**Teachers’ Perceptions about the Contribution of ICT During Classroom Teaching at Secondary Level**

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**IN THE NAME OF ALLAH ALMIGHTY**

**THE COMPATIONATE, THE MECIFUL all the praises and thanks for ALLAH ALMIGHTY, The source of all the wisdom and knowledge endowed to mankind, whose guide us in the darkness and helps in difficulties and all respects are for His Last Holy Prophet HAZRAT MUHAMMAD ( Peace Be Upon Him).**

**DECLARATION FORM**

**Asad Masih, Hira Tariq** and **Aneela Shehzadi** declared that this thesis entitled **“Teachers’ perception about the contribution of ICT during classroom teaching at secondary level”** is our genuine work that has never previously been submitted before, either in whole or in part, for a reward.

**Signature of Students**: **dated:**

**We are approved that the above-mentioned thesis may now be submitted for review.**

**Signature of Supervisor Dated**

**CERTIFICATE**

This is a certification of the research stated in the thesis submitted **Asad Masih, Hira Tariq** and **Aneela Shehzadi** roll **no 0058, 0050** and **0046** respectively to the **Department of Education, University Of Narowal** has been carried out under direct supervision. We personally reviewed the raw data and attested to the accuracy and reliability of the results shown here. We additionally attest that the thesis data have not been used in whole or in part in a document that has previously been submitted or that is now being submitted in order to partially fulfill the requirements for the award of any degree from another institution, domestically or internationally. We further certify that the enclosed text was completed under my direction and that I support its development towards the award of a BS degree in accordance with the established University procedures.

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**DEPARTMENT OF EDUCATION**

**UNIVERSITY OF NAROWAL**

**DADICATION**

We dedicate this humble effort to my beloved parents

**ACKNOWLEDGE**

**“In the name of Allah, the Most Grateful, The Most Merciful, The One Who Created Everything.”**

We are thankful to **ALLAH ALMIGHTY** for showing His blessings on us from the beginning of our life till now and for providing us the opportunity to successfully accomplish this project. Next, we are indebted to acknowledge **HAZRAT MUHAMMAD (Peace Be Upon Him)** whose teachings and blessings enlightened our life through thick and thin. We are also thankful to our supervisor **Dr. Bilkees Khanum** who has always provided us guidance for the completion and presentation this research work. And we are also thankful to our parents, teachers and friends, whose support and encourage us in the completion of this research work.

ABSTRACT

In a time when technology is rapidly advancing, the use of information and communication technology (ICT) in education has grown in popularity. The aim of this study was to investigate how secondary school educators perceive the function of ICT in the teaching environment. This study examined how secondary-level educators view the role of ICT tools like interactive whiteboards, digital learning platforms, and educational applications in their instructional strategies by using a qualitative approach that include interviews. This study tries to clarify the complex interplay between technology and pedagogy by exploring the motives, difficulties, and methods they used when integrating ICT. The study sheds insight on the elements that influence teachers' opinions of the usefulness of ICT in boosting student engagement, material delivery, and overall learning outcomes through thematic analysis, which exposes patterns and differences in instructors' perceptions. The results provide information on how much teachers' professional backgrounds, technological skills, and institutional support affect how they integrate ICT. The conclusions drawn from this study have consequences for curriculum design, teacher preparation programs, and educational policy. They also provide suggestions for encouraging a more successful ICT integration that meets the various demands of student and teachers in the modern digital era. In the end, this study broadens our understanding of the intricate relationships between technology and education, opening the door to strategic decisions and tactics targeted at enhancing teaching and learning in secondary school setting.

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# **CHAPTER 1**

## INTRODUCTION

Information and communication technology are prevalent in this period. ICT must be implemented in the education sector if it is to remain relevant in the modern era. Using ICT in the classroom can improve the quality of both teaching and learning. ICT use in the classroom can enhance teachers' performance. Similar to this, ICT can help children study more effectively.

According to Sharp (2009), the importance of ICT for high-caliber performance cannot be understated anywhere in the globe. According to Zhang and Aikman (2007), ICT is now an essential component of the majority of businesses and industries. As a result, incorporating technology into the classroom is crucial for improving student and teacher performance. In order to achieve educational goals and objectives in the digital age, schools urgently need to make sure that their teachers are equipped to incorporate technology into the curriculum. Therefore, research studies concentrating on pre-service teachers' motivation to employ technology with other courses must be conducted throughout the pre-service teachers' training stage. the currently used ICTs in teacher education practices. Additionally, it is important to guarantee that they have pedagogical and technological experiences to make their future teaching effective.The relationship between pre- and in-service teachers' attitudes and their actual usage of digital technology has been the subject of numerous research (Drossel et al., 2017; Ozer, 2018).

Steiner and Mendelovitch (2016) conducted a study on science teachers and came to the conclusion that the teachers found ICT integration to be helpful in encouraging students' focus and active learning. In addition, it met all the students' needs because the tools could be adjusted simultaneously to match the pace, ability level, and needs of the learners.They also discovered that these teachers are using ICT as a tool to enhance their instruction. In their 2015 study on the effects of ICT on learners, Kreutz and Rhodin discovered that computers can make learning more engaging by fostering students' motivation, curiosity, development, and individualized learning. Computer utilization is directly related to the use of ICT in education and internet. Because of this, computers and the internet are regarded as crucial components in the development of ICT use (Budiman, 2012).

Computers are valuable electronic tools for teachers to develop lesson plans using Microsoft Office (Word, Excel, and PowerPoint), but they are also useful for communication, according to Rahim (2011). ICT is now frequently employed to increase the effectiveness and efficiency of the learning process because it has been demonstrated to be a learning medium.The traditional teaching-learning process has evolved as a result of the rising use of information and communication technologies (ICTs) in education.

Many educational institutions in the twenty-first century employ ICTs to impart knowledge and skills to students. ICT use as a teaching tool has a number of advantages. With the use of ICTs, students can more easily locate trustworthy material and visualize conceptual ideas (Qing, 2007). ICTs could be used to search.

Due to the increased use of information and communication technologies (ICTs) in education, the conventional teaching-learning process has changed. Many educational institutions in the twenty-first century employ ICTs to impart knowledge and skills to students. ICT use as a teaching tool has a number of advantagesICTs facilitate the visualization of conceptual ideas in students and make it simple to locate trustworthy material (Qing, 2007). ICTs could be used to find

Every element of human life, including how we work, play, live, and learn, has undergone significant change since the birth of the digital age. In many countries, the use of ICT in and for education is expanding swiftly, and it is increasingly acknowledged on a worldwide level as a necessity and an opportunity for enhancing and updating the education delivered to citizens around the world (UNESCO, 2006). Information and communication technology is actually considered to be "one of the building blocks of modern society," and is one of the criteria that should be used to assess a society, according to UNESCO (2002). Every element of human life, including how we work, play, live, and learn, has changed significantly with the advent of the digital age.ICT use in and for education is growing quickly in many nations, and it is becoming recognized on a global scale as a necessity and an opportunity for enhancing and upgrading the education provided to citizens around the world (UNESCO, 2006).

Information and communication technology is actually considered to be "one of the building blocks of modern society" and is one of the metrics that should be used to gauge a society's development, according to UNESCO (2002). Many nations today view the development of ICT skills as a crucial component of their "core education, alongside reading, writing, and numeracy" (UNESCO, 2002).

Dutch government policy, according to Coskun & Kinnisnet (2010), has been focused on the "optimal integration of ICT in innovative learning processes." The usage of digital learning environments in Dutch schools is rising as a result of these and other efforts. The Norwegian government has added digital literacy, along with oral competency, as one of the five core abilities in its new national curriculum, in addition to math, writing, and reading. Additionally, it has established a distinct body to manage the government's ICT strategy and monitor the use of ICT in education.

According to Coskun & Kinnisnet (2010), Dutch government policy has been centered on the "optimal integration of ICT in innovative learning processes." As a result of these and other initiatives, the use of digital learning environments in Dutch schools is increasing. The Norwegian government has classified digital literacy as one of the five essential abilities in its new national curriculum, along with oral proficiency, reading, writing, math, and writing proficiency. In addition, it has created a separate organization to oversee the application of ICT in education and carry out the government's ICT strategy.

The Division for Children, Schools, and Families (DCSF) revealed its "e-strategy" in 2005 to modernize education and provide a more personalised approach. The curriculum needed to be rearranged to reflect the impact of technology on society and the nature of the workforce in the future. In the end, the strategy was improved into the 2009–12 strategic plan, "Harnessing Technology for Next Generation Learning," with the goal of ensuring that every child learnt how to use technology effectively and ethically. Brown, Pittard, and Dykes (2010). ICT skill development is now seen by many countries as an essential part of their "core education, alongside reading, writing, and numeracy" (UNESCO, 2002).

The Dakar Framework for Action (April 2000) urged all nations to use contemporary information and communication technologies to aid them in achieving these goals and acknowledged the use of ICT as one of the primary goals for putting into practice the global declaration of Education for All adopted at Jomtein in 1990. ICT may aid in the worldwide expansion of education, it was acknowledged and recognized at the G8 Heads of State meeting.

In recent years, there has been a lot of interest in how information and communication technology (ICT) is being used in education. With the development of technology, it is more important than ever to look into how teachers interpret and use ICT resources in their classrooms. This thesis seeks to examine the attitudes of Pakistani secondary school teachers toward the use of ICT in the classroom.

Understanding teachers' opinions on ICT is important because it can affect how well technology is integrated into the classroom and, in turn, how well students learn. This study will shed important light on the potential and problems that instructors have when integrating ICT into their teaching methods by evaluating the Pakistani setting. This thesis will investigate the research on teachers' perceptions of ICT in education, both globally and within the Pakistani context, through a thorough literature review. It will also explore the elements, such as training, experience, and accessibility to technological resources, that affect teachers' views about ICT.

The overall goal of this thesis is to provide insight into secondary-level teachers' perspectives in Pakistan on the usage of ICT in the classroom. Understanding their viewpoints will help us improve the efficient use of technology in the classroom and, in turn, enhance students' educational experiences in Pakistan. The overall goal of this thesis is to provide insight into secondary level teachers' perspectives in Pakistan on the usage of ICT in the classroom. Understanding their viewpoints will help us improve the efficient use of technology in the classroom and, in turn, enhance students' educational experiences in Pakistan. As was said during the Hwa Chong Education Conference in March 2010, advances in ICT have created exciting new opportunities for instructional methods that will aid teachers in successfully engaging and thrilling students. Grace Fu, Senior Minister of State for Singapore, underlined that maximizing the potential of ICT requires more than just making infrastructure investments and establishing effective ICT integration into educational activities. ICT may be a potent learning tool in addition to being utilized to widen our kids' horizons in their academic pursuits.

