THE ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGY ON ENHANCING PUPILS' ACADEMIC PERFORMANCE IN PRIMARY SCHOOLS IN SAME DISTRICT, TANZANIA

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A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMNTS FOR THE DEGREE OF MASTER OF EDUCATION IN ADMINISTRATION, PLANNING AND POLICY STUDIES (MED-APPS)

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2025

CERTIFICATION

The undersigned certifies to have read and hereby recommends for acceptance by the Open University of Tanzania a dissertation entitled **"Assessment of the Role of Information and Communication Technology on Enhancing Pupils' Academic Performance in Primary Schools in Same District, Tanzania",** in partial fulfilment of the requirements for the Degree of Master of Education in Administration Planning and Policy Studies of the Open University of Tanzania (MEDAPPS).

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Date

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DECLARATION

I, **Liberata Petro Joseph,** declare that, the work presented in this dissertation is original. It has never been presented to any other University or Institution. Where other people's works have been used, references have been provided. It is in this regard that I declare this work as originally mine. It is hereby presented in partial fulfilment of the requirements for the Degree of Master of Education in Administration Planning and Policy Studies of the Open University of Tanzania (MED-APPS).

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Signature

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Date

DEDICATION

I extend my gratitude to my daughters Rose Furaha Mkiramweni and Fabiana Furaha Mkiramweni as well as my parents, especially to Mrs. Joseph Petro Mbanzendole for their unwavering support, encouragement, and direction during my academic journey.

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ABSTRACT

This study assessed the role of information and communication technology in enhancing pupils' academic performance in public primary schools in Same district, Tanzania. Specifically, it explored the extent of ICT utilisation in the learning process among pupils; determined the pupils' awareness of the role of ICT application in the learning process; and examined the challenges hindering the utilisation of ICT on the learning process in enhancing pupils' academic performance. The study employed mixed methodology following a pragmatic research paradigm and an explanatory sequential design. The study used a sample of 89 respondents. Data were collected using questionnaires and semi-structured interview guides. The collected data were analysed through descriptive statistics and content analysis. The study's findings disclosed that; First, the majority of pupils were extensively utilising ICT. Secondly, pupils are aware of and held a favourable impression regarding the impact of ICT policy on teaching and learning activities. Third, it revealed obstacles hindering the utilisation of ICT. The study concludes that although the utilization of ICT was being hindered by the challenges in implementing the ICT played a great role in enhancing pupils' academic performance but the effort to hampered by challenges which slowed down the desire for improving pupils' academic performance should be taken. The study recommends maintenance of digital infrastructures to schools, adequate power supply, engaging pupils in training, as the majority were found to possess limited knowledge of ICT utilisation and other studies should be done in Pre and Primary.

Keywords: *ICT, Awareness, Pupils, Teaching and Learning process*

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LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA	-	Analysis of Variance
CD	-	Compact Disc
DVD	-	Digital Versatile Disc
DED	-	District Executive Director
DPPEO	-	District Pre and Primary Education Officer
FDG	-	Focus Group Discussion
GOK	-	Government of Kenya
HOT	-	High Order Thinking
IC	-	Information Computer
ICT	-	Information and Communication Technology
KCSE	-	Kenya Certificate Secondary Examination
MoEVT	-	Ministry of Education and Vocational Training
RAS	-	South Africa Republic
SDG4	-	Sustainable Development Goal
SIDA	-	Swedish International Development Cooperation Agency
SPSS	-	Stastical Package for Social science
UNESCO	-	The United Nations, Educational, Scientific and Cultural Organisation
URT	-	United Republic of Tanzania
WEO	-	Ward Education Officer

CHAPTER ONE

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction

This chapter presents the background of the study and its context under the following sections: background of the problem, statement of the problem, research objectives and accompanying questions, delimitation of the study, limitation of the study, significance of the study**,** definition of key operational terms, and organisation of the report.

1.2 Background to the Study

Globally, Information and Communication Technology (ICT) has revolutionised the society by providing higher bandwidth, advanced web-based applications, wireless handhelds, fast tablets, and high-performance desktop PCs (Jacob, Dahir, & Jegede, 2021). Furthermore, a UNESCO study (2019) affirms that countries have included ICT into their education systems because of its substantial benefits, such as enabling pupils to construct engaging multi-sensory, interactive settings with almost boundless learning possibilities. According to the World Bank study (2017) the swift growth of the global economy and information-driven culture has compelled educational institutions worldwide to embrace ICTs to impart the knowledge and skills necessary for pupils in the twenty-first century.

The expansion of the ICT industry has necessitated educators to strategies for the effective implementation of novel learning aids in their classrooms. (UNESCO, 2017). (Mtebe, J. S. 2017) contended that the use of ICT in the educational process

yields substantial advantages. However, it is crucial for pupils to understand its integration within the all-encompassing curriculum. Torres (2021) highlights that different ICTs can facilitate educational development and efficient learning by expanding access, enhancing efficiency, improving learning quality, sustaining high-quality teaching, and enhancing management systems. Most Western and European countries have prioritised the use of information and communication technology (ICT) in education and training during the last decade, but progress has been inconsistent (Sumardi, 2020). In the United States, public schools now provide at least one computer for every five pupils (Santos et al, 2019). In recent research of 3,672 science teachers, virtually all (98.6%) reported using digital media to supplement science instruction (Sumardi, 2021).

