle with ICT integration. The participants stated that:

"Some pedagogical and social factors that give impact to the newly hired teachers ability to use ICT effectively are the following: Professional development, Attitudes, Support of their environment and Institutional support and lastly is the students' progress towards the use of ICT". - Joy

"The Pedagogical factors that I experienced such as the alignment of ICT tools with curriculum goals, teaching methods, and the need for differentiation can influence newly hired teachers' confidence in using technology. Social factors, including school culture, peer support, and leadership guidance, also play a key role. A collaborative environment where my colleagues share ICT best practices and

leadership provides ongoing professional development helps me feel more prepared and motivated to integrate ICT into their teaching. Conversely, a lack of support or training can make them feel overwhelmed and less capable of using technology effectively". – April

Theme 8.1 The Role of Social and Institutional Support in ICT Integration

A collaborative environment school environment with strong peer mentorship and leadership guidance enhances teachers' confidence in Information and Communication Technology (ICT) use. Lack of support leads to frustration and reluctance. The participants stated that:

"Both pedagogical and social factors play a significant role in shaping how I perceive my ability to use ICT effectively. With strong pedagogical training, a supportive school culture, and access to resources and collaboration are more likely to feel confident and capable in integrating ICT into my teaching practices. The interaction between these factors can significantly influence my willingness to adopt and successfully use ICT for educational purposes". – Lene

"As a newly hired teacher, my perception of my ability to use ICT effectively is shaped by pedagogical factors such as training, curriculum requirements, and teaching strategies, as well as social factors like mentorship, school culture, student engagement, and parental support. Strong institutional backing and positive classroom experiences boost my confidence, while a lack of training or resources can make ICT integration more challenging". – Ana

Theme 8.2 Teachers' Prior Attitudes and Willingness to Use of ICT

Teachers with a positive mindset toward ICT are more likely to embrace technology, while those who prefer traditional teaching methods may resist it, affecting confidence. Studies consistently demonstrate that positive attitudes towards ICT are strongly associated with higher levels of adoption. Some participants said that:

"I am a strong believer that teacher who uses ICT an enhance students' engagement, improving learning outcomes and it can help in facilitating differentiated instructions. Because teacher who have a more traditional view of teaching may be less inclined to see the value of ICT, it can affect their confidence and willingness to use technology". – Vel

"Lack of training and support, limited access to resources like reliable internet connectivity and school culture like if technology is not valued or supported by administrators, teachers may be less likely to use it. Teachers' perceptions of ICT Effectiveness are often shaped by their experiences and training". – Jacq

Theme 8.3 School Culture and Access to Information and Communication Technology (ICT) Resources Impact Confidence

A non-supportive school culture, lack of ICT resources, and poor technical support discourage teachers from using technology and disable to be a prepared well in the class, whereas access to resources and leadership support increases confidence. ICT resources like computers, tablets, and online platforms can create more engaging and interactive learning experiences, leading to improved understanding and retention of knowledge. Some participants stated that:

"Theres a lots of pedagogical factors and social factors that impact our ability to use ICT effectively for educational purposes. One, classroom management is the factor for me. I have struggled in managing ICT-based lesson from preparation to how you present it while ensuring student remained focused and on task. Second, social factors it includes here the school's full support on every teachers need especially when integrating ICT cause I believe a non-supportive environment can hinder innovation". – Nessah

"Lack of training and support, limited access to resources like reliable internet connectivity and school culture like if technology is not valued or supported by administrators, teachers may be less likely to use it. Teachers' perceptions of ICT Effectiveness are often shaped by their experiences and training". – Jacq

According to the study of Becker & Riel (2000) and William (1993) the relationship between teachers' competency (TC) and teachers' confidence level towards using ICT, the results indicate positive relationship between teacher's competency and teacher's confidence level toward using ICT. This means that the more teachers' competency the more confidence level of them. Also, the high level of confidence results the high level of competency, for example, the teachers who has a high confidence level will be motivated and encouraged to improve their competencies of using ICT, so they will trust that they are able to solve technological problems that faced by them. The development of ICT in education indicates a connection between collaborative learning and ICT. The important role of collaborative learning also comes up in research concerning technology integration.

In addition, Ertmer (1999) describes barriers that a teacher has to overcome when integrating technology into teaching. One of these is teacher's beliefs concerning teaching and learning. The assumption is that integration of ICT into teaching demands teaching and learning methods based on constructivism and collaboration.