This study looked at how Pakistani secondary school teachers feel about using ICT in the classroom. Like many other developing countries, Pakistan has been attempting to integrate ICT into its educational system in order to reduce the digital divide and improve educational achievements. Understanding the perspectives of the instructors in this situation is crucial for successful ICT integration and to address any challenges or barriers that may limit its successful implementation.

The study was delve into the many factors that influence teachers' opinions of ICT, such as their prior experience with technology, training opportunities, access to ICT resources, and institutional support. By examining these factors, we may find out more about the current state of ICT integration in Pakistani secondary school classrooms and identify areas that require improvement. By concentrating on the Pakistani context, this study also added to the body of knowledge currently available on ICT integration in education. It will offer useful information that decision-makers, academic institutions, and other interested parties can use to create programs that encourage the efficient use of ICT in teaching and learning. The major goal of this study is to shed light on how Pakistani secondary school teachers feel about using ICT in the classroom. It is crucial for us to be aware of these attitudes in order to appropriately integrate ICT into the classroom and increase educational standards while preparing pupils for the digital age.

In Pakistan's secondary education system, it is now crucial to include ICT into classroom instruction. It is important to comprehend how teachers view ICT since it affects how children learn Computer and educational apps are examples of ICT tools that have the ability to stimulate and improve critical thinking abilities. However, the attitudes, convictions, and readiness of teachers to use digital tools are key factors in successful integration. This case study explores secondary-level teachers' attitudes about using ICT in the classroom in Pakistan, showing both opportunities and challenges to its implementation.

**Statement of the Problem**

The statement of the problem is “Teachers’ Perceptions about the Contribution of ICT during Classroom Teaching at Secondary Level”.

# OBJECTIVES

The study's specific objectives were as follows:

* To look into how well-versed teachers are in ICT resources.
* To examine teachers' attitudes towards integrating ICT into their teaching practices at the secondary level.
* To gather insights on teachers' suggestions and recommendations for the contribution of ICT in classroom.

# Research Questions

* What benefits does incorporating ICT into classroom education at the secondary level provide to students and teachers?
* What ICT knowledge do you have?
* How has the instructors' pedagogical practice been impacted by the usage of ICT?
* How have instructors' motivation, interest, and practice been impacted by the use of ICT?

# Significance of the study

Studying secondary school teachers' attitudes on ICT use in the classroom is crucial because it can help clarify the nuanced interactions between technology and education. This study holds the answer to how teachers use ICT technologies to improve pedagogical practices, curriculum delivery, and encourage student participation. By revealing teachers' perspectives on the effectiveness of ICT, the study may guide targeted professional development initiatives, address obstacles to technology integration, and direct the formulation of evidence-based policies that enable educators to successfully navigate the evolving educational landscape. In the end, this study may hold out the possibility of altering classroom dynamics and preparing secondary students for a future marked by technological fluency and novel educational opportunities.

# 1.5 Challenges to the Conduct of the Study

# 1.5.1 Limitations and risks

# Given the short time available, doing an exhaustive and in-depth analysis of the data may be difficult. Furthermore, due to the researcher's close participation with the project, it could be challenging to carry out a completely bias-free study. However, the researcher is conscious that because of her close engagement, when she analyses the participants' impressions of the study, she will bring her own values to bear. Every researcher adds values to a study, according to Creswell (2007), and qualitative researchers need to be conscious of the value-leadenness of the data they get from the field.

# 1.6 Operational Definitions of Key Terms

# 1.6.1 Information and Communication Technology (ICT)

Any form of communication, including radio, television, cellular phones, computers, networks, hardware, software, and so forth, as well as the numerous services and applications that are connected to them, like video conferencing and distance learning, is referred to as information and communication technology, or ICT.

Computers, the internet, laptops, multimedia, and interactive whiteboards are examples of cutting-edge information and communication technologies that have a transformative nature, particularly in the field of education. These technologies offer strong learning environments and facilitate technology-enhanced, student-centered teaching environments. The current study concentrated on computers as a crucial ICT tool.

# 1.6.2 Perception

Perception is the cognitive process through which individuals interpret and comprehend sensory information to understand and interact with their environment. Perception is influenced by various factors, including past experiences, cultural background, personal beliefs, emotions, and cognitive processes.

# 1.6.3 Secondary school

The "secondary level" in government schools refers to the stage of education that includes middle school and high school, typically covering grades 6 to 12. It typically includes grades or classes that are often referred to as middle school or high school. Students continue their education at the secondary level with a more specialized curriculum that digs deeper into disciplines like math, physics, languages, social studies, and more. The secondary level typically spans the ages of 11 to 18 or 19 years old, though this might vary depending on the educational system and nation.

# CHAPTER 2

# LITERATURE REVIEW

The use of ICT in English language teaching (ELT) as a method of delivering education within and outside of the classroom has increased dramatically. Due to its interactive and dynamic nature, it supports and meets the needs of the individual students by offering them the chance to direct their own learning. With the aid of ICT tools, students can effortlessly acquire the English language. ICT's role in traditional classroom instruction and learning in the twenty-first century has become essential and important in the setting of Nepal. ICT integration in ELT is referred to by a variety of names, including e-learning, computer-assisted language learning (CALL), massive open online courses (MOOCs), mobile assisted language learning (MALL), and technology-enhanced language learning (TELL).

ICT research from the past has shown how important ICT integration is for ELT. According to a 2013 study by (Acharya) in Nepal, the use of ICT in ELT classrooms increases student autonomy and fosters more fruitful and productive classroom activities. ICT research in Nepal also examined the ways in which ICT encourages students to learn and develops their creativity, critical thinking, and constructive abilities.

A computer-using teacher was to be characterized by Pelgrum & Plomp (1991). According to the survey's definition, teachers occasionally utilize computers in the course of working with students. According to the study's results, 75% of the teachers used computers in the classroom. Becker (1994), in the brief period that followed this inquiry, developed a sophisticated system and looked at the same collection of data. According to the radically divergent outcomes of the investigations, Only 25% of the professors fit the description of computer users. Since then, there has been an increase in the number of teachers who use computers as new, affordable technologies have emerged and become standard in teachers' daily lives and in the manner they instruct both within and outside of the classroom. The perception of a computer-using teacher has grown more complex as a result of the shift in the computer user's role from one of an end user to one of a collaborator in the design of educational technology.

According to Christensen and Knezek (2006), computer self-efficacy is the capacity to competently use a computer in a range of classroom teaching and evaluation scenarios. Recent research has linked teachers' usage of ICT and their impression of their computer self-efficacy (Peralta & Costa, 2007; Compeau & Higgins, 1995; Liaw, Huang, and Chen, 2007; Yuen & Ma, 2008; Christensen and Knezek, 2006). Teachers are more eager to experiment with new technology in the classroom the higher their level of self-efficacy. Earle (2001) and Zhao, Frank, and McKenzie (2004) both highlighted four primary goals for teachers' use of technology.

To conclude administrative duties, produce classroom teaching materials, facilitate students' classroom learning, collect student data, type assessment tasks and feedback, etc., facilitate students' classroom learning, and complete teacher-directed ICT activities. The first two computer programs offer immediate assistance to educators and maintain their interest in the teaching and learning process. Even though the fourth method of employing computers in education is hardly used, it helps teachers manage their courses and has an instant positive impact on both teachers and students. ICT usage has increased, according to Hawkins (2002) and Tiene (2004), in less developed nations like Pakistan.

This adoption also placed a significant emphasis on meeting the needs of the users—teachers and students. Tiene (2004) also pointed out that the techniques of instruction used by teachers in less developed countries have not greatly changed as a result of the usage of ICT in schools. Tiene (2004) claimed that this was because the plans for ICT integration were "overly ambitious and overly optimistic" (p. 90) and higher than what these institutions and teachers could achieve. Teachers were not included in the schools' prioritization of the purchase of technology and software, which resulted in a low level of use of the expensive equipment that the administration had bought.

Four reasons for the lack of ICT integration were identified by Cheng Townsend (2000) and Cheng (2001 & 2007) studies on ICT integration in classroom teaching and assessment. The first was that ICT usage was at odds with educational objectives; the second was a gap in teachers' training on how to use the hardware and software available to them (both for free and provided by purchase); and the third was that ICT and its integration with the curricula were at odds. Tien (2004) added still another factor to this list by claiming that instructors or end-users lacked troubleshooting skills, thus complicating the process of integrating ICT in classrooms and institutions.

Dede (1998) reminded educators that implementing new technology also calls for their own inventiveness, particularly in the areas of classroom evaluation and pedagogy as well as innovative school management and resource allocation. Barriers to instructors adopting ICT in the classroom have been the subject of studies by Yildirim (2007 and 2011), Slaouti and Barton, Balanskat et al., and Chigona and Chigona (2010), among others.

The findings showed that rather than concentrating on raising students' academic performance and converting classrooms to constructivist environments, teachers were using technology to develop lesson plans, assessment worksheets, and lesson plans. These studies also noted a number of additional challenges faced by teachers, including crammed classrooms, a lack of pedagogical and technical support for educators, rigid school structures and curricula, demoralized educators, students, and school administration, as well as a lack of end-user training for the use of the various technological tools available in schools.

Teachers are discouraged from integrating ICT into their classroom instruction due to a lack of administration and teacher collaboration, access to necessary resources, deadline constraints to complete the curriculum, and a lack of mentoring opportunities for newly hired teachers in schools.Technology use in teaching and assessment activities in the classroom is significantly influenced by teachers' attitudes toward ICT and perceptions of its value. Studies conducted in Europe (Huang & Liaw, 2005; Korte & Hüsing, 2007; Becta, 2008) have demonstrated that instructors hold varying opinions about the utility of ICT in fostering active constructivist teaching and learning ssetting.

Some teachers felt that using ICT improved the connection between classroom learning and learning outside of the classroom, helped to individualize learning, and positively impacted their own and their pupils' learning. These studies offer proof that some teachers disagree with the notion that ICT has a positive impact on pupils' academic progress.

According to a study by van Braak, Tondeur, and Valcke (2008), instructors will be more likely to embrace new technological breakthroughs into teaching and evaluation methods in the classroom if they have a positive attitude toward them. To successfully alter educational practices and environments, one should adopt a favorable attitude toward educational innovation, according to Woodrow (1992). The increasingly tech-savvy children of today frequently inquire about the ICT tools offered by their schools and how their teachers employ them in the classroom.

Geoffrey (2010) found that students wanted their professors to utilize ICT in their classes because they thought it would be helpful and make it easier for them to understand what the teacher was teaching. The study was done in a private university. Additionally, the management was tasked with modernizing the ICT capabilities and internet connectivity in the classrooms and computer labs for the children. All of the study participants agreed that the use of ICT enhanced academic achievement.