The use of ICT in the learning process in primary schools in Sub-Saharan Africa is dependent on access to ICT resources such as hardware, software, and communications infrastructure. However, lack of funding and inadequate ICT facilities related to technology use have been identified as significant barriers to ICT use in primary schools (Aduwa and Iyamu, 2019). Similarly, Jacob and Jegede (2021) reported poor ICT infrastructure in Kenya and South Africa, as well as a lack of basic computer instruction for pupils. Furthermore, they claimed that these conditions make incorporating ICT into primary school teaching and learning processes unfeasible.

According to UNESCO (2019), the fourth Sustainable Development Goal (SDG4) aims to guarantee comprehensive and fair access to high-quality education and

promote continuous learning opportunities for universal individuals. This purpose underscores the pivotal role of education in establishing a more sustainable and fairer world. Among the many objectives of SDG4 is to guarantee that every child, regardless of gender, has access to a free, fair, and high-quality primary and secondary education. Thus, there is a need to advocate for universal access to lifetime learning opportunities thus accelerating the integration of technology in education to enhance academic achievements.

In Tanzania, the URT-ICT policy facilitates the incorporation of Information and Communication Technology (ICT) into the field of education. The aiims of this policy are: Offer schools the essential infrastructure for information and communication technology (ICT), which includes reliable and cost-effective internet access. Provide teachers with fundamental ICT literacy skills and the knowledge to effectively use ICT in educational environments. Advocate for the use of ICT to bolster national school curricula and enrich classroom learning experiences. Tanzania's ICT policy in education aims to comply with SDG4 by addressing the digital gap and guaranteeing universal access to high-quality education using technology for all pupils (UNESCO, 2019).

Tanzanian primary schools have been using ICT for some time. Radios were installed in primary schools in the late 1960s and early 1970s so that pupils may listen to instructional programmes created by the Ministry of Education (UNESCO, 2019). Previously, the Tanzanian government attempted to restore ICT into Tanzania's education system. The initial phase of ICT adoption in primary schools

began in 2005 as collaboration between MoEVT and SIDA (Hare, 2019). The Ministry of Education and Vocational Training (MoEVT) initiated the use of Information and Communication Technology (ICT) in 480 primary schools nationwide as a pilot project, with the objective of achieving universal coverage by 3015 (URT 2007).

The 2007 ICT and educational policy stressed the use of ICT facilities in primary schools for curriculum, content, training, and capacity building, as well as planning, procurement, and administration. It also takes into account management, support, sustainability, monitoring, and evaluation (Hare, 2019). In primary schools, the policy recommended that ICT be taught as a subject and used as a pedagogical tool for teaching and learning in other disciplines (URT, 2007). As a result, public primary schools and the use of ICT in the teaching-learning process have become necessary, as their adoption and implementation in primary schools will increase learning effectiveness.

Despite the government of Tanzania's efforts to promote ICT adoption and use in the learning process, Pima (2019) revealed that the most common applications of ICT for learning among Tanzanian pupils were to increase concentration and comprehension, critical thinking, flexibility, and autonomy. Despite the mandated use of ICT in the learning process in Tanzanian primary schools, funding constraints have been reported to stifle ICT deployment in the majority of primary schools. Poor financial allocation in ICT deployment has been shown to worsen other challenges associated with ICT application in primary schools. These are such as inadequate ICT facilities,

a lack of ICT training for teachers, a lack of internet connectivity, and power outages (Ndibalema, 2021).

Researchers have extensively researched on the use of information and communication technology (ICT) in education, and there is considerable literature on its impact on pupils' academic achievement. Here are some major findings from recent Information and communication technology: it enhances learning environments, transforms traditional classrooms into more interactive and engaging learning environments. E-books, instructional software, and internet resources enable more personalised learning experiences (Aduwa & Iyamu 2019). Other studies have demonstrated that ICT improves student engagement. For example, Albirini (2021) found that using ICT in education increases student engagement and motivation. It also demonstrated how interactive technologies and multimedia materials can make learning more engaging and accessible.

Other studies have shown that ICT use helps develop digital skills and bridges the digital gap. ICT also assists pupils in developing vital digital skills that are critical in today's digital environment. These abilities not only boost the academic success but also help pupils prepare for future careers. Bridging the Digital Divide: Although ICT could improve learning, it also accentuates the digital divide (Amuchie, 2019). Nasser (2019) and Mwalongo (2021) assert this. Access to technology and digital skills training can have a substantial impact on pupils' academic performance, as demonstrated by Mwalongo (2021) who found that successful integration of ICT in education is strongly dependent on teachers' attitudes, confidence, and training in

using these technologies. However, more research indicates that ICT is not being fully integrated as a pedagogical tool in primary schools to transform teaching and learning practices (Ngeze, 2017). Mutisya (2020) claims that various ICTs, like computers, the internet, video, television, CDs, DVDs, video players, and so on, may be integrated into education to improve teaching methods. Several studies have identified several barriers to ICT integration in education, including a lack of technical support staff, insufficient appointment and training of pupils' ICT helpers, insufficient time for teachers to prepare for ICT-mediated lessons, insufficient collaboration among teachers in preparing ICT-mediated lessons, a lack of support provided by school administration in addressing pupils' ICT concerns, and insufficient training and demonstration.