According to Koehler, et al. (2006), TPCK should contain a vision about how to combine technology, pedagogy and content to support constructivist learning. Moreover, Ramboll Management (2005) illustrates the current dilemma concerning the pedagogical use of ICT. Even though many teachers have gained more pedagogical knowledge, teachers have increased the use of ICT but only a few have had the goal to integrate ICT in the curriculum. In some cases, the reasons for selecting a technology are affected more by teachers' user skills than by professional considerations

Impact of ICT on Teaching Methodologies and Classroom Management Strategies of Newly Hired Teachers

Theme 9. ICT Enhances student Engagement and Interactive Learning

This strategy provides accessing to diverse resources, promoting active participation, and fostering collaboration through digital tools, ultimately leading to more engaging and effective learning experiences. With the help of ICT Tools like interactive whiteboards, online platforms and multimedia content make learning more dynamic and engaging and make more lesson immersive. Some participants stated that:

"The use of ICT can significantly impact teaching methodologies and classroom management strategies like engaging and interact learning and increased student engagement". – Jacq

"Including ICT in a classroom discussion helps to maintain the attention span of the learners. it also helps to have a more interactive way of learning by giving them the opportunities to used laptop or any other form of instructions that is related to ICT with proper guidance". – Joy

Theme 9.1 ICT Supports Personalized and Student-Centered Learning

The participants posit that by providing access to diverse resources, facilitating flexible learning environments, and enabling personalized feedback and assessment. The teachers can use digital tools to differentiate instruction. The participants shared that:

"The use of ICT significantly impacts the teaching methodologies and classroom management strategies of a newly hired teacher like me by shifting my focus toward more interactive, student-centered learning environments. ICT allows for greater flexibility, engagement, and real-time feedback, but it also requires effective classroom management strategies to ensure that technology is used appropriately. For me, the key to success lies in balancing the opportunities provided by ICT with well-thought-out management practices that ensure a productive and focused classroom environment". – Lene

"Integrating ICT has an important impact on both teaching methodologies and classroom management strategies. As a newly hired teacher I incorporate technology because I believe that it can move toward more interactive student-centered learning, it can also help in fostering greater student engagement and personalized learning experiences". – Vel

Theme 9.2 Information and communication technology (ICT) Reshapes Lesson Planning, Content Delivery, and Digital Assessments

Information and communication technology (ICT) is transforming education by enabling personalized learning, interactive content delivery, and efficient digital assessments, leading to improved students' engagements and learning outcomes. It changes how teachers plan lesson and deliver content. The participants stated that:

"The use of ICT significantly influences the teaching methodologies and classroom management strategies of newly hired teachers. It reshapes how they plan lessons, deliver content, interact with students and maintain classroom discipline". – Anne

"The use of Information and Communication Technology (ICT) can significantly influence both the teaching methodologies and classroom management strategies of newly hired teachers. As a newly hired teachers integrate technology into our classrooms, ICT can reshape the way we deliver lessons, engage with students, and maintain order in the classroom". – Rish

Theme 9.3 Information and Communication Technology (ICT) Role in classroom management: Benefits and challenges

It enhanced engagement, access to information, and improved communication but also presents challenges such as unequal access, potential distractions and the need to for ongoing professional development for educators. It helps in classroom organization, communication, and discipline however, it also requires strategies to maintain focus. The participants shared that:

"The use of ICT significantly impacts the teaching methodologies and classroom management strategies of a newly hired teacher like me by shifting my focus toward more interactive, student-centered learning environments. ICT allows for greater flexibility, engagement, and real-time feedback, but it also requires effective classroom management strategies to ensure that technology is used appropriately. For me, the key to success lies in balancing the opportunities provided by ICT with well-thought-out management practices that ensure a productive and focused classroom environment". – Lene

"ICT impacts my teaching by enabling interactive learning, personalized instruction, and digital assessments. It also helps me manage my classroom more effectively by enhancing student engagement, organizing lessons, and improving communication. However, I also face challenges such as student distractions and troubleshooting technical issues. Overall, ICT modernizes my teaching approach, but it requires me to continuously adapt and develop new strategies". – Ana

Theme 9.4 Barriers and Challenges: Student Distraction and Technical Issues

These challenges include lack of focus, technology accessibility issues, and disruptions due to unreliable equipment or internet connectivity. Despite these benefits, ICT introduces challenges such the need for troubleshooting technical problems. Some of participant said that:

"ICT impacts my teaching by enabling interactive learning, personalized instruction, and digital assessments. It also helps me manage my classroom more effectively by enhancing student engagement, organizing lessons, and improving communication. However, I also face challenges such as student distractions and troubleshooting technical issues. Overall, ICT modernizes my teaching approach, but it requires me to continuously adapt and develop new strategies". – Ana