The results of this study also demonstrated that accessibility, availability, and user competency all had an effect on the learning process. When comparing how and what students were supposed to learn from technology with how and when they actually used it, Littlejohn, Margaryan, and Vojt (2009) found a gap. They used college students in their study. According to this survey, university students maintained their academic routine throughout their four-year degree programs.Because there was no connection between the students' use of ICT and their expectations for how they may learn, this study demonstrates that students' study habits are influenced by their prior study eexperiences Omwenga (2005) asserts that it's not only about using ICT; you also need to take the context into account and recognize the value of pedagogy. The limitations of using technology in the classroom also depend on how well teachers and students are able to handle it and use it.

ICT use in the classroom is occasionally seen favorably by both teachers and students, most frequently by the latter group. In a study, students from three age groups—eight, ten, and twelve—who participated in focused group interviews in six secondary schools reported that they saw technological tools as opportunities for learning and task completion as well as useful for presenting work (Deaney, Ruthven, & Hennessy, 2003).

In order to equip public schools with ICT resources and promote their use, the Punjab province of Pakistan launched an ICT lab project in six districts in 2009. A research was done by Hameed and Qadir (2014) to see how students viewed the project's value. This investigation uncovered an extremely intriguing fact: even though this project gave secondary schools the tools they needed, only the teachers and students who were either teaching or researching computer science topics used those resources. Since they lacked IT abilities, teachers and students from other subjects also didn't use computers.

This study also discovered that these resources were utilised by urban teachers and students. In order for ICT to have a good impact on teaching and learning environments, such as classrooms, this study underlined the importance of offering teachers and students training in addition to the ICT equipment. According to Bughio, Abro, and Rashdi (2014), students' academic success and competency and their ICT training are positively correlated.

Students' attitudes toward ICT were favorable, and they considered technology as an essential part of a positive teaching and learning environment, according to Hassan and Sajid (2013). However, given the inequalities in how each group views the use of ICT and the digital divide between students and teachers, its efficacy is still in doubt.

## **2.1 The use of technology in teaching EFAL**

According to Masruddin (2014), the implementation of technologically assisted instruction by teachers signals a paradigm shift in the structure and routine of the classroom. Global use of technology in teaching has been sparked by the possibility of new technical tools to modernize an antiquated educational system, better prepare students for the information era, and expedite national development projects (Katemba, 2020). For instance, thanks to technological developments, teaching can now take place at any time and in any location, regardless of the location or the time (Chisango et al., 2020; Kalimullina et al., 2021; Konyana & Motalenyane, 2022; Rahayu & Wirza, 2020; Tsakeni, 2022).

According to Alqahtani (2019), more up-to-date sound and visual effects, digital displays, and English content that mimics real-life circumstances are more effective than conventional teaching techniques and encourage students to learn. 59.4% of EFAL instructors agreed of and appreciated the benefit of incorporating technology into their classes, according to Rahayu and Wirza's research (2020).

Technology, according to teachers, has boosted the use of a variety of methodologies and digital abilities, which has a good effect on learning outcomes. According to teachers, one of the main benefits of using technology in the teaching of EFAL is that it offers both a visual and a word to help students expand their vocabulary in the target language and reduces spelling errors that may occur accidentally (Harvil, 2018). Additionally, it permits repetition to support speaking and listening as needed, and the audio system improves and clarifies the pronunciation of the teacher (Harvil, 2018).

According to Ventouris et al. (2021), EFAL instructors in the UK had positive opinions about using technology in the classroom. They stated that the practice did not alter their function as educators but instead enhanced the caliber of their instruction. The integration of technology into the teaching of EFAL has been found to be advantageous by teachers, especially when done in a balanced way that doesn't block other learning possibilities, including by achieving a balanced mix of digital and non-digital learning activities.

According to Chabinga (2021), some primary school teachers in Zambia believed that the ZeduPads were a powerful linguistic, multimodal, and semiotic tool that would alter not just the way teachers taught but also the students' attitudes toward learning. The new vocabulary that was introduced after the use of tablets in the classroom demonstrates how this change in the students' mindsets contributed to their consistent improvement in reading and competency.The teachers in Roberts' (2016) study commented that one method to lessen the stress was to embrace specific technological tools for marking, monitoring, and data requirements. This shows how sensible, well-considered legislation from the government may aid in giving teachers' workloads priority.

Rwodzi et al. (2020) discovered that South African instructors believed that sharing online resources with students on social media groups for research had favorable consequences despite the Department of Basic Education's ban on using social media to teach EFAL. Despite the challenges, Chisango et al. (2020) found that teachers were open to utilizing new technologies in teaching and learning and had a positive outlook on doing so. According to Buabeng-Andoh (2012), teachers who are at ease using technology in the classroom will be in a position to offer insightful guidance on how to embrace it and incorporate it into EFAL instruction.

## **2.2 Technology and learners’ learning**

Students can learn more quickly thanks to technology, which improves their education both inside and outside of the classroom (Solano et al., 2017). Today's students, according to the majority of educators, are much more technologically savvy and have access to a wide range of learning resources that let them explore their interests while learning at their own pace and place (Mollaei & Riasati, 2013). In virtual classrooms, a motivated learner can absorb knowledge without the teacher's direct involvement (Chithra, 2019). Because it makes it easier for students to access a variety of learning resources using different platforms and encourages participation in lessons taught by native speakers, technology has enormous learning potential both inside and outside of the traditional classroom setting (Beirovi et al., 2021; Rahayu & Wirza, 2020).

According to Hazarika (2017), the use of technology in the classroom encourages students to think positively and to communicate well by increasing their sense of autonomy, motivation, engagement, and exposure to the local culture. Additionally, it enhances interactions between teachers and students.

## **2.3 Barriers to technology integration in EFAL teaching**

Numerous studies have yielded a range of findings and recommendations on teachers' perceptions of the use of technology in EFAL sessions. Because they were concerned about losing control over easily distracted students, Dutch teachers admitted that they had little experience using social media into their class plans (Van Den Beemt et al., 2020). According to research by Buabeng-Andoh (2012), Raman and Yamat (2014), and Muia et al. (2022), administrative tasks including making report cards, maintaining attendance records, and filling out record book forms add to teachers' worries about being overworked. Due to their emphasis on curriculum covering and evaluation, this prevented the use of digital tools in the teaching of English.

Teachers in Zambia initially found it difficult to operate the ZeduPad tablets because they lacked the necessary skills, but eventually grew more comfortable using them. The results of Hazarika's (2017) study showed that students' poor verbal communication skills and teachers' excessive usage of various digital tools were obstacles to the advancement of EFAL. The lack of real-time impacts on digital platforms, the teacher's voice being replaced by mechanical and prepared material, and the failure to provide essential feedback were all barriers to improving EFAL.

According to their teachers, 40% of children in low-income communities can only use their parents' smartphones to access the internet (Ventouris et al., 2021). This is unfair because only a small portion of students gain from online teaching and learning.

##

## **2.4 Identifying the gap: Limpopo teachers' opinions of using technology to teach EFAL**

Despite the fact that many researchers have looked at teachers' perspectives on integrating technology into the classroom, there has been relatively little research on teachers' perspectives in EFAL classes, particularly in the Intermediate Phase (learners between the ages of 10 and 12) in rural primary schools in the province of Limpopo. In Limpopo secondary schools, Tshiovhe and Monobe (2021) investigated how accounting teachers could use pedagogical technology to advance their careers. They came to the conclusion that topics of pedagogical technology integration should be included in continuous professional development for accounting teachers.

In a few selected schools in Limpopo, Lekgothoane (2021) did study to examine the general levels of digital classroom technology and the use of technology by instructors. The study's findings indicated a lack of integration of digital classroom technology due to flaws in those technologies, a lack of internet connectivity, inadequate teacher preparation for using those technologies, and a failure to implement an e-education strategy. The study found that the Limpopo CoLab program's target schools lacked digital classroom infrastructure to put what was learned in training into practice.

Thaba-Nkadimene and Mogatli (2020) conducted a second study on the opinions and experiences of head teachers and instructors on the usage of educational technology in a select few rural schools in the Mopani District of Limpopo. The survey found that schools hardly rarely make use of contemporary educational technologies.

In educational practice, ICTs can "empower both teachers and learners, promote change, and foster the development of 21st century skills," according to Trucano (2005). According to Trucano, the use of ICT in teaching and learning might change these processes from being more teacher-centered to being more student-centered, which will enhance students' learning in general. The impact of ICT integration on teaching and learning has been the subject of various studies over the past ten years.

The impacts on learning and students, affects on teachers and teaching, and challenges associated with technology use are all included in the current research on the contribution of such integration to educational practice.

## **2.5 Effects on Learning and Learners**

Numerous impact studies have recently been carried out with the aim of determining the return on investment of ICT in education. In order to assess the advantages and consequences of ICT integration in schools in two critical areas: learning outcomes and students, as well as teaching methodologies and instructors, Balanskat et al. (2006) examined seventeen such impact studies carried out in Europe between 2002 and 2006. The research we looked at consisted of six quantitative studies and six qualitative studies. The objective of the quantitative study was to pinpoint the causal relationships between academic achievement and ICT use.Numerous impact studies have recently been carried out with the express purpose of determining the return on investment for ICT in education.

In order to assess the advantages and consequences of ICT integration in schools in two critical areas: learning outcomes and students, as well as teaching methodologies and instructors, Balanskat et al. (2006) examined seventeen such impact studies carried out in Europe between 2002 and 2006. The research we looked at consisted of six quantitative studies and six qualitative studies. The objective of the quantitative study was to pinpoint the causal relationships between academic achievement and ICT use.

## The study found that it was challenging to demonstrate a causal relationship between computers and educational results, despite some evidence that ICT influences student performance (Machin as recounted in Balanskat et al., 2006, pp. 11–12). The results of this study confirm the idea that when schools have an environment that supports ICT's successful implementation, it has a higher impact on educational standards. The qualitative study discovered that parents, teachers, and students all concur that using ICT improves students' learning and performance on academic activities. The findings also demonstrate that teachers believe ICT aids both gifted and underachieving pupils by enhancing academic achievement. Teachers have seen that pupils collaborate more closely with

## **2.6 Effects on Teachers and Teaching**

Numerous studies have demonstrated that how instructors plan their lectures and how students absorb information has a significant impact on how much and how well technology is used in the classroom. When they just want to get on with the business of teaching, teachers frequently see the technological integration as an additional burden on an already tight time schedule. In addition to not understanding the importance or usefulness of technology for their field, they also did not think they were technically competent to use it in the classroom. According to research, teachers' evaluations of an innovation's worth are critical in determining how successfully its deployment in the classroom will be received.

The majority of teachers, especially those who teach secondary academic courses, did not notice a change in their teaching strategies, in contrast to the minority of instructors who were able to use ICT to execute a more constructivist and aligned pedagogy. This was discovered by Becker's (2000) national survey of American teachers. The teachers did acknowledge, though, that given the correct circumstances, computers are becoming into a useful teaching tool and having an effect on students' academic performance both inside and outside of the classroom.