Tanzania's intentions to integrate ICT in education continued when it was decided that following the 2020 population census, all public primary school teachers should be given tablets to facilitate teaching and learning. Currently, more than 407 (Swedish) donor-funded devices are in the hands of all pupils in the Same primary schools in the Same district; yet, given the aforementioned problems, it suffices to state that the role of ICT in learning has yet to be defined.

1.3 Statement of the Problem

Tanzania, like other developing countries, has insisted on integrating ICT into the learning processes. The government has made significant efforts to integrate ICT into the learning process for pupils. Despite all the efforts made by the government and stakeholders to integrate ICT into the learning process in schools (such as the

formation of an ICT policy and the distribution of gadgets, tablets, and computers, as well as the policy's implementation in curriculum design), ICT integration and use in schools remains low or the efforts have not yielded the desired outcomes and finally its role has not yet discovered as evidenced by (Farell, 2019; Jacob & Jegede, 2021; Kimitei, 2020; Mukeka, 2020).

Nevertheless, despite all these problems, there is slight information about the role of information and communication technology on enhancing pupils' academic performance in primary schools as most of the studies which have been conducted have focused more on the role of ICT toward students' academic performance and its challenges in Tanzania secondary schools, Moreover, a significant amount of time has passed since Tanzania adapted the 2016 ICT policy and the role of ICT in primary school on improving the academic performance is still not well known . Hence, in order to determine the role of ICT on pupils' academic performance, it was necessary to conduct research. Thus, this study was set to assess the role of information and communication technology in enhancing pupils' academic performance in Same district, Tanzania.

1.4 Research Objectives

1.4.1 General Objectives

The general objective of this study was to assess the role of information and communication technology on enhancing pupils' academic performance in primary school in Same District, Tanzania.

1.4.2 Specific Objectives

This study was guided by the following specific objectives:

i. To explore the extent to which ICT is being utilised in learning process amongst pupils in Same District Primary Schools.
ii. To determine pupils' awareness on role of the application of ICT in learning process in Same District Primary Schools.
iii. To examine the challenges hindering the utilisation of ICT in the learning process in enhancing pupils' academic performance in Same District Primary schools.

1.5 Research Questions

i. How far do pupils utilise ICT in the learning process in Same Public Primary Schools?
ii. What is the pupils' awareness on role of the application of ICT in learning process in Same District Primary Schools?
iii. What are the challenges that hinder the utilisation of ICT on the learning process in enhancing pupils' academic performance in Same Primary Schools?

1.6 Significance of the Study

The aim of this study was to assess the role of information and communication technology on enhancing pupils' academic performance public primary schools in Same District. This study on ICT use in primary schools is significant in the following ways: firstly, the study may provide ideas for increasing the use of ICTs to improve the learning processes. This may be achieved through teaching pupils to

develop skills, knowledge, and competencies that will enable them to participate in the growing global 'knowledge' economy. The policy has a mission of integrating ICT in order to enhance access, equity, quality and relevance of basic education, while stimulating and improving teaching and lifelong learning (MoEVT, 2007). It is envisaged therefore that; this study will contribute to ICT enhanced and well-educated primary school teachers.

Secondly, the data and information acquired in this study will hopefully be used to teach various education stakeholders, researchers, educators and ICT training planners about the huge promise of ICT integration in schools in the emerging economies like Tanzania. For instance, goal number eighteen (target 18) suggests for the available enhanced benefits of new technologies especially ICT through the use of internet, computers, telephone lines and cellular subscribers (URT, 2007).

Thirdly, the findings could also help the Ministry of Education and Vocational Training (MOEVT) modify and create policies and efforts to raise academic standards in our schools. This is supported by Sustainable Development Goals (SDGs) goal number four which needs education to be free and compulsory, increase the number of teachers, improve basic school infrastructure and implementation of digital transformation. All these are vital for educational achievement.

1.7 Scope and Delimitation of the Study

This research was carried out in eight (08) public primary schools in Same District Council that have received Swedish Donor funded ICT gadgets. Participants included

teachers and the purpose of the research was to determine the roles of ICT in public primary schools. Furthermore, the study would base on the extent of the use of the ICT and the challenges limiting the use of ICT in the learning process.

1.8 Limitation of the Study

Initially, the researcher encountered difficulties in securing full cooperation from the interviewees. However, these problems were overcome by building a good rapport with the respondents at the start of the discussion and clearly outlining the study's purpose and the ethical issues involved in performing the research. Furthermore, the research faced time constraints because the district pre and primary education officer (DPPEO), Ward education officer (WEO), Head teachers and teachers had limited availability to provide the essential data.

This was due to the study being carried out alongside other academic interests, employment obligations, and personal responsibilities. To overcome this constraint, the researcher requested permission from the school administration and respondents' consent on the specified day when the respondents were allowed time to communicate with the researcher, which was consistent with the stated goals.

1.9 Definition of Operational Terms

ICT Integration: refers to the process of employing any ICT (online resources, multimedia programmes on CD-ROMs, learning objects, or other technologies) to improve pupils learning.

Computer: refers to an electronic machine controlled by instructions stored in its own memory that can accept data (input), manipulate data according to specific rules (process), create results (output), and save the results for later use.

ICT: Information Computer technology (ICT) is the professional application of computer systems, software, and networks for the purpose of managing, processing, and communicating information. It comprises a broad spectrum of technologies and methodologies, which include: Data management refers to the storage, retrieval, and manipulation of data. Networking is the act of linking computers and electronic devices to exchange information.