The UNESCO (2005) study 'Information and Communication Technologies in schools: a handbook for teachers or how information and communication technology (ICT) Can Create New, and providing Environments', is one of a number of publications describing how ICT potentially offers numerous advantages and provides opportunities for facilitating learning for children who have different learning styles and abilities, including slow learners, the socially disadvantaged, the mentally and physically handicapped, the talented, and those living in remote rural areas; making learning more effective, involving more senses in a multimedia context and more connections in a hypermedia context; and providing a broader international context for approaching problems as well as being more sensitive response to local needs.

Moreover, Jonassen, Peck and Wilson (1996) that the utilization of information and communication technology (ICT) by students for educational purposes get immersed in the learning process. The numbers of students utilizing the computer to source out information are numerous. The application of information and communication technology (ICT) in teaching and learning is imperative because it will not only improve the teaching environment but also help the next generation build their future lives and careers (Wheeler, 2001).

ICT Integration Influences Teaching Methodologies of Newly Hired Teachers

Theme 10. Enhancing Student Engagement and Classroom Interactivity

This approach focusses on personalized learning, interactive activities, technology integration and fostering a positive learning environment that encourages collaboration and critical thinking. ICT transforms traditional teaching by making lesson more interactive and engaging. Digital tools help maintain student attention and promote active participation. The participants stated that:

"Integrating ICT in classroom has a big impact in classroom setting in a way that more learners or pupils were more engage in classroom discussions, providing them more realistic examples". – Joy

"The integration of ICT influences the teaching methodologies adopted by newly hired teachers, creating a shift from traditional to more dynamic and engaging approaches. The ICT tools enhanced engagement and interactivity that transform the classroom into a more interactive learning environment and allows to cater diverse learning styles and needs of the learners". – Jacq

Theme 10.1 Encouraging student-centered and Dynamic Teaching Approaches

This approach focuses on active learning, project-based learning, inquiry-based learning and flipped classrooms while also incorporating technology and fostering collaboration and student voice. Information and communication technology (ICT) shifts the focus from teacher-lead instruction to student-driven learning. Teachers can adapt lessons to student needs and promote critical thinking and collaboration. Some participant stated that:

"Integration of ICT in the classroom has an important impact on the teaching methodologies. Technology enables us to create more dynamic, student-centered learning environments that encourage activity participation, collaboration and critical thinking. As a new teacher it helps also to foster the development of essential 21st century skills of students. I also exploring and adopt ICT to refine my teaching methods to engage with my student for better learning outcomes". – Vel

"ICT encourages active learning, where students engage with digital tools rather than passively receiving information. ICT integration empowers newly hired teachers to adopt innovative, flexible and student driven methodologies". – Anne

Theme 10.2 Information and Communication Technology (ICT) Facilitates Collaboration and Digital Communication

Digital tools allow teachers to encourage teamwork and knowledge sharing among students by using online platforms for discussions, projects, shared documents and communication. It also provides various channels for communication, including email and instant messaging. The participant said that:

"As a newly hired teacher, integrating Information and Communication Technology (ICT) influences my teaching methodologies by promoting a more interactive, student-centered approach. ICT tools enable me to incorporate multimedia, educational apps, and online resources that cater to diverse learning styles, making lessons more engaging and accessible. I can facilitate collaborative learning by using digital platforms where students can work together on projects, participate in discussions, and access learning materials outside of class. Additionally, ICT allows for real-time assessment and feedback, helping me adjust my teaching based on students' progress. By using technology, I am able to create a more flexible, personalized learning environment that encourages active participation, critical thinking, and problem-solving". – April

Theme 10.3 Information and communication technology (ICT) Improves lesson planning, content delivery and assessment methods

Information and communication technology (ICT) reshapes how teachers design and deliver lessons. it also introduces real-time assessment tools that allow teachers to track student progress effectively. Some participants stated that:

"Integrating ICT has transformed my teaching methodologies by encouraging interactive and student-centered learning. I use multimedia, gamification, and online tools to engage students more effectively. Additionally, ICT supports differentiated instruction and data-driven assessments, allowing me to personalize learning based on students' needs and progress". – Ana

"The use of Information and Communication Technology (ICT) significantly influences the teaching methodologies adopted by newly hired teachers in their classrooms. As new teachers integrate technology into their practice, it reshapes their instructional strategies, classroom management, and overall approach to teaching and learning". – Rish