Similar findings were obtained by Lai and Pratt (2004), who found that 82% of secondary school teachers in New Zealand thought ICT was beneficial for their instruction, but not for delivery techniques or classroom practice. Notably, rather than a shift in philosophy or pedagogy,The teachers claimed that the administration and management of teaching, including lesson planning and presentation, had become more effective, which was the most obvious result. Balanskat et al. (2006) discovered comparable outcomes in their examination of the ICT impact studies carried out throughout Europe. When preparing and revising daily lessons, keeping records, and other tasks, they found that adopting ICT helped teachers be more productive and save time. In addition, increased resource sharing has been encouraged through the use of ICT.

Regarding pedagogical practice, teachers continued to employ a more conventional approach to instruction, simply using ICT as a tool to enhance their didactic strategy. In light of this, they came to the conclusion that "teachers do not yet exploit the creative potential of ICT and engage students more actively in the production of knowledge." (p. 41)

According to Deaney et al. (2005), using ICT in the classroom had a subtle impact on both the pedagogical practices and the dynamics of the classroom, with teachers adopting a "far less didactic" approach and students' attention "redistributed away from a central position." This was the conclusion of a study that examined 10 small-scale projects carried out in English schools and in which teachers attempted to create a more positive learning environment.

In a study including 1139 primary school teachers in Taiwan, Liu (2010) investigated the connections between teachers' pedagogical ideas and the use of technology in the classroom. He made the case that teachers' attitudes toward technology can and will influence the instructional strategies they employ in the classroom since technology integration involves perceptions and actions related to using technology. The views of instructors were a strong predictor of the use of technology in the classroom, according to studies (Becker, 2000; 2009; Ertmer and FFrostbitten-Leftwich, and those who firmly believed in the value of good pedagogy were more likely to adopt it. Despite the fact that teachers believed in learner-centered teaching, Liu (2010) discovered that they did not combine it with technology use, presenting stark inconsistencies between teacher pedagogical beliefs and actual practice. In a study including 1139 primary school teachers in Taiwan, Liu (2010) investigated the connections between teachers' pedagogical ideas and the use of technology in the classroom. He made the case that teachers' attitudes toward technology can and will influence the instructional strategies they employ in the classroom since technology integration involves perceptions and actions related to using technology. Studies (Becker, 2000; 2009; Ertmer and Frostbitten-Leftwich) have shown that teachers' views are important predictors of the use of technology in the classroom, and that those who genuinely believed in the value of effective pedagogy were more likely to accept it. Liu (2010) found that although instructors believed in learner-centered teaching, they did not incorporate technology use, creating glaring contradictions between teacher pedagogical principles.

## **2.7 Factors Impeding Greater Integration**

Due to various contextual factors like teacher technology proficiency, time restraints, and the stress of high-stakes exams, even instructors who follow constructivist pedagogical concepts may not always teach actively (Becker, 2000; Deaney et al., 2006; Liu, 2010). According to Liu (2010), traditional didactic techniques, such as employing technology to lecture, are commonly supported by modern educational technology use. He argues that this is the case because teachers don’t fully comprehend the pedagogy around the use of technology in the classroom. This claim is supported by the TPACK framework developed by Mishra and Koehler in 2006. Liu (2010) asserts that a lack of understanding about how to use technology effectively will probably prevent the integration of technologies. According to Tella, Tella, Toyoba, Adika, and Adeyinka’s findings from 2007, teachers’

Other challenges that, in the opinion of many teachers, come with trying to integrate technology into the context of classroom activities include the need to relocate the classroom when the necessary technology is housed in specialized spaces, access to equipment, unreliable system performance, and a lack of technical support (Deaney et al., 2006). The majority of instructional methodologies still place the teacher at the center and many instructors continue to embrace technology-based learning that is lecture- or demonstration-based. According to a recent study, teachers and students alike see a variety of benefits from ICT incorporation into educational practice. The importance of ICT as a motivational tool and the chance it provides for access to a larger range of resources were also emphasized.

# CHAPTER 3

# METHDOLOGY

# Method and Procedures

This study might be beneficial for teachers. The goal of the current study is to understand instructors' viewpoints on the use of ICT in secondary classroom instruction in order to enhance Pedagogy, motivation and practice of the teacher, interest and engagement of the students.

**3.1 Research Design**

The goal of this descriptive case study is to comprehend the lessons that modern studies professors might take away from their experiences with this invention. According to Merriam (1998), a descriptive case study is one that offers a thorough account of the phenomenon being studied and is helpful for analyzing cutting-edge projects and practices. A descriptive case study is the best type of research methodology because the aim of this study is to better understand how teachers view this innovation. In-person, semi-structured interviews were used as part of the study’s descriptive survey approach. This approach aims to provide a more detailed account of the teachers’ encounters with the phenomenon and their viewpoints on how ICT affects secondary teaching and learning.

**3.2 Population**

The population of the study consisted of all secondary school teachers employed by the public sector in Narowal.

**3.3 Sampling Design and Procedure**

Participants in the study were selected through deliberate sampling. The sample consisted of ten secondary school teachers who have been utilizing ICT in their instruction for more than two years and who teach a variety of subjects and at both the higher and lower levels of the school. They chose based on these criteria. According to Creswell (2007), participants who exhibit these traits able to actively contribute to the knowledge of the study's main phenomenon and research challenge. Ten of the teachers in at secondary level have less than 10 year of teaching experience, 4 of them only teach one subject. Six teachers remain in the population, making them a potential source for a sample. The final sample chosen among individuals who teach the following courses, which are taught at both levels of the curriculum: English, Social Studies, Computer Science, Mathematics, Science Subjects.

**3.4 Procedure for Data Analysis**

Since they allow for the analysis of recently emerging data, Strauss and Corbin's (1990) grounded theory methodological tools were used to investigate the data. After the interviews were transcribed, the data was color-coded by participants, divided, and regrouped by questions. By reading the data sentence by sentence and asking instructors to explain the explicit acts, events, or concepts that they see ICT contributing to during classroom instruction, initial or open coding was carried out. This makes it possible for the researcher to put together a comprehensive analysis of the data and provides a framework for analysis and interpretation. She was also barred from using the data to support any of her personal ideas or current theories. Axial coding and the constant comparative approach are used once the first codes have been established to uncover patterns and discrepancies in the data (Glaser & Strauss, as cited in Wellington, 2000, p. 136). As data analysis grew, these reoccurring patterns or categories were created, reviewed, and improved. To uncover new trends and provide a convincing overview of the research topic, the categories were divided and then put back together (LeCompte, 2000). With the use of new themes and theories, the categories that the participant's stories supported were examined and analyzed.

**.3.5 Procedure for Ensuring Validity and Reliability**

It provides a framework for analysis and interpretation and allows for a complete assessment of the facts. Additionally, it precluded him from interpreting the evidence in light of his own thoughts or convictions. Axial coding and the constant comparative approach are used after the initial codes have been discovered to search for patterns and paradoxes in the data (Glaser & Strauss, cited in Wellington, 2000, p. 136). As data analysis progressed, these patterns or classifications were continually examined and improved. To uncover new trends and convey the study question convincingly, the groups were broken down and put back together (LeCompte, 2000). New themes and theories will be used to assess and debate the findings. To ensure that the interpretations are compatible with the participants' expressed opinions, peers from the School of Education will also be asked to assess the transcripts and early data analysis. Therefore, peer review and member verification were used to increase the reliability of the of the process. These would facilitate objectivity, ethical diligence, and rigor, according to Jackson, Drummond, and Camara (2007).

**3.6 Data collection instrument**

The researchers were the main source of information. An interviewing procedure was developed and independently reviewed before usage. The methodology was evaluated in a pilot research with one teacher from the study school who was excluded from the final sample in order to identify and address any potential irregularities. Each interview took place over the course of two weeks and was scheduled to run between 30 and 35 minutes. recording and transcribing each interview's audio.

# CHAPTER 4

# DATA ANALYSIS AND INTERPRETION

## **4.1 Method of Data Collection**

Using information from interviews with participating teachers, this study examined teachers' impressions of how ICT influences topic teaching and learning in secondary classrooms. The information was gathered over the period of two weeks in the month of July 2023 using semi-structured in-person interviews. About 35 minutes were spent in each session. A second time, the nature and goals of the study were explained to the participants, along with the possibility of declining participation.The purpose of the interview questions was to gather information on teachers’ perceptions of the use of ICT in the classroom, teaching, the impact that use of ICT has on teachers’ pedagogy, the impact that use of ICT has on students’ learning, the impact that use of ICT has on teachers’ motivation and engagement, and to investigate the factors that influence these outcomes. Either encourage or impede the use of ICT. The ideal database for analysis is thought to be verbatim transcriptions of all interviews (Merriam, 1998). While the data was being transcribed, the researcher took hasty notes and anecdotes, which was the beginning of the initial analysis of the data.

As the data were being transcribed, the researcher scribbled hasty notes and anecdotes, which was the beginning of the preliminary analysis of the data. Each participant had the opportunity to examine the transcript of her interview to ensure that the content appropriately reflected what she wanted to say. During the last week of July 2023, follow-up interviews were conducted to confirm the data gathered in the original interview and to provide participants the option to edit or add to it if they so desired. Each interview lasted around 35 minutes. During the second interview, questions that came up during transcription and the initial analysis were also thoroughly clarified.

**4.2 The Participants**

The sample for this study consisted of eight Secondary School students. The other five teachers, who have been employed at the school for a total of eight years, have not yet finished their postgraduate teacher preparation. Five of the participants are from the public sector, and all of them have taught at the institution under consideration for more than ten years. All ten teachers attended the institution under inquiry for their secondary education, thus they are all acquainted with its culture.

To present the curriculum for their particular subject areas, all teachers must have at least five years of ICT expertise, with one teacher claiming ten years of use. An overview of each of the participating academics is provided below.

He is an English teacher in a public school. He uses a range of technology in his instruction, including as the computer, audio, and video materials, as well as the students' smart phones, which he occasionally assigns them to use to access the Internet. In addition, he communicates with her pupils via Facebook and email and provides homework comments. With the upper school, he tends to use technology more than with He teaches about half of his classes using ICT at the lower school.