Academic Performance

Academic performance is the level of accomplishment and success that an individual attains in educational environments, usually evaluated by grades, test results, or other measures of learning and information acquisition. Higher academic achievement is a crucial indicator of school success as it provides access to higher education and lucrative employment opportunities.

Roles: refer to the overall achievement of an intervention on the educational system and can be described by a range of qualitative measures such as improvements in national test results or enhanced learning in schools depending on the policy aim. It is the culmination of an intervention that includes input, process, output, and outcome.

1.10 Organisation of the Dissertation

This research report is organised into six chapters. Chapter one presents the background of the study; a statement of the problem; objectives of the study; research questions; scope and delimitation of the study; limitation of the study, significance of the study, definition of the operational terms; and organisation of the report. Chapter two is about the literature review which includes theoretical literature, empirical studies, synthesis and research gap, and conceptual framework. Chapter three presents the research methodology which includes: research paradigm, research approach, research design, study area, study population, sample and sampling techniques, methods of data collection, and validity and reliability, data analysis and ethical considerations. Chapter four presents the findings. Chapter five discusses the findings, and chapter six gives the summary of the study, conclusion, implication and recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter gives an introduction to the theory that underpins the study, as well as a review of pertinent empirical studies on the role of ICT in improving teaching and learning in various countries. Again, further areas are explored below that is, research gaps and a conceptual framework.

2.2 Theoretical Literature Review

2.2.1 The Constructionist Learning Theory

This study was guided by the Papert Seymour's of the year 1980 who constructed the Constructionist Learning Theory. The theory asserts that individual learners construct mental models to comprehend their surroundings. Papert Seymour has been a strong advocate for using technology in classrooms, beginning with his early use of the Logo language to teach mathematics to pupils.

Application of the theory

The Constructionist Learning Theory promotes student-centred, discovery learning, in which pupils use material they already know to gain further knowledge. He also contends that pupils learn by participating in project-based learning, in which they establish connections between different ideas and areas of knowledge assisted by the teacher through coaching rather than lectures or step-by-step instructions. In the framework of this study, teachers should use ICT to help pupils create knowledge and reflect on their academic achievement in many courses. To improve his or her

teaching, the instructor should understand and utilise the pupils' learning capacity. The theory also claims that learning is the most successful when people are actively involved in creating physical products in the actual world. This links constructionist learning theory to experiential learning. This study expects teachers to utilise appropriate teaching and learning resources, including ICT resources, to enhance pupils' academic performance. Seymour examined how computers structure information and how pupils' perceptions of their past experiences shape the knowledge structure. In this study, the theory explained teachers' responsibilities for assessing their pupils' prior knowledge and attitudes towards ICT, which may influence their performance.

Furthermore, it assisted in investigating the ICT infrastructure in the same primary schools and how teachers and pupils use it in the teaching and learning process. The constructionist theory emphasises that pupils should gain hands-on experience with manipulative materials, viewing learning as a reconstruction rather than a transmission of knowledge. This is because; learning is the most effective when integrated into an activity in which the learner actively constructs a meaningful product. In this study, educators should employ ICT as a teaching tool to evaluate pupils' proficiency and comprehension, which will manifest itself in their performance. Seymour’s Constructionist Theory provides several advantages in assessing the impact of ICT on student achievement. Firstly, the foundation of the constructionist learning theory rests on the idea that pupils create their own knowledge, drawing on their prior knowledge and the information they gather from their environment. This strength allows teachers to assess pupils' ICT skills before

teaching them in the classroom, according to this study. It can also help to evaluate teachers' and pupils' attitudes towards ICT.

Seymour outlines three tasks for teachers implementing the Constructionist Learning Theory in the classroom: modelling, coaching, and scaffolding, which provide sufficient support to enhance learning during the introduction of new concepts. As a result, the theory's second strength advocates for a democratic learning environment in which the instructor serves as a learning guide rather than an authority figure, and activities are interactive and student-centred. This study delved into the proficiency of teachers in ICT, the impact of ICT on pupils' performance, evident in their capacity to complete tasks independently without teacher guidance, and the extent and quality of ICT infrastructure in primary schools within the same region. primary schools in Same.

Limitation of the theory

Apart from the advantages, Seymour's constructionist theory has two disadvantages. First, it lacks structure. Some pupils require highly regimented surroundings to complete their responsibilities. The constructionist approach advocates for the instructor to abandon the standardised curriculum in favour of a more personalised course of study based on what the pupil currently understands. This may make some pupils lag behind others in their work completion, thus affecting the performance of slow learners. The theory's second flaw is that it could make pupils become confused and upset because they may be unable to create relationships and analogies between their prior knowledge and the knowledge they are acquiring in the classroom (Papert,

1980). Despite the foregoing limitations, the researcher chose this theory because it identified the characteristics that could help analyse the impact of ICT on pupils' academic achievement in the same schools. Finally, the researcher concluded that this theory was appropriate for assessing the impact of ICT on the learners' performance in primary schools in the same area. The constructionist approach supports the diffusion of innovation hypothesis since it was the first to incorporate technology into the teaching and learning process. The researcher used the constructionist theory to bolster the diffusion of innovation theory as learners actively shape their own learning experiences. As individuals accept new technologies through the diffusion of innovation theory, how they relate new experiences to the existing knowledge is critical. As a result, in this study, the two ideas complemented one another.