Theme 10.4 Blended Learning and Gamification in ICT-based Classrooms

This approach enhances engagement and learning objectives by incorporating games like points, badges and leaderboards into traditional and digital learning activities. Accordingly, newly hired teachers adopt these strategies to enhance student motivation and participation. The participants said that:

"Integrating ICT has transformed my teaching methodologies by encouraging interactive and student-centered learning. I use multimedia, gamification, and online tools to engage students more effectively. Additionally, ICT supports differentiated instruction and data-driven assessments, allowing me to personalize learning based on students' needs and progress". – Ana

"The integration of Information and Communication Technology (ICT) significantly influences the teaching methodologies adopted by newly hired teachers in several ways: Enhancing Interactive Learning, adoption of blended learning approaches, facilitating personalized learning, encouraging collaborative learning and improving classroom management or organization". – Lyn

Teachers' computer experience relates positively to their computer attitudes. According to Rozell & Gardner (1999) the more experience teachers have with computers, the more likely that they will show positive attitudes towards computers.

Moreover, ICT integration can facilitate a shift from traditional teacher-centered approaches to more learner-centered methodologies, such as inquiry-based learning and collaborative projects (Mumba & Banda, 2018).

Teachers can utilize online platforms and tools to create interactive learning experiences, foster critical thinking, and encourage learner centered learning.

For teachers, ICT can also streamline administrative tasks, enhance lesson planning and delivery, and provide opportunities for professional development. Above all the utilization of ICT tools reduces teacher workload.

Finally, Toro et al. (2018) stated that learning is more productive when students are engaged in a dynamic learning environment. This also is applied for the virtual class modality; a dynamic learning environment should include a student's learning perspective directed towards communicative learning.

Impact of Information and Communication Technology (ICT) on classroom Management Strategies of Newly Hired Teachers

Theme 11. Information and Communication Technology (ICT) Enhances student Engagement and Active Participation

By providing the needs of teachers in hooking the students. Teachers use information and communication technology (ICT) to increase student engagement through interactive tools, multimedia, and collaborative experiences. The participants stated that:

"ICT brought teachers to enable to create better learning environment for learners, making it easy for us to grasp complex concepts and ideas. In terms of maintaining student engagement and discipline ICT is a big help for me". – Nessah

"Using ICT in my classroom can help boost students' engagement and make managing discipline easier. This reduces off-task behavior and help maintain a positive organized learning environment". -Vel

Theme 11.1 Information and Communication Technology (ICT) Helps Structure Classroom Management through LMS and Digital Tools

It increased the student engagement and Information and Communication Technology (ICT) organizes classroom activities, tracks students\ progress, and allows for structured learning experiences. Some participants said that:

"The use of ICT helps me to enhance student engagement by making lessons more interactive, personalized, and collaborative. It also supports classroom management by enabling real-time monitoring, promoting positive reinforcement, and providing tools for structured, focused learning. However, I must also balance the opportunities that ICT offers with the need to manage potential distractions and set clear boundaries for technology use. With proper planning, clear expectations, and the right tools, ICT can significantly improve both classroom management and student learning experiences". – Lene

"ICT helps me maintain student engagement by using interactive digital tools, multimedia, and online platforms. Learning management systems (LMS) help organize lessons and track student progress, while self-paced learning encourages independent study and minimizes disruptions. However, ICT also presents challenges, such as distractions from social media and off-task behavior, requiring me to establish clear guidelines and digital discipline strategies to keep students focused". – Ana

Theme 11.2 Information and Communication Technology (ICT) Requires Clear Rules and Digital Discipline Strategies

To ensure responsible and beneficial engagement, to prevent distractions and misuse of technology, teachers need to implement structured rules and guidelines. The participants stated that:

"As a teacher, providing them rules and regulation before starting the class is must with proper guidance and discipline. I don't think ICT could be hindrance to have a more effective classroom management".-Joy

"ICT helps me maintain student engagement by using interactive digital tools, multimedia, and online platforms. Learning management systems (LMS) help organize lessons and track student progress, while self-paced learning encourages independent study and minimizes disruptions. However, ICT also presents challenges, such as distractions from social media and off-task behavior, requiring me to establish clear guidelines and digital discipline strategies to keep students focused". – Ana

Theme 11.3 Challenges of Information and Communication Technology (ICT) Discipline and Focus Management

This challenge includes the lack of resources, infrastructure, teacher training, and digital equity, as well as issues like technical support. Despite its benefits, Information and communication technology (ICT) can lead to distractions, off-task behavior and the need for strict monitoring. Some participants said that:

"As newly hired teachers the integration of Information and Communication Technology (ICT) into the classroom significantly influences the classroom management strategies of newly hired teachers, particularly in terms of maintaining student engagement and discipline. While ICT offers numerous opportunities to enhance student learning, it also requires new teachers to adapt their classroom management approaches to ensure that technology enhances, rather than disrupts, the learning environment". – Rish

"The use of ICT significantly impacts classroom management strategies for newly hired teachers, particularly in maintaining students' engagement and ICT. While ICT can enhance motivation and streamline classrooms procedures. It also presents challenges that requires strategic management". – Anne

According to Chembe, Nasilele, and Msendo (2023) the integration of Information and Communication Technologies (ICT) into education has significantly transformed traditional teaching and learning practices. It suggests that technology can significantly impact the education sector. By leveraging ICT tools, educators can create dynamic and engaging learning environments that cater to diverse learner needs (Anastasopoulou et al., 2024).

However, to maximize their potential, it is essential to consider factors such as teacher training, infrastructure, and curriculum development (Johnson et al., 2016; Kalyani, 2024). Therefore, newly hired teachers are more capable in creating an engaging and great learning outcome if they had enough proper trainings and seminars that give a big impact on making their strategies in applying to the students.

Moreover, these methodologies and strategies helped 21st century teachers create more innovation methods to have great learning outcomes. Nonetheless, Belay, et al. (2020) stated that teachers should learn not only how to use technology to enhance traditional teaching or increase productivity but also should learn from a student-centered perspective how Information and communication technology (ICT) can be integrated into classroom activities in order to promote student learning.

Newly hired Teachers' Lived Experiences with Information and Communication Technology and Their Reflection of Broader Educational Technology Trends

Theme 12. Institutional Support and Digital Readiness Shape Information and Communication Technology Adoption

A preparedness to adopt and implement digital technologies, focusing on foundational infrastructure, skills and tools needed for digital Transformation.

Schools with strong digital infrastructure enable better Information and communication technology (ICT) integration, while resources create challenges. Some participants stated that:

"The lived experiences of newly hired teachers with Information and Communication Technology (ICT) provide valuable insights into broader trends in educational technology adoption within their schools. These experiences reflect systemic factors, institutional priorities. Some ways in which their experiences align with broader trends, school infrastructure and digital readiness, professional development and support and pedagogical shifts and blended learning". – Lyn

"ICT reflect broader trends in educational technology, but these trends are adapted and shaped by the specific context of the school. Factors such as resources, training and school culture play a significant role in determining how ICT is integrated and utilized in the classroom". – Jacq

Theme 12.1 Blended Learning and Digital Transformation Trends

These learning can increased incorporation of educational technology innovations such as mobile learning, virtual classrooms and webinars. Newly hired teachers see a growing trend of blended learning and e-learning platforms, digital assessments and collaborative

tools are becoming standard in many schools. The participants expressed that:

"My experiences with ICT reflect broader educational technology trends in my school, including institutional support, technology accessibility, and training quality. Schools with strong ICT programs make it easier for me to integrate digital tools, while those with limited resources create challenges. The rise of blended learning and e-learning platforms also influences my teaching practices. However, gaps between policies and real-world implementation, such as inadequate technical support or unequal student access, highlight areas where ICT adoption can be". – Ana

"As a newly hired teacher, my lived experiences with Information and Communication Technology (ICT) reflect broader trends in educational technology adoption within my school, particularly the shift toward more digital and interactive learning environments. Like many schools, there's an increasing emphasis on integrating ICT tools such as learning management systems (LMS), digital assessments, and collaborative platforms into daily teaching practices. My experiences align with this trend as I use these technologies to enhance student engagement, offer personalized learning opportunities, and streamline communication and feedback". – April

Theme 12.2 Pedagogical shifts Towards Student-centered and Interactive Learning

This pedagogy emphasizes active student engagement and collaboration, moving away from traditional teacher-centered instruction. This approach aims to foster deeper learning, critical thinking, and real-world skills through interactive activities and student-led exploration. Some participants said that:

"As I use digital tools for teaching and assessment. I notice a shift towards more student-centered. It emphasizes an interactive learning". – Vel

"Actually during my pre-service teaching days I can say that ICT has indeed reflect broader trends particularly in terms of integrating of technology to enhance learning". – Nessah

Theme 12.3 The Role of Training and Professional Development in Information and Communication Technology (ICT) Implementation