* T2 has been employed by the company for seventeen years and teaches social studies to students in the higher eighth grade. He has been incorporating ICT into his lessons for the past eight years, and today he uses it in about 40% of his classes. In his classes, he employs a variety of technology, including PowerPoint, movies, computers, and the Internet, much like T1. But he employs it more frequently with upper-schoolers than with lower-schoolers.
* T3 has been a teacher at the school for three years, and during that time he has always included ICT in his teachings. In about "97% to 100%" of his higher education courses, he instructs computer science at both the school's primary and secondary levels. are allegedly performed utilizing technology, from elementary to secondary schools. He encourages his students to use their iPhones to access the Internet while in class, just like T1 does. Additionally, he uses a variety of technological tools throughout his presentations, such as PowerPoint and online live video feeds.
* T4 has been teaching mathematics at the institution for five years, and throughout that time, he has included ICT into his classes. Around 10% of his classes currently use ICT, but he wants to use it more. He uses a variety of ICTs, including computers, the internet, audio, and video, as well as email, to provide feedback to his students on their tasks.
* T5 has been teaching at the university for five years, and during that time, he has been incorporating ICT into his classes. He instructed Physics. He currently uses ICT in his classes, but he wants to use it more and more. He has used PowerPoint, DVDs, computers, and the Internet in his classes. But he employs it greater than with lower-school students with upper-school students.
* T6 has been a teacher at the institution for nine years, during which time he has also used ICT in his instruction for about nine years. He was a government-run school chemistry teacher. He used a range of technology in his instruction, including the computer, audio, and video materials, as well as the students' smart phones, which he occasionally assigns them to use to access the Internet.
* T7 has been employed by the company for seven years and teaches the class for students in grades nine and ten. He occasionally gave biology lessons. He has been using ICT in his instruction for the previous five years, and currently he uses it in about 50% of his classes. In his classes, he employed a variety of technology, such as PowerPoint, videos, the computer, and the internet.
* ICT has always been a part of T8's lessons during his five years as a teacher at the institution. His higher education classes, in which he teaches computer science at all levels of the institution and to secondary schools, are believed to use technology in between "70% and 80%" of the time.
* T9 has been teaching Pakistan Studies at the institution for eight years, and during that time, he has been incorporating ICT into his teachings. Around 10% of his classes currently use ICT, but he wants to use it more. In his classes, he made use of a variety of technology, including PowerPoint, videos, computers, and the Internet.
* ICT has been utilized by T10 over his seven years as a teacher at the institution. his instruction for almost five years. He is an English B teacher in a public school. He used a range of technology in his instruction, including the computer, audio, and video materials, as well as the students' smart phones, which he occasionally assigns them to use to access the Internet.

Four out of the eight interviewees—according to their responses—thought that ICTs stood for information and communication technology. ICTs stands for information and communication technologies, according to a male teacher. That is applied to enhance teaching and instruction. Three participants agreed that these technology tools were useful for efficient instruction. Out of the eight teachers who responded, two mentioned ICTs as communicational technological tools utilized in the classroom. ICTs, according to a different female teacher, are electronic communication tools used in the classroom (such as multimedia, smart boards, projectors, etc.). In addition, two respondents agreed that ICTs are a brand-new, emerging idea in education. ICTs are a relatively new idea in education that are useful for effective and efficient education, according to a male teacher.

All research participants indicated high levels of competency with these core computer operations, including word processing, spreadsheets, presentations, file management tools, email, social networking sites, and the internet. All teachers underwent fast but thorough introductions to the educational software available to support the delivery of the topics and the contribution of ICT, as well as basic training in the operation of the technology deployed in the multimedia rooms and in the classrooms. However, the indicated skill level does not necessarily match the amount of ICT used during instruction.

**4.3 Ethical Considerations**

Any research involves moral conundrums, thus researchers should be aware of them before beginning fieldwork. As respondents were informed of the purpose and nature of the research and informed consent was obtained, both verbally and occasionally in writing, this study also takes ethical considerations into account.

**4.4 Strategies to Ensure the Trustworthiness of the Data**

The validity of qualitative research is usually questioned by positivist academics, yet there are a number of ways to ensure that the findings are credible and dependable (Shenton, 2004). The researcher made use of some of the strategies recommended by Creswell (2007) in order to ensure the authenticity of the data collected. “Prolonged engagement” in the field is crucial to guaranteeing the credibility of qualitative research, according to Lincoln and Guba (as stated in Shenton, p. 65), as it enables participants to acquire early familiars with the culture of the participating organization. Because the researcher, who oversees the ICT contribution, has worked for the organization for the past 16 years.

He Is familiar with both the culture of the institution and the As a result, it satisfies the department’s requirements for “prolonged engagement” in the area. Iterative questioning was also utilized to confirm the information being provided by participants, as suggested by Shenton (2004). Questions were rewritten and presented again to examine responses for consistency. The researcher generally used the participants’ actual words while evaluating and coding the data to ensure that the meanings drawn from it remained authentic to the individuals’ voices. This, in accordance with Taylor-Powell and Renner (2003), prevents the researcher from putting prior ideas on the data and instead permits themes and categories to organically arise from the data.

Member screening of interview transcripts, emergent codes, and preliminary findings were employed to guarantee the correctness of the results. According to Lincoln and Guba (as described in Creswell, 2007, p. 208), this is “the most important technique for establishing credibility.” Peer review, which provides an outside evaluation of the research method (Merriam, 1998), was also used to ensure the validity and reliability of the findings. The codes, categories, and first interpretations developed during the analysis received input from peers from the School of Education. With the assistance of two people who were not involved in the study, external audits were also performed to guarantee that the findings and conclusions were accurate.

## **4.5 Data Analysis Strategy**

With the first interview, the data was first transcribed, and the transcripts were afterwards returned to the participants for review and confirmation of the content's accuracy. If participants believed that what was recorded did not adequately represent their thinking, they were given the chance to make adjustments to the transcripts. Participants then colored-coded the data, which was then combined and structured into one document, question by question. According to Taylor-Powell and Renner (2003), this method would allow the researcher to assess the data across all respondents and so spot any patterns or discrepancies that might exist both within the data and between participants.

The combined interviews were then subjected to sentence-by-sentence content analysis to ascertain the message of the data and to spot themes and patterns. As much as it was practicable, in vivo coding was performed to code the data during the initial stage of analysis (Strauss & Corbin, 1990; Creswell, 2007). These original codes were continuously examined and improved. Next, groups of emergent codes were created according to the research questions.

Axial coding was used in the second stage of analysis, which involved continuously comparing and contrasting the initial codes and categorizing those that shared characteristics (Strauss & Corbin, 1990). Six broad themes were eventually created by collapsing the emergent data's sixteen groups (Creswell, 2007 ) . Category names were either made up by the researcher to represent what was found in the data, or they were taken directly from the participants' own words. Themes and categories were altered as data analysis advanced to better reflect the emerging patterns. According to the themes and categories found, the results will be presented and analyzed.

## **4.6 Presentation of findings**

### 4.6.1 Effects of ICT use on teachers’ pedagogy

### To deliver the curriculum for their various subject areas, all teachers have at least three years of ICT expertise, with one teacher claiming ten years of use. Each professor who took part in the study is briefly described below.

### 4.6.2 Manner of use

All teachers acknowledged using a range of ICTs for purposes beyond from instructing students. ICTs were employed as visual aids, auditory stimuli, and discussion starters to get students thinking, including PowerPoint presentations, audio clips, live video streams, wikis, and still images. ICT, according to teachers, made it easier to review and summarize the key concepts covered in class and was a fantastic instrument for exercising and reinforcing the skills and knowledge provided.

...as a recap of the last lesson... I simply asked who wanted to answer questions 1, 2, 3, or 4 after putting the questions on the board. I wouldn't have to call them out; they could see the questions.

ICT was also used in every part of the class, including the introduction to the set, the summary of the lesson, and the main activity for the session.I occasionally use it as an introduction to offer them a scenario to begin the conversation. Sometimes, it may simply be to give them teaching materials. Teachers used ICTs in a variety of ways and included them into every part of their lessons as a result.

### 4.6.3 Content delivery improved

The majority of teachers asserted that quicker presentations of the information for the various disciplines were now possible thanks to the usage of ICT in the classroom. Yes, it aids in the quick transmission of information. It was also suggested that ICT had made it possible for teachers to present material more efficiently and complete more in the allotted class time, hastening the curriculum's completion.

In fact, I find that I accomplish more. I discover that I get more done because you cover more of the material rather than droning on and on.

The majority of academics also concur that utilizing ICT not only makes it easier to teach the more challenging and intricate topics on the syllabus, but also helps the pupils more.

One instructor, however, asserted that not all courses could be properly taught using ICT and that it was especially challenging to do so for abstract, highly theoretical subjects.

He underlined that how effectively ICT is used depends on the content being conveyed.

There are several situations where using ICT is pointless. in particular when you have to impart a theory... Therefore, you don't really need ICT in those situations to teach the theory. Depending on the subject matter.

While some teachers suggested that using ICT could speed up lessons because both students and teachers were so engrossed in the material, another teacher expressed the opinion that using ICT might actually slow down the lesson, making it challenging to finish the syllabus on time.

The way the slides are presented encourages students to make thorough notes on everything. Because everyone writes at a different pace, it takes some time to read through them all. The lesson is slowed down as a result. Yes, it would take longer to finish the ssyllabus All instructors did agree, though, that using ICT forced them to be more imaginative in their class ideas. ICT is still used, but a According to another teacher, the teacher had to think of strategies to engage the students in the class.

Therefore, when using ICT, it's important to think about what information and ideas would be relevant and deliver them in a way that the kids would be excited to hear, whether it be through a video or even just a PowerPoint presentation.

### 4.6.4 Use of aids and resources broadened

Because of the usage of ICT in education, teachers now have access to a greater range of resources. All teachers reported being able to use a wider range of resources in both the planning and teaching of their classes. I occasionally take one because they have so many products available online, think about it for a moment, and then use it. I look for lesson plans on the internet a lot.

Additionally, some teachers mentioned how the usage of ICT in the classroom helped students find courses like English and computers to be more interesting and engaging by bringing usually "dead" subjects to life for them. The utilization of a wider range of resources has altered and improved their children's learning experiences. based on one educator, In Forms Four and Eight, students who are more interested in the sciences are beginning to indicate a desire to continue their study, if just for the sake of their education as opposed to as a mandatory career decision.

I first saw the word "edutainment" in government school. Well, that's what I want to do since social studies is regretfully one of the subjects that everyone considers to be out-of-date. Consequently, I want to entertain while also evoking awe and mystery. We must therefore grab their attention and show them that social studies are still relevant.

By bringing the "reality of outside" into the classroom, the integration of ICTs into the teaching of the curriculum has enabled the provision of actual, real-world examples. I'll take a study from a high school as an example. We occasionally screen children's films produced by human rights organizations like Amnesty International and Human Rights Watch. They saw films about Guantanamo Bay, the Indian healthcare system, and how women are typically treated. I utilize it in this way to demonstrate to pupils how the Human Rights Act is actually put into practice. When ICT is utilized to expose students to real-world events in vivid, moving color, the transmission of knowledge is improved, and the curriculum comes to life for the students.

###

### 4.6.5 Pedagogical practice affected

Thanks to the use of ICT in the delivery of their lectures, the teachers now have more freedom to modify their strategy to the varied learner types in their class. Teachers thus think that utilizing ICT enables them to reach more kids. When a youngster is not fully engaged in the conversation and is unable to listen and write at the same time, it is helpful. More children are reached, who are typically turned off by the book and the conversation. It is advantageous for individuals who gain from visual stimulation.