2.3 Empirical Literature Review

2.3.1 The Extent to which ICT is being utilised in Learning Process Amongst Pupils in Same Primary School

The study conducted by Sumardi et al., (2020) examined the degree to which the primary school teaching and learning process align with the characteristics of the 21st-century learning, as well as the elements that influence it in Indonesia. The data for this case study research were collected from 120 primary school instructors at 40 primary schools. Data were quantitatively presented after being analysed using the interactive model and through observation and interview; the empirical investigation showed that over half of the primary school teachers did not incorporate the 21st-century learning. It was found that most of the instructors (59.17%) were using

teacher-centred learning, while the rest were using conventional methods. This was found to reduce pupils' high-order thinking (HOT), eliminate technology in teaching and learning, and disproves primary-level learning progress (53.33%). Nevertheless, teachers were identified as possessing a degree of content mastery (95 %) and were capable of delivering the class information in a clear and comprehensive manner. The problems noted in accommodating the characteristics of the 21st-century learning in the classrooms were the absence of digital infrastructure in the schools and the lack of pedagogical and technological skills and understanding of students' growth. This situation implies that Indonesian students are not as proficient in science and technology as their counterparts in other nations. This study was conducted outside of Tanzania. Thus, there was a need to conduct a study of the same nature specifically in Same district.

Shatrı (2020) undertook a study to examine the advantages and disadvantages of utilising cutting-edge information technology to instruct primary and lower secondary school students in Turkey. The objective of this investigation was to evaluate the influence of cutting-edge information technology on the education of lower secondary school pupils, as well as to demonstrate the advantages and disadvantages of technology information to students. The study sample comprised of 50 kids between the ages of 11 and 14, and a quantitative research method was employed. Questionnaire instruments were implemented to accumulate data, which were then subjected to descriptive statistics. The study demonstrated that pupils were efficiently utilising the information technology. The Internet was being utilised by more than 80% of the students, who derive several benefits from it, particularly in

the areas of communication and the acquisition of new information. Conversely, information technology is a big time-sink and negatively impacts pupils' attentiveness in the classroom. The quantitative research method was employed in the study, whereas the mixed method was employed in this study.

A study conducted by Ghavifekr and Rosdy (2015) on Teaching and Learning with Technology aimed to determine the effectiveness of ICT Integration in schools in Kuala Lumpur, Malaysia. Quantitative methodology was used. The data acquired from all the respondents were collected and analysed using the quantitative technique. A survey questionnaire was randomly delivered to 101 instructors from 10 public secondary schools in Kuala Lumpur, Malaysia. SPSS (version 21) software was employed to examine the quantitative research data for both descriptive and inferential statistics. The findings suggest that the incorporation of ICT is highly effective for both pupils and teachers. The results suggest that the success of technology-based teaching and learning is significantly influenced by the well-equipped preparation of instructors with ICT tools and facilities. It was also discovered that professional development training programmes for teachers were crucial in improving the quality of education for children. The quantitative research method was employed in the study, whereas the mixed method was employed in this study.

Abubakar (2016) conducted a study to determine ICT use in North-eastern Nigerian public secondary schools. Quantitative and qualitative methods were used. The survey included public secondary school students, instructors, and administrators

from six North-Eastern Nigerian states. It was found that 120 punctual and earnest pupils were carefully picked from 12 randomly selected regional schools. This group of 86 boys and 34 girls aged 11–18 represented their schools. Three punctual and dedicated teachers from each school were chosen. This yielded 36 people, 22 males and 14 females, aged 25–45, with a mean age of 35. Six administrators were also questioned to verify pupils and teachers' responses. The collected data were analysed, content analysis was used to code and analyse the conventional interview data, while descriptive statistics were used to compute and evaluate questionnaire responses. The outcome was summarised and tallied using descriptive statistics for easier presentation, assessment, and interpretation. The research showed that ICT use was low due to poor policy execution, social amenities, and insecurity. Additionally, educators lacked proficiency in most ICT resources. This study complements earlier research and emphasises the need to bridge policy and execution. The study was conducted outside of Tanzania in public secondary schools. Thus there was a need of conducting the same study in Tanzania specifically in public primary schools in the Same district.

Mchalo et al., (2021) examined how public secondary school teachers in Arusha city council, Tanzania, were using computers in teaching and learning. Rogers' Diffusion of Innovation theory led the investigation. Convergent parallel design was used in mixed research. In this study, 100 instructors and 10 school leaders were selected using purposeful and stratified simple random sampling. Data were collected using questionnaires, structured interviews, and observation guides. Quantitative data were descriptively analysed using mean, standard deviation, frequency tables, and

percentages. In this study, qualitative data were thematically analysed. Research ethics ensured source confidentiality and respondent anonymity. Computers, electricity, and related programmes were provided in public secondary schools, but technical support and supportive and auxiliary infrastructures were average or not available in other schools. The findings showed that teachers were less utilising computers for class planning, preparation, presentation, assessment, evaluation, communication, and information exchange. However, some teachers were using computers for record keeping. The study found that instructors were using computers less for assessment and evaluation, record keeping, lesson planning, presentation, communication, and information sharing. The study advised the government to train teachers in computer-based teaching and learning. This study examined on teacher computer use while this study assessed the role of information and communication technology in enhancing pupils' academic performance in public primary schools in Same district, Tanzania.