This equips educators with the necessary skills and knowledge to effectively integrate technology into teaching practices, enhancing student engagement and learning outcomes. With the proper training empowers teachers to confidently and effectively use technology as a tool for teaching and learning. The participants stated that:

"Their experiences highlight how well a school has embraced digital transformation, the effectiveness of ICT training are directly linked to the availability and quality of edtech resources in their school. Schools with strong ICT integration provide modern devices and high-speed internet, allowing teachers to effectively use technology". – Anne

"My experiences as a newly hired teacher with ICT often reflect the broader trends in educational technology adoption within my school, including access to resources, professional development opportunities, collaborative culture, and pedagogical shifts. In our school where ICT is integrated effectively and supported by strong leadership, I am more likely to feel more confident and empowered in using technology to enhance student learning". – Lene

Theme 12.4 Challenges in Information and Communication Technology (ICT) Adoption: Gaps in Implementation and Unequal Access

While schools are pushing for Information and Communication Technology (ICT) integration, many face challenges as lack of resources, technical support and policy gaps. Some participant expressed that:

"My experiences with ICT reflect broader educational technology trends in my school, including institutional support, technology accessibility, and training quality. Schools with strong ICT programs make it easier for me to integrate digital tools, while those with limited resources create challenges. The rise of blended learning and e-learning platforms also influences my teaching practices. However, gaps between policies and real-world implementation, such as inadequate technical support or unequal student access, highlight areas where ICT adoption can be". – Ana

According to Leithwood and Seashore Louis (2011) showed that the practices of distributed and instructional leadership, along with teacher confidence in school leaders, were associated with improvements in school outcomes.

Moreover, Harris (2008) studied distributed leadership as well and found a positive relationship between distributed leadership and organizational change. Distributed leadership was associated with horizontal structures and moving beyond the one individual to a broader conceptualization of shared leadership practices in schools.

In addition, (Taplin et al., 2013) digitalization, as the result of the application of digital innovations, includes a broad range of digital devices, platforms, and infrastructural technologies.

The intent of digitalization in higher education in most cases is to increase the scalability of educational processes, establish flexibility in learners' access to instruction, and reduce the costs of instruction.

Successes Experienced by Newly Hired Teachers with Information and Communication Technology (ICT) and Their Reflection of Broader Technology Adoption Trends

Theme: 13. Institutional Support and Leadership Influence Information and Communication Technology (ICT) Success

Its pervasive impact on daily life, shaping communication. Teachers succeed in Information and Communication Technology (ICT) adoption when school leadership prioritizes technology, provides training, and fosters a supportive culture. The participants stated that:

"The successes faced by newly hired teachers with ICT often mirror broader trends in technology adoption and support within their school environments. When new teachers experience success in integrating Information and Communication Technology (ICT) into their teaching practices, these successes are typically reflective of the school's overall commitment to technological integration, professional development, resources, and administrative support". – Rish

"ICT mirror the broader trends in technology adoption and support within the school environments. Schools that prioritize ICT integration, provide training and support and foster a collaborative culture to see teachers thrive in a technologically driven learning environment". – Nessah

Theme 13.1 Access to resources and Training Shapes Information and communication Technology (ICT) Adoption

It's an online flatforms, local organizations, and educational institutions, offering a range of learning materials and skill-building. In addition, Successful Information and communication technology (ICT) integration depends on the availability of high-quality digital tools and structured training programs. The participants stated that:

"My success with ICT reflects broader school trends in technology accessibility, training quality, and institutional support. Schools with strong ICT programs and adequate resources help me feel more confident in integrating technology, while those with limited support and training make the process more challenging". – Ana

"Their ability to effectively integrate ICT depends on infrastructure, training, leadership, support, and school culture with reflect wider institutional approaches to educational technology adoption". – Anne

Theme 13.2 Blended learning and digital transformation as a school-wide trend

Newly hired teachers see an increasing reliance on digital tools, learning management system (LMS) and e-learning platforms, which aligns with broader trends in education. Some participants said that:

"As I incorporate digital tools for teaching, I see the school pushing for more technology integration". – Vel

"As a newly hired teacher, my successes with Information and Communication Technology (ICT) reflect broader trends in technology adoption and support within the school environment in several ways. The increasing reliance on digital tools such as learning management systems (LMS), educational apps, and interactive platforms mirrors the school's push toward modernizing teaching methods and integrating technology across curricula. My ability to effectively use these tools is supported by the school's efforts to provide professional development and ongoing training, aligning with broader trends where schools prioritize upskilling teachers in ICT". – April