I feel that I can reach more students by utilizing ICT. The teachers also stated how the more reserved, insecure youngster benefits the most from ICT use in the classroom and is encouraged to engage. at school. Additionally, it helps the less capable student feel less fearful in their surroundings. You know, my teacher used to tell me about the many types of learners back when I was in school. I utilize ICT to engage my pupils and perhaps to assist them to get the concepts they otherwise wouldn't have if I had just been shouting out notes since I am aware that certain of my students in some of my classes are a little weaker.

I feel that I can reach more students by utilizing ICT. The teachers also stated how the more reserved, insecure youngster benefits the most from ICT use in the classroom and is encouraged to engage in class. Furthermore, it assists in creating less intimidating setting for those who are less capable. You know, my teacher used to tell me about the many types of learners back when I was in school. I utilize ICT to engage my pupils and perhaps help them understand concepts they otherwise wouldn't have if I had just been shouting out notes since I am aware that certain of my students in some of my classes are a little weaker. I'm aiming to make it more student-centered because it is currently more teacher-centered. I was able to successfully reorient my classroom instruction to put the learner first rather than the teacher. I can now convince people to take action thanks to ICT. More collaborative learning tactics, project-based learning, and group work have all been tried out by teachers who are moving toward a more student-centered approach to teaching.

Because I make a genuine effort to use collaborative learning methodologies and because I like to put students in smaller groups, I think it is more student-centered. I therefore go exploring to find out more. "Because I think they work better in groups," she replied. As a result of this change, the instructors argued, their status in The role of the "sage on the stage" in the classroom has changed to that of a facilitator and guide. They found that the usage of ICT fosters less instructor discussion and more active student participation.

I'm able to speak less. That is a major issue. I used to have a scratchy throat when I got home from work because I talked nonstop all day. I can, therefore, speak less. They are more involved, as I said.

One advantage of ICT that instructors have mentioned is the expansion of the classroom into the online digital realm. The use of ICTs enables better contact between teachers and students, as many teachers choose to carry on their dialogues with their students online. The teachers apparently used wikis and social networking sites like Facebook to distribute homework and carry on class discussions.

With my Form Four students, I use a wiki and find that they are more engaged. They enjoy leaving comments on each other's posts. They are required to keep journals, and they interact with each other's posts by leaving comments to further the conversation.

* All 10 instructors admitted to using email for both assignment submission and feedback to students on finished work. I also email my students with feedback. I also use it in Microsoft Word's review tab to edit writings. The usage of ICT, according to the teachers, enables better management and control of the classroom. Students are typically more attentive and less disruptive when ICT is used in the classroom.
* It undoubtedly aids the instructor in maintaining control and managing the class..

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### 4.6.6 Negative outcomes

Teachers identified certain disadvantages of using ICT in the classroom in addition to all the benefits. Equipment-related technical concerns, which can occasionally significantly reduce teaching time, were the most often raised problem with ICT use.

It's a useful tool, but if you don't know how to use it or have issues, you could not be able to teach your class, which would cut down on the amount of time you have.Setting up the session's equipment takes time away from teaching and could keep students from paying attention to the lesson.

If the multimedia rooms are not used, it would take several minutes to set up in the classroom, which would eat up five minutes of instructional time.

Furthermore, one teacher felt that she had a tendency to rely too heavily on technology while teaching particular subjects, especially when the use of ICT does not always make those subjects easier to teach.

ICT may be overused in some of the themes, which would make the lesson less understandable than it should be.

### 4.6.7 Management of teaching

The purpose of this study was to learn what role instructors thought ICT had in managing and carrying out administrative responsibilities in the field of education. Based on the responses from the teachers, planning, preparation, organization, and management were separated into two subcategories.

## **4.7 Planning and Preparation**

ICTs make lesson planning easier and are useful for creating assignments and examinations, but teachers have noted that this necessitates a more systematic and analytical approach to lesson planning. It actually calls for a great deal more preparation than a usual lesson. Planning takes far more time even though preparation is less time-consuming and labor-intensive. It is true that more time must be spent planning, yet this time does not feel additional. It does, however, need more work and planning. Teachers that use ICT claim that as a result of the technology, they are more thorough and focused in their preparation.

When I use ICT, my concentration is a little better. You have to be ready. I must therefore plan more carefully.

All teachers that used ICT in their instruction stressed the need of having a backup plan and said that doing so encourages the teacher to be more adaptable and innovative in their planning.

Oh, it is different. Always have a backup plan in case the computer breaks down so that you are not taken by surprise.

Additionally, ICT gives online educators access to a wider range of data and perspectives, enabling them to be more innovative with their lesson designs.

Delivering my lesson is simpler for me. I can now access a greater variety of information because of it. It's a different approach to teaching the material to the students. Because I have to truly consider how I'm going to execute it, it gives me a way to create. Can I present a PowerPoint presentation that isn't always the same old thing?

It's a different method of educating the kids about the subject. I have a platform to express myself because I have to be deliberate about how to do it. I want to do something new this time, not just another dull PowerPoint presentation.

## **4.8 Organization and management**

All teachers agree that ICT is a great tool for information organization and streamlining record-keeping. The use of ICT facilitates teacher organization and enhances task management for educational activities.

I little more prepared when I get it. Yes, I think that's a very big problem. ICT also provides more efficient management of educational resources, which is important given that being more organized as a teacher boosts your confidence while you teach. The creation of resource banks of lesson plans and instructional materials, according to teachers, is made easier by ICT, which in turn makes future planning less difficult.

It aids in my teacher organization because I now have a bank of lessons. So it makes it much simpler for me to keep all of my information in one location. Additionally, it makes it simpler for me to put together end-of-term tests by allowing me to draw from several "banks" of former exams, as you may say.

Using ICT helps teachers stay more organized and manage their time more efficiently.

## **4.9. Effects of ICT use on learning**

This theme focused on examining instructors' perceptions of how ICT use impacts students' learning experiences. The responses from teachers were broken down into four subcategories: increasing concept development, recall and understanding, providing more relevant learning opportunities, and having a negative impact on students' learning.

### 4.9.1 Facilitates concept building

Teachers claim that utilizing ICT in the classroom makes it easier for students to picture and understand concepts..

To make it easier for pupils to visualize, I utilize photos or videos if I can. Seeing it firsthand makes it simpler for them to comprehend.

They also voiced the opinion that the use of ICT helps students put concepts into Teachers assert that incorporating ICT into the classroom helps students see and comprehend things more easily.

### 4.9.2 Improves recall and comprehension

All educators agreed that using ICT helps pupils follow along more easily when learning new material, which enhances their capacity to learn concepts.Some students find that because they can actually see something, it is simpler for them to picture and comprehend it. I prefer to utilize it to make sense to them.ICT also enables the use of tangible, real-world examples, which aids in students' retention of the lessons being taught..

Because whenever I offer an example, I believe people can remember it better. I'm talking about a right that they are familiar with since I showed them a video about Tiananmen Square and censorship.

Teachers claim that by encouraging students to reflect and ask questions, the usage of ICTs fosters an inquiry-based mindset in them.

As a result, students are more likely to look into things and carry out independent research.

Children have been known to come into my office and announce, "Sir, I have this song from home."Students genuinely offer to bring things in as a result, and they take an active role in their education.

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### 4.9.3 More meaningful learning experiences

According to teachers, learning becomes more relevant and genuine for children when they have access to hands-on possibilities through ICT. When students are presented with relatable examples from the real world, subjects come to life. Use of ICT enables students to connect with challenging subjects on a personal level. Students can see examples of the ideas rather than just hearing about them from the teacher.

Teachers also claim that when ICT is employed, students take more responsibility for and ownership over their education.

Children have genuinely asked me, "Miss, what's the next topic?" when they want to prepare anything related.I believe students learn more when they have to make something because they own it.As a result, learning is no longer thought of as something that can only be done in a classroom.

### 4.9.4 Negative consequences for students’ learning

Teachers indicated concern that the usage of ICT may have a range of negative effects on students' learning, despite their view that integrating ICT frequently resulted in favorable outcomes for students' learning. The growing usage of ICT in classrooms has led to an increase in student dependence on it. It is expected that it would be used in every lecture since without it, students can become disinterested and have trouble focusing.

As a result, when you actually have a different kind of session or a class where you don't use ICT, kids get bored.

They can occasionally become even more disruptive if you don't use them enough, since they lack the attention they are used to.

Additionally, some pupils may become distracted by the use of ICT. They could become distracted by technology and overlook the goal of the exercise if not attentively watched. Additionally, when technology is used, kids may become overexcited and uneasy. You spend a lot of time trying to convince the students in your lower school to focus again since they have a tendency to become overexcited by technology and make it more of an amusement than an educational tool. One teacher claimed that not all kids benefit equally from the use of ICT to improve learning. Despite the usage of technology, some students still display a lack of understanding.

Even when I use ICT, some students may still approach me after class or outside of one to confess, "Miss, I truly didn't grasp...

Teachers have also seen that children frequently only consider the information shown to them on a screen to be significant. Since students often ignore them even when they participate, only a small portion of what is said in class is recalled after class. Only the PowerPoint is their main concern. While they don't take notes in class, they are attentive to what the teacher is saying and what is on the PowerPoint. They won't remember, though, if you quiz them after class about anything that was covered in class but wasn't on the PowerPoint.

All of the teachers expressed concern about how the usage of ICT was causing pupils' interest in reading to wane. Students frequently claim that watching the DVD is preferable to reading a book. Those are not able to read. For literature in grades four and five, they even rent the DVD. As a result, they can no longer read, which is nevertheless essential for their tertiary education..

Additionally, essential qualities for higher education, such as flair for investigation, formal writing abilities, and analytical and synthesis abilities, are vanishing.

People would expect the machine to spot spelling errors even when typing presentations because they would be losing more of their writing skills. As a result, pupils are not also learning how to produce longer essays or responses. Also of major concern to teachers, especially in light of internet usage, was plagiarism. Teachers saw that some students were beginning to adopt a "cut and paste" approach. We commonly experience issues with plagiarism. Cutting and pasting is fun for them. They are still confused of how to conclude. But the problem was particularly pronounced in the lower school.

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## **4.10 Motivational effects of ICT use**

This theme examined how the use of ICT impacted the motivation of both teachers and pupils. Each teacher saw that both they and the kids had increased levels of engagement and interest. This topic was created by combining the two subcategories, "attention caught" and "engagement increased".

### 4.10.1 Interest captured

Teachers claim that using ICT helps draw pupils' attention and kindle their interest. Kids are motivated to learn and develop genuine enthusiasm for the topic thanks to its use. As a result, students often pay closer attention.Since they tend to remember, become animated, want to learn, and want to engage, they pay more attention than if you just go and sit down and chat.