Mandari (2018) examined the availability of ICT tools for managing students' academic records in secondary schools in Arusha City Council Tanzania. The research methods were quantitative and qualitative, with quantitative data dominating. A survey design was used to collect data through interviews, questionnaires, observation, and documentation. The study included 120 students from 10 high schools Samples were collected through stratified and purposive sampling. In this study, SPSS (Version 22.0) used descriptive statistics for frequencies, mean, and standard deviation to analyse quantitative data in Tables. Thematically evaluated qualitative data were presented in Tables and paraphrased.

The study indicated that secondary school instructors had access to a variety of ICT tools and facilities. These tools were mostly for academic and non-academic usage. It was found that ICT improved schools' managerial ability and students' academic achievement by making examination records, progress, report processing, and easing decision-making. The study examined ICT tools for keeping students' academic records, whereas the present study assessed the role of information and communication technology in enhancing pupils' academic performance in public primary schools in Same District, Tanzania. The earlier survey included students, instructors, and school leaders, but the current study included DPPEO, WEO and Teachers.

2.3.2 Pupils' Awareness on Role of the Application of ICT in Learning Process in Pupils in Same Primary Schools

Halili and Sulaiman, (2019) examined secondary schoolchildren in a rural Malaysian district's embrace of ICT. Respondents were rural Malaysian secondary pupils selected using purposive sampling. Data were collected from 450 respondents via questionnaire. SPSS was used for descriptive statistics and correlation analysis. Facilitating environments, social influence, performance expectancy, and effort expectancy all affected behavioural intents to utilise ICT for education, according to the study.

In comparison, most students had higher mean values for the enabling condition factor. Thus, the study advised authorities to prepare technology equipment before introducing them to rural students. The study also suggests more research on rural

pupils' digital use. This study was conducted in secondary schools whereas the current study was conducted in public primary schools in Same District, Kilimanjaro Tanzania.

This study of Shatrı (2020) explored the advantages and disadvantages of teaching elementary and lower secondary pupils with modern information technology. This study was quantitative in nature where by 50 respondents aged 11–14-years- were selected. The measuring instrument used was questionnaire which included includes discovery, descriptive, explanatory, and evaluation scientific research questions. To determine the advantage and disadvantage of pupils using information technology in the classroom, descriptive statistics and an ANOVA test were used. IBM-SPSS Statistics 20 analysed quantitative data. The study found that pupils were using Information and Technology devices well. Over 80% of the students were using the Internet, which was helping them learn and communicate. However, it should be noted information technology disrupts class concentration and wastes time. The study uses quantitative method while this study employed mixed method.

The study conducted by Mfoi, D. M et al, (2024) on students' perspectives and practices of ICT in teaching and learning at a public secondary school in Ilala, Tanzania. The study assessed secondary school students' ICT knowledge and skills in Ilala district, examined how they were using ICT facilities in learning, and collected their opinions on ICT integration in teaching and learning. Focus group discussion (FGD) and questionnaire surveys from school pupils were employed to collect data for the case study. Twenty-five students were randomly selected to complete a

questionnaire, and ten focus group discussion participants were chosen. The study analysed qualitative and quantitative data thematically and descriptively. It was revealed that students were viewing ICT integration in teaching and learning positively, according to the survey. Students also showed proficiency with desktops, laptops, smartphones, smart boards, and iPads. Students complained that they were barred from bringing personal ICT devices to school, had little time to spend on computer programmes, and could only use them in computer classes. The study suggests that secondary school administrators remove hostile rules that restrict students from using personal ICT in teaching and learning. ICT user education should be provided to public schools to counter unfavourable attitudes about students' ICT use for learning. The study was conducted in public secondary schools while the present study was conducted in public primary schools specifically in Same district.

Challenges Hindering the Role of ICT in Learning Process of Pupils in Same Primary Schools

Research by Seifu, (2020) at Aksum University in the US examined ICT integration in teaching-learning. This study examined factors affecting ICT integration in teaching-learning. Using descriptive survey research design, a population of 555 was targeted. Stratified random sampling and thorough sampling identified 390 respondents. Data were collected via questionnaires and interviews. It was shown that teachers' attitudes toward using ICT, the availability of ICT facilities, their confidence in their abilities, their technical knowledge, and the technology itself all affected how well ICT was integrated. Teachers' lack of administrative and technical

assistance, the tight curriculum, not enough time or electricity, and no specific examples of how to incorporate technologies; all hindered ICT use in teaching and learning. This study which was conducted in a developed country found various barriers to ICT integration. Thus, it motivated the researcher to conduct a study in Tanzania, which is a developing country specifically in Same district.

Muia (2021) conducted a study to examine how Kitui Central Sub County public elementary schools were integrating ICT into teaching and learning. The study aimed to examine the effects of teachers' ICT literacy, attitude, and resource availability on ICT integration in teaching and learning. The study used the Technological Pedagogical Content Knowledge (TPACK) Model for Technology Integration in Teaching and Learning and the Technology Acceptance Model (TAM). The study was descriptive survey research where 70 head teachers and 1053 teachers from 70 public elementary schools were involved in the study. The survey included 21 head teachers and 105 instructors selected by random sampling.