Theme 13.3 School Culture and Collaboration Facilitate Information and Communication Technology Success

This values and embraces technology integration, coupled with strong collaboration among teachers and staff. Teachers feel supported and encouraged to explore innovative teaching methods using Information and communication technology (ICT), leading to greater engagement and effectiveness. The participants stated that:

"ICT mirror the broader trends in technology adoption and support within the school environments. Schools that prioritize ICT integration, provide training and support and foster a collaborative culture to see teachers thrive in a technologically driven learning environment". – Nessah

"Success newly hired teachers experience with Information and Communication Technology (ICT) often mirrors broader trends in technology adoption and support in several keyways: access to resources and infrastructure, training and professional development, support system and collaboration and user adoption and resistance to change". – Lyn

Theme 13.4 Challenges in Information and communication Technology (ICT) Adoption: Infrastructure to Change

In many areas, particularly rural or developing regions, access to reliable and affordable internet and Information and communication Technology infrastructure is limited. In addition, despite progress, some teachers still struggle infrastructure, policy gaps and teacher resistance to technology adoption. Some participants expressed that:

"ICT mirror the broader trends in technology adoption and support within the school environments. Schools that prioritize ICT integration, provide training and support and foster a collaborative culture to see teachers thrive in a technologically driven learning environment". – Jacq

"Success newly hired teachers experience with Information and Communication Technology (ICT) often mirrors broader trends in technology adoption and support in several keyways: access to resources and infrastructure, training and professional development, support system and collaboration and user adoption and resistance to change". – Lyn

According to Bower (2001), administrative support is a significant factor which is thought to have a big effect on professors' attitudes toward the use of computer technology for teaching purposes. Institutional support such as incentives for teachers is significant to the effective adoption of computer technologies into education. Institutional encouragement incorporates also helping teachers to develop the ability to access the Internet and other computer accessories such as the data projector, printer, digital camera and the scanner.

Moreover, Bailey & Lumley (1997) reported that effective administrators are those who firmly believe that computer technology is an efficient instrument which is expected to change the traditional methods that were used to teach students. However, though the participants expressed their ideas it does not mean that the school nor the administrator do not let the newbie to explore but they allow their newly hired teachers to attend trainings and seek professional development.

Newly Hired Teachers' Experiences with Information and communication technology (ICT) and the adjustment between school policies and practical Technology Integration Needs

Theme 14. Teacher Feedback Plays a Critical Role in Refining Information and communication Technology Policies

Schools should incorporate teacher feedback when developing Information and communication technology (ICT) policies. Feedback helps teachers identify areas where they excel and areas that need refinement, fostering continuous improvement and better teaching methodologies. The participants stated that:

"ICT usage provides valuable feedback for schools to refine their policies and practices. By understanding the challenges and opportunities they face schools can create a more supportive environment for technology integration, ensuring that policies are aligned with the practical needs of teachers". – Nessah

"My experiences with ICT usage are crucial in highlighting how well school policies match the practical needs of technology integration in the classroom. Feedback helps identify gaps in resources, infrastructure, training, and support systems, which can lead to policy revisions that make technology integration more effective. The success of ICT integration depends on aligning policies with real classroom needs, providing ongoing professional development, ensuring equitable access to resources, and fostering a culture of support for both teachers and students". – Lene

Theme 14.1 Mismatch between Information and Communication Technology (ICT) Policies and Real-world Classroom Challenges

Despite school policies promoting Information and communication technology (ICT), teachers often face barriers such as unreliable internet, lack of technical support, and insufficient resources. The participants stated that:

"As a newly hired teacher, assigned in rural area my experiences with Information and Communication Technology (ICT) usage contribute to understanding the adjustment between school policies and the practical needs of technology integration by highlighting the challenges and gaps between institutional goals and classroom realities. For example, while my school policies may emphasize the use of digital tools, I may face difficulties with inconsistent access to technology or limited technical support and limited access of internet which can hinder effective implementation. My feedback on these issues, such as the need for more accessible professional development or better infrastructure, helps school leaders adjust policies to be more aligned with the actual needs of teachers and students. This ensures that technology integration is not only a policy goal but also a practical, sustainable tool for enhancing teaching and learning". – April

"My experiences with ICT highlight the gap between school policies and real classroom needs. Challenges such as limited technical support, unequal student access, and outdated training make it difficult to fully implement ICT. These experiences emphasize the need for more hands-on training, updated resources, and better alignment between policies and practical teaching requirements". – Ana