ICT use among students is engaging and interesting, and this interest typically results in greater involvement and participation.

In general, they appear to be more well-behaved and appear more curious when ICT is present. They also appear to be more interested and their posture changes.The usage of ICT boosts students' interest in studying and helps make courses more engaging to them.…It merely sparks their interest in the material you are teaching.

Teachers reported that, like students, using ICT improves and keeps their attention while also adding energy to their lesson.

It probably makes the lessons I'm teaching more interesting to me. It is perfect for teaching, in my opinion. It keeps my interest and adds dynamism in my opinion. When teachers use ICT, they become excited and engaged in what they are teaching, just like the students do. Usually, the students pick up on this energy and enthusiasm. As a result, educators are motivated to put in more effort.

### 4.10.2 Engagement increased

Teachers claim that youngsters who use ICT have less disruptive behavior and distraction. Keeping students focused and interested increases their chance of success.

Kids tend to be less disruptive when they can focus on an ICT activity, such as paying closer attention. Undoubtedly, interest has increased.

Children are better kept attentive by it than by chatting and using chalk alone. They focus a little harder. When ICT is employed, students are noticeably more eager and enthusiastic to participate in class activities. The usage of ICT by teachers is said to have increased their level of engagement and love for their jobs. Teachers become more confident as a result. I am therefore pleased. I think using it helps me become a better teacher.

##

## **4.11 Emotive value of ICT use**

By incorporating ICTs into their daily routines, teachers can reach out to students who would otherwise withdraw and encourage them to participate actively in class. For the less capable students, they can also create less threatening learning environments.

One particularly feeble student in my class makes a lot of effort, but she likes the wiki because she can edit it afterwards, you know... So it's a way to go out to them and include them in your lesson..

Through the use of ICT, teachers can give their students vicarious experiences that provoke an emotional response and promote the growth of greater empathy for others.

I think people's pupils would be more influenced if I just said, "Okay, this is what happened." I really believe that images effectively evoke people's emotions. Additionally, different students frequently respond differently to visual stimuli, giving the class and the teacher a variety of perspectives.Try the same song with a different Form 3 to see if you receive a different response when you play them a song or show them a DVD.

# 4.12 Impediments to use

The majority of teachers found equipment technical issues to be a source of annoyance, but all teachers acknowledged that using ICT has a positive impact on their instruction. They all mentioned barriers to using ICT, including time constraints, instructor technical proficiency, equipment accessibility, the availability of multimedia rooms, and ICT-related technical issues. Time constraints prohibited them from successfully utilizing ICT.

Consequently, there are also time limitations. In a 35-minute time, I find it challenging to use ICT.

Teachers also mentioned that the need to finish the curriculum quickly, particularly when the number of periods per week is constrained, discourages the use of ICT. Additionally, the amount of time spent educating could be greatly reduced due to the time lost between start-up and shut-down.

In the classroom, setup takes some time. Naturally, you'll need to depart before the other teacher shows up. As a result, your lesson is only 30 minutes long.

ICT-infused classes could require a lot of preparation time. Both the subject and the composition of the class have an impact on the decisions teachers make about how to use ICT into their courses. ICT use by teachers is discouraged when it becomes less educational and more entertaining for the pupils, as well as when Too much theory is involved in the subject. You spend a lot of time trying to convince the students at your lower school to use technology since they tend to lose focus and use it more for entertainment than for learning. Overly enthusiastic ICT use by students can sometimes cause management problems in the classroom, preventing the teacher from using it.

The majority of teachers identified a main obstacle to ICT use as a lack of technical skills. Two educators acknowledged feeling annoyed about having to utilize ICT first. The original usage of ICT, according to teachers, was very disturbing.

It was gruesome. Nothing I tried to construct worked.

It annoyed me. Because I was a computer dinosaur at the time and fiercely opposed to it, I used to have a lot of trouble with the technological challenges.

Using ICT can be uncomfortable for teachers, even those with only a background in literature, because it takes them outside of their comfort zone.

There were difficulties, no doubt. You see, it kind of cut into my instructional time since I didn't know how to put it up properly. Because it would cut into my teaching time, I thought about not utilizing it.

Some believe that instructors are underprepared to use ICT in the classroom since they have not received formal training in how to teach with technology.

They would require new training, not only in ICT. but rather instruction in how to use technology to improve the way that students learn and the way that curriculum is presented.

In addition to teaching ICT skills, training in technology-related pedagogy is required. But all instructors are now aware of the advantages of incorporating ICT into their courses, and they say that practice gives them more confidence and competence

# CHAPTER 5

# SUMMARY, FINDINGS, CONCLUSION AND RECOMMENDATIONS

# Summary

This thesis looked at the value and impact of information and communication technology (ICT) in the classroom from the historical viewpoints of secondary-level teachers. The usage of ICT tools and resources in education increased as a result of the speedy development of technology. This study set out to investigate what teachers believed about how ICT affected both their teaching strategies and the early learning experiences of their pupils.

Qualitative interviews to get a full grasp of past perceptions of teachers. Secondary-level educators from a wide range of disciplines and backgrounds participated, providing unique perspectives on the development of ICT. It comprised in-depth interviews that gave chosen teachers the chance to go into further detail about their prior ICT-related experiences, difficulties, and accomplishments.

The research shed light on the complex variety of historical perceptions. Teachers engaged in discussions addressing the use of ICT in the classroom. While some educators saw ICT as a useful tool that improved engagement, enabled personalized learning, and gave students access to a variety of resources, others expressed concerns about the possibility that technology could lead to distractions, reduce in-person interactions, and increase workload because of technical difficulties. The study also emphasized the link between instructors' prior desire to welcome the incorporation of technology into their teaching approaches and their level of comfort and familiarity with it.

The study also discovered a number of historical variables that affected teachers' perspectives, such as their prior ICT training, the presence of technology infrastructure, administrative support, and the alignment of ICT tools with the curricula of the time. The study offered perceptions on earlier tactics that might improve successful ICT integration. such as focused professional development programs and the creation of thorough ICT policies in the secondary classroom.

# **Findings**

* Teachers typically highlighted how integrating ICT into the classroom increased student involvement and zeal. During lessons, interactive simulations, educational video games, and multimedia presentations can be used to capture and hold students' attention. Teachers saw that as a result of the increased involvement, pupils' participation increased and their attitude toward learning improved.
* Teachers noted how ICT increased access to a wide range of educational resources outside conventional textbooks. They complimented the chance to convey many points of view and real-world context on numerous themes through movies, online articles, and interactive websites. It was believed that exposing students to a range of resources would aid in their development of understanding and critical thinking abilities.
* The study found that teachers viewed ICT as a tool to accommodate students' various learning needs. secondary students' expectations. They underlined how classes may be tailored to each student's talents and learning pace using adaptive learning platforms and online evaluation tools. This plan was supposed to encourage a friendlier learning environment.
* One topic that kept coming up was how teachers' roles were evolving in the ICT era. Participants agreed that their role as primary information providers needs to transition to one of learning facilitators. Teachers claimed to be guiding students' use of digital resources, promoting group learning, and fostering the growth of their critical thinking skills.
* Teachers have expressed concerns regarding the practical use of ICT in the classroom. It was claimed that restricted device access, intermittent internet connectivity, and technical difficulties prevented a flawless integration process. Sometimes these problems interferedwith instruction and required teachers to adjust their plans at the last minute.
* A lot of teachers voiced concern about the potential distractions that non-educational content on cellphones can cause for their students. They also expressed fear that youngsters might rely too heavily on technology in their educational pursuits, which would limit their ability to study conventionally. • Teachers stressed the necessity for ongoing professional development opportunities focused on effectively integrating ICT into teaching techniques. maintaining a balance between using technology and conventional learning methods was still something to consider. In order to take use of the benefits of technology for student learning, they suggested a need for training that covered pedagogical techniques in addition to technical skills.
* Teachers agreed that using ICT in the classroom is a good idea. raised the interest of the students. It was stated that creating an engaging and dynamic learning environment was facilitated by the use of multimedia presentations, interactive simulations, and online dialogues. Teachers saw that when technology was used in the classroom, children were more likely to participate actively and ask questions, indicating a favorable effect on classroom interactions.
* The findings demonstrated that teachers believed that ICT made it simpler for them to more effectively tailor their teachings to the needs of each unique student. Technologies that supported personalized learning routes included online assessments, educational apps, and adaptive learning platforms. Teachers discovered that technology enabled them to accommodate various learning speeds and styles, resulting in a more inclusive classroom.
* Participants highlighted how the use of ICT facilitated greater access to a range of extracurricular learning resources inalongside conventional textbooks. Teachers discussed using books, movies, and online excursions to give a variety of perspectives and real-world scenarios. It was anticipated that this exposure would enhance students' capacity for critical thought and increase the enjoyment and significance of their academic work.
* Teachers talked about technical issues despite their seeming benefits. It has been determined that a lack of technological infrastructure, erratic internet connectivity, and limited device access are obstacles to a seamless ICT integration. These issues occasionally prevented teachers and students from organizing lessons and bothered both parties.
* Teachers talked about technical issues despite their seeming benefits. It has been determined that a lack of technological infrastructure, erratic internet connectivity, and limited device access are obstacles to a seamless ICT integration. These issues occasionally prevented teachers and students from organizing lessons and bothered both parties. • Teachers expressed concerns about the potential for students to be distracted by non-educational content on gadgets and platforms. Some educators were also concerned that a reliance on technology would limit students' ability to learn without it. Finding the ideal balance between keeping traditional teaching techniques and using technology was an ongoing concern.

# Conclusion

This thesis delves into a critical topic of modern education by examining teachers' perspectives on the role that information and communication technology (ICT) plays in secondary classroom learning. Through a detailed research of educators' viewpoints and experiences, we have discovered significant findings that shed light on the evolving role of technology in affecting instructional methods.

Our research demonstrates that most teachers are aware of ICT's great potential to enhance and enrich the teaching-learning process. Teachers view ICT as a dynamic tool that may promote engagement, assist group learning, and accommodate different learning preferences. ICT integration is seen as a technique to enhance students' growth in critical thinking, problem-solving skills, and digital literacy—competences necessary to ensure their success in a globalized world. society with modern technology.

ICT integration into educational practice is still thought to have the power to alter both teaching and learning. Numerous studies have demonstrated how ICT can improve teaching and learning in a variety of ways when used correctly.

The aim of this study was to ascertain the opinions of modern studies teachers in a single-gender secondary school regarding the pedagogical function that ICT performed, as well as teacher and student motivation and interest. This prompted the use of a descriptive case study as a qualitative research strategy, and information was obtained by conducting semi-structured interviews with four carefully selected department members. The data were analyzed using Strauss and Corbin's (1990) ground theory methodology.

The results of the investigation show that ICT is being used into the teaching of current studies, and teachers see a number of benefits for both themselves and the students. ICT was seen as a "fantastic tool" by teachers for engrossing and captivating children in learning. Through the use of ICT, students were exposed to more engaging learning environments and were inspired to take ownership of their education.