The head teacher interview schedule and teacher questionnaire were used to collect data. Data were analysed through descriptive and inferential statistics. The study indicated poor instructors' ICT literacy, relatively positive attitudes toward ICT integration, and moderate ICT resource availability. The findings should provide valuable feedback to the government on the National ICT policy on Education and Digital Learning Programme, which aimed to integrate ICT into primary school teaching and learning in Kenya. The study suggests that there should be frequent obligatory in-service training to educate teachers with ICT capabilities.

Imamun, (2021) looked into how readily available, how often, and how well teachers in the Federal Capital Territory of Abuja, Nigeria, were using ICT in the classroom. Six research questions shaped the study, and three hypotheses were put to the test. The type of research used was a descriptive survey. A well-structured questionnaire called the availability, use, and competency of ICT was used to collect the data. In this study, 351 senior secondary school teachers from 62 public secondary schools were chosen at random from a group of 3,999 teachers. All of the study's hypotheses were put to the test with the Pearson Product Moment Correlation Coefficient (PPMCC), the t-test, and the ANOVA. Through the results, it was found that public senior secondary schools in Abuja, did not have a lot of ICTS available or used in the classroom.

It was found that teachers in the area that was studied knew how to use ICT in the classroom. There was no significant link between availability and how well the teacher knew how to use ICT. There was no big difference between men and women in terms of how well they knew how to use ICT. Again, there was no significant difference between teachers based on their academic background or their ICT skills. The study said that these schools should try to get ICT facilities and teachers who are already good at their jobs who should work to get even better. Teachers of both sexes and all levels of education should work hard to learn new skills and get better at the ones they already had. This study was conducted in public secondary schools while the present study assessed the role of information and communication technology in enhancing pupils' academic performance in public primary schools in Same district, Tanzania.

The study conducted by Joseph (2022) aimed to determine the use and challenges of ICT in Secondary Schools in Mtwara Mikindani Municipality Tanzania. The goals were to assess the usage of ICTs in secondary education, assess their benefits, and identify their problems. This cross-sectional and descriptive study examined ICT use and problems in the selected secondary schools. The study included 120 secondary school teachers and included questionnaires and key informant interviews. The study found that ICT increased teaching and learning, gave access to education materials, student understanding, collaboration, and class participation. It was found that poor ICT infrastructure, lack of ICT skills and knowledge, lack of technical assistance, and lack of teacher training limited secondary school ICT use for teaching and learning. This study found that ICT use benefitted both students and instructors but its use was low owing to several factors outside schools' control. The report advises that policymakers require schools to invest in ICT infrastructure, including computer labs, and hire specialised technicians in each of the five schools for technical support. The study acknowledged the need for providing early understanding on the challenges of ICT use in secondary schools. In contrast, the current study examined ICT challenges in public primary schools specifically in Same, Kilimanjaro.

Warioba et al., (2022) examined Information Communication Technology (ICT) as a pedagogical tool for community secondary school instructors and students. Mixed method approach was used. The study included five rural peripheral Serengeti Districts. The 210 respondents that is, 180 pupils and 30 teachers—were selected using simple random and purposive selection. The main data sources were standardised questionnaires and structured interviews. The presence of electricity,

ICT devices, technical support, and a good attitude toward ICT use were found to be factors in CSS ICT adoption. The results also demonstrated that ICT adoption was being hindered by a shortage of equipment, technical assistance, and skills and expertise. The survey suggests that teachers and pupils liked technology. They were passionate about using ICT in teaching and learning because other schools had electricity and few ICT devices. The study proposes that the government invest appropriately in rural Community Secondary Schools to decrease digital disparities between schools and/or teachers and students in ICT pedagogy. This study was conducted in secondary schools whereas the current study was conducted in Same district's primary schools.

The study conducted by Swai (2024) examined how Tanzanian secondary school teachers and assessors were using ICT. quantitative method was employed in a survey research design in this study. The study involved a total of 179 respondents of secondary science instructors. One teacher was randomly picked from 179 secondary school teachers. Teachers completed surveys. Coded questionnaire responses were entered into M-Excel for processing. Results were shown in absolute numbers and percentages in Tables. According to the report, 62% of the teachers were trained in ICT pedagogy. Teachers and assessors used the knowledge to search for the internet for teaching resources (90%), type notes (80 percent), analyse exam results (59%), and use projectors in the classroom instruction (56%). The study discovered no teachers using computers for assessment. Teachers experienced obstacles using ICT, including a lack of equipment (78%), knowledge and skills (59%), unstable internet (35%), and power outages/cuts (34%). The study advises training all teachers in ICT

instruction and assessment. For effective ICT use and integration in secondary schools, ICT problems should be addressed. In this study, quantitative method approach was used while this study used mixed method approach.

2.4 Research Gap

A review of the literature reveals a gap in both knowledge and methodology. Various studies conducted on this topic have uncovered inadequate documentation of the current study's objective, which was to examine the impact of information and communication technologies (ICT) in enhancing pupils' academic performance in public primary schools in the Same District, Tanzania. Several studies have focused on ICT in secondary schools, such as those by Abubakar (2016), Mchalo et al. (2021), Mandari (2018), and Shatri (2020). However, there are limited studies that examined the role of ICT in enhancing pupils' academic performance in primary schools, particularly in Same District. In that context, this study aimed to fill this gap by analysing teachers' pedagogical abilities, ICT use, attitudes towards technology, children's understanding of ICT applications in the learning process, the benefits of ICT for teaching, and the ICT barriers preventing pupils in Same District public primary schools from actively participating in the teaching and learning process.