Theme 14.2 The Need for Professional Development and Hands-on Information and communication Technology (ICT) Training

This will enhance their skills, stay updated with the best practices and improve student outcomes. In addition, teachers require ongoing Information and Communication Technology (ICT) Training and mentorship to effectively integrate technology into their classrooms. Some participants expressed that:

"My experiences with ICT usage are crucial in highlighting how well school policies match the practical needs of technology integration in the classroom. Feedback helps identify gaps in resources, infrastructure, training, and support systems, which can lead to policy revisions that make technology integration more effective. The success of ICT integration depends on aligning policies with real classroom needs, providing ongoing professional development, ensuring equitable access to resources, and fostering a culture of support for both teachers and students". – Lene

"ICT mirror the broader trends in technology adoption and support within the school environments. Schools that prioritize ICT integration, provide training and support and foster a collaborative culture to see teachers thrive in a technologically driven learning environment". – Jacq

Theme 14.3 Challenges in Information and communication technology (ICT) Integration: Infrastructure, support and resource gaps

These gaps include limited access to technology and internet, insufficient training for teachers and students, lack of resources by these gaps many teachers struggle with outdated resources and unequal student access to technology. Some participant stated that:

"My experiences with ICT highlight the gap between school policies and real classroom needs. Challenges such as limited technical support, unequal student access, and outdated training make it difficult to fully implement ICT. These experiences emphasize the need for more hands-on training, updated resources, and better alignment between policies and practical teaching requirements". – Ana

"Newly hired teachers' experiences with ICT usage provide valuable insights into how well school policies align with the practical realities of technology integration in education. Their firsthand experience, challenges and success highlights gaps between institutional expectations and real word classroom needs contributing to a deeper understanding". – Anne

Theme 14.4 School Leadership and Institutional Support Influence Information and communication Technology (ICT) Success

School leaders must articulate a clear vision and direction for the school, setting high expectations for both staff and students, and fostering a sense of purpose and shared goals. Some participant stated that:

"Newly hired teachers' experiences with Information and Communication Technology (ICT) usage offer valuable insights into how school policies align—or fail to align—with the practical needs of technology integration. Here are some keyways their experiences contribute to this understanding: bridging the gap between policy and practice. Newly hired teachers often enter schools with varying levels of ICT proficiency and expectations. Identifying training and support gaps, adapting to diverse student needs". – Lyn

According to (Becta, 2003) Issuing teachers with their own laptop computer has increased positive attitudes and teachers' confidence in using 'hands-on' experience with ICT for education. Furthermore, Sammons (1994) teachers not only need to be professionally supported, but emotionally as well. By giving them managerial and peer support for their effort of technology integration in instruction, and by giving them their due recognition by praising them for their work, teachers will be more motivated and willing to further explore the pedagogical potential of technology-based classroom instruction.

A staff-appraisal scheme can be developed and implemented to reward teachers according to their effort, dedication and success in applying technology to enhance the learning environment. Moreover, equipping schools with computers can be very expensive for many developing countries. Although computers have become cheaper in recent years, they still remain expensive and unaffordable to many.

However, in the face of change and the shift towards technology integration in schools, developing countries must start equipping schools with computers. To address these barriers, Yildirim (2007) suggested that schools need to provide appropriate access to technology. Furthermore, schools and related institutional systems need to employ new policies to involve teachers in the decision-making and planning processes regarding Information and Communication Technology (ICT) in their classroom.

In addition, provide effective, timely and continuous training to improve ICT skills and manage a technology-rich classroom (Hutchison, Reinking 2011). Moreover, provide workshops that allow teachers to reflect upon effective strategies for technology integration into instruction and unveil issues that are central to understanding the process of technology integration into instruction (Al mekhlafi and Almeqdadi 2010).

Conclusions

This study highlights the complex yet resilient experiences of newly hired teachers as they navigate the challenges of integrating Information and Communication Technology (ICT) into their teaching practices. Despite limitations such as inadequate access to technology, internet connectivity, and lack of technical support, these teachers exhibit remarkable determination and adaptability, using ICT to foster engaging and innovative learning experiences. Their struggles are not only shaped by professional readiness but also by insufficient exposure to ICT training and support systems. As a result, it is recommended that schools and educational institutions provide targeted ICT-focused professional development, including regular workshops, hands-on training, and mentoring. Support from administrators and community involvement should be strengthened to address technical and resource-related barriers. Additionally, pre-service education programs should embed ICT integration strategies to ensure future teachers are equipped with essential 21st-century teaching competencies from the outset.

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