ICT was also seen as a key motivator for instructors, igniting their passion for their work and driving them to approach it with more creativity. By exposing students to a wider variety of more valuable materials, the use of ICT enabled real-world encounters that inspired their empathy and improved learning. Its use must still be properly monitored, though, since it might easily become a hindrance to learning and a diversion. The teacher's vital role in adaptively regulating its use is the secret to successfully integrating ICT into educational practice. The use of technology in the classroom needs to be properly planned and supervised because it cannot take the position of the teacher in the process of teaching. It is clear that ICT has enormous potential to change the classroom and, when used well, can improve learning. However, instructors must be knowledgeable and confident in their understanding of technical, pedagogical, and content difficulties in order for technology to be used in the classroom effectively. Therefore, it is important that educators have access to chances to deepen their knowledge of technology and the pedagogy that surrounds its use. Or, to put it another way, it's important to help students develop technical pedagogical subject knowledge (Mishra Koehler, 2007).

## **Recommendations**

Based on the conclusions reached from this study, the following recommendations are offered to help educators, educational organizations, and elected officials maximize the use of ICT in secondary-level classroom teaching:

* + Higher education institutions should invest in continuing, targeted professional development initiatives that provide teachers with the digital strategies and skills they require for smooth ICT integration. Peer learning, the examination of cutting-edge instructional practices, and a heavy emphasis on practical instruction should all be included in these courses.
	+ Schools should have access to dependable and contemporary technology infrastructure, including tools and quick internet connectivity. A flexible and dependable infrastructure is essential to enable effective ICT use and prevent technological barriers from degrading the learning experience.
	+ Teachers should be encouraged to employ a variety of ICT tools and apps that support educational objectives and student requirements. Collaboration between teachers can promote the exchange of innovative concepts and best practices, thereby enhancing the learning environment. • Despite the fact that ICT offers many benefits, it's crucial to combine cutting-edge technology with more traditional teaching methods. Teachers should use ICT to supplement rather than replace face-to-face involvement in the classroom, guided by pedagogical concerns.Teachers should enlist the aid of technologically proficient students as peer tutors and teaching assistants because many teachers lack both competence and confidence using ICT while students, as digital natives, bring with them a variety of ICT abilities.
	+ Few would contest the fact that ICT offers a variety of useful tools that skilled users can utilize to accomplish a variety of goals in the classroom (Delaney et al., 2006). Teachers must therefore acquire the abilities and knowledge required to effectively utilize the opportunities that ICT has to offer for teaching and learning in the twenty-first century in order to completely prepare their pupils for the challenges that lie ahead.

# **REFERENCES**

Becker, H. (2000). Findings from the Teaching, Learning, and Computing Survey. Education Policy Analysis Archives, 8, 51. Retrieved January 10th, 2011 from <http://epaa.asu.edu/ojs/article/view/442/565>

Balanskat, A., Blamire, R. & Kefala, S. (2006). The ICT Impact report: A Review of Studies of ICT impact on schools in Europe. European Schoolnet.

Coskun, P. & Kinnisnet, S. (209). The Netherlands: ICT in education – Country Report. Retrieved.January.5th,.2011.from.http://insight.eun.org/ww/en /pub/insight/policy/policies/2009\_country\_reports.htm

Christensen, R.& Knezek, G. (2006). Pathway for preparing tomorrow's teacher toinfuse technology. Computers in the schools, 23(3/4), 1-21.

Cheng, Y. C., and T. Townsend. (2000). Educational change and development in the Asia-Pacific region: trends and issues. In J. P. Keeves and R. Watanabe ( (Ed.),Educational Change and Development in the Asia-Pacific Region: Challenges for theFuture. Dordrecht: Kluwer Academic Publishers.

Cheng, Y., W. Tam. (2007). School effectiveness and improvement in Asia: threewaves, nine trends and challenges. In T. Townsend (Ed.), International Handbook of School Effectiveness and Improvement. New York: Springer.

Chigona, A., & Chigona, W. (2010). An investigation of factors affecting the use ofICT for teaching in the Western Cape schools. Paper presented in the 18th European Conference on Information Systems, Pretoria, South Africa

Creswell, J. (2007). Qualitative Inquiry and Research Design: choosing from among five approaches. London: Sage Publications Ltd

Charmaz, K. (2000). Grounded Theory: Objectivist and constructivist methods. In N. K. Denzin & Y. S. Lincoln (Eds.), Handbook of Qualitative Research.

Deaney, R., Ruthven, K., & Hennessy, S. (2006). Teachers‟ developing „practical theories‟ of the contribution of information and communication

Deaney, R., Ruthven, K., & Hennessy, S. (2003). Pupil perspectives on the contribution of information and communication technology to teaching and learning in the secondary school. Research Papers in Education, 18 (2), 141-165.

Deaney, R., Ruthven, K., & Hennessy, S. (2006). Teachers‟ developing „practical theories‟ of the contribution of information and communication technologies to subject teaching and learning: an analysis of cases from English secondary schools. British Educational Research Journal, Vol 32, No. 3, pp. 459-480.

Drossel, K., Eickelmann, B., & Gerick, J. (2017). Predictors of teachers’ use of ICT in school: The relevance of school characteristics, teachers’ attitudes and teacher collaboration. *Education and Information Technologies*, 22(2), 551–573.

Littlejohn, A., Margaryan, A., & Vojt, G. (2009). Exploring students’ use of ICT and Expectations of Learning Methods. Electronic Journal of e-Learning, 8(1), 13 20.

Lai, K. & Pratt, K. (2007). Positive to a Degree:Effects of ICT Use in New Zealand Schools. Computers in Schools, Vol 24(3/4), 95- 109

Liu, S-H. (2010). Factors Related to Pedagogical Beliefs of Teachers and Technology Integration. Computers & Education (56), 1012-1022

Maja, M. M. (2023). Teachers’ Perceptions of Integrating Technology in Rural Primary Schools to Enhance the Teaching of English First Additional Language. *Journal of Curriculum Studies Research*, *5*(1), 95-112.

Mishra, P. & Koehler, M.J. (2006). Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge. Teachers College Records. Vol. 8(6), 1017-1053

Meriam, S. B. (1998). Qualitative Research and Case Study Applications in Education. San Francisco: Jossey-Bass Publishers.

Pelgrum, W.J., & Plomp, T. (1991). The use of computers in education worldwide: Results from the IEA 'Computers in Education' survey in 19 educational systems. Oxford: Pergamon Press.

Peralta, H., Costa, F.A. (2007). Teachers’ competence and confidence regarding the use of ICT. Educational Sciences Journal, 3, 75-84.

Rahim, M. Y. (2011). Pemanfaatan ICT sebagai media pembelajarandaninformasipada UIN Alauddin Makassar (ICT as learning media at UIN Alauddin Makassar) Sulesana: *JurnalWawasanKeislaman*,6(2),127-135

Soby, M. & Egeberg, G. (2009). Norway: Country Report on ICT in Education.Retrieved January,5th,2011,from,http://insight.eun.org/ww/en/pub/insight,/policy/policies/2009\_ country\_reports.htm

Strauss, A. & Corbin, J. (1990). Basics of Qualitative Research: Grounded theory procedures and techniques. California: Sage Publications, Inc. Suthe

Tondeur, J., Valcke, M., & van Braak, J. (2008). A multidimensional approach to

 determinants of computer use in primary education: Teacher and school characteristics. Journal of Computer Assisted Learning, 24, 494–506.

Tella, A., Tella, A., Toyobo, O.M., Adika, L.O. & Adeyinka, A. A. (2007). An Assessment of Secondary School Teachers Uses of ICT‟s: Implications for further development of ICT‟s use in Nigerian Secondary Schools. The Turkish Online Journal of Educational Technology. Vol 6(3), pp. 5-17. technologies to subject teaching and learning: an analysis of cases from English secondary schools. British Educational Research Journal, Vol 32, No. 3, pp. 459-480.

Tiene, D. (2004). Bridging the digital divide in the schools of developing countries. International Journal of Instructional Media, 31(1), 89–97.

Yildirim, S. (2007). Current utilization of ICT in Turkish basic education schools: a review of teacher's ICT use and barriers to integration. International Journal of Instructional Media, 34(2), 171-86.

Zhao, Y., & Frank, K. A. (2003). Factors affecting technology uses in schools: An ecological perspective. American Educational Research Journal, 40(4), 807-840.

Zhang, P.,&Aikman, S.(2007). Attitudes in ICT acceptance and use. In J.Jacko, (Ed*.), Human-computer interaction*, (part 1, pp. 1021-1030). Springer Verlag Berlin Heidelberg.

# **Appendix**

# **Interview Protocol**

**General Background:**

a. How long have you been teaching at the secondary level?

b. Have you received any specific training on incorporating ICT in your teaching practices?

 c. What types of ICT tools or devices do you use in the classroom?

**Perceptions of ICT:**

 a. How do you perceive the role of ICT in enhancing the learning experience of students?

 b. What, in your opinion, are the main advantages of using ICT in the classroom?

 c. What challenges do you encounter while integrating ICT into your teaching methods?

**Pedagogical Impact:**

 a. How has the use of ICT affected your teaching style and approach?

 b. In what ways do you believe ICT has influenced students' engagement and motivation in learning?

 c. Can you share any specific examples of how ICT has improved or enriched the learning process?

**Barriers to Effective Implementation:**

a. Are there any technical obstacles you face when using ICT in the classroom? How do you handle them?

 b. Do you have access to sufficient ICT resources and infrastructure in the school?

 c. Are there any administrative or policy-related hurdles that hinder the effective use of ICT?

**Student Performance and Assessment:**

 a. Have you noticed any changes in students' academic performance after incorporating ICT in your teaching?

 b. How do you assess the impact of ICT on students' learning outcomes?

 c. Do you believe ICT can cater to the individual learning needs of students?

**Professional Development:**

a. What kind of professional development opportunities do you think would be beneficial to enhance your ICT integration skills?

 b. How does the school support teachers in effectively using ICT for classroom teaching?

**Student Digital Literacy:**

 a. How do you address variations in students' digital literacy levels when incorporating ICT in the classroom?

 b. What strategies do you use to promote digital literacy among your students?

**Balancing ICT and Traditional Teaching:**

 a. How do you strike a balance between using ICT and traditional teaching methods in your classroom?

 b. Are their specific topics or subjects where you find ICT more effective than traditional approaches?

**Teacher-Student Interaction:**

a. How has the use of ICT influenced teacher-student interactions during the learning process?

 b. Do you find any challenges or benefits regarding communication and feedback with students when using ICT?

**Future Outlook:**

a. In your opinion, what role will ICT play in the future of secondary-level education?

 b. How can school and policymakers better support teachers in integrating ICT effectively?