2.5 Conceptual Frame Work

Figure 2.1 demonstrates the incorporation of ICT into teaching and learning, as well as its effect on student performance. Sharing knowledge among heads of school, teachers, and pupils is essential for integrating ICT. Teachers' attitudes, the

accessibility of ICT infrastructure, their training, and the challenges they encounter all play a significant role. The key players' integration of ICT and their attitudes towards it determine the knowledge and skills gained through the transmission of ICT innovation. The integration is contingent upon the availability of ICT infrastructure and facilities such as computer laboratories, computers, internet connections, power, and overhead projectors. The interactions between principals, professors, and pupils, as well as technology, influence students' academic success. Principals must convince teachers of the advantages of incorporating technology into the instructional process, and teachers will encourage pupils to utilise technology for their studies. For instance, teachers might assign homework that requires pupils to conduct research and present their findings, typically in printed format. They might also request pupils to use PowerPoint presentations to evaluate their comprehension and utilisation of technology to validate their acquired or learnt knowledge.

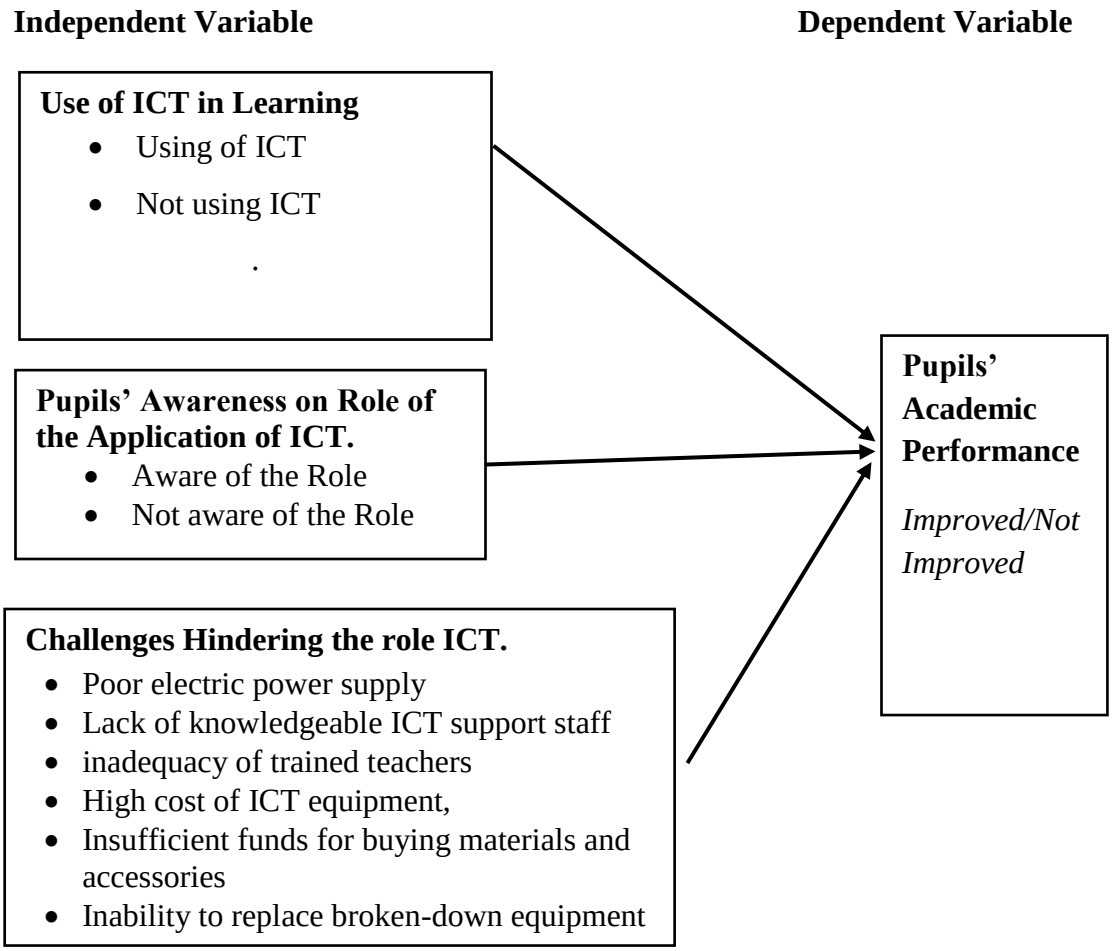

Figure 2.1: Conceptual Framework Model

Source: Researchers' Own model (2024)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The goal of this chapter is to show how the research was carried out. It consists of the following components: research paradigm, research design, research approach, study population, sample size and sampling procedure, data collection methods, data processing and analysis, validity and reliability as well as ethical considerations.

3.2 Research Paradigm

The pragmatism paradigm was used throughout the study. Pragmatism is a research paradigm that seeks to answer research issues in novel and dynamic ways (Creswell, et al 2007). It entails research paradidgm that include operational judgments based on 'what works best' in determining solutions to the problems under investigation. The pragmatism paradigm was used because of the nature of the study being existence or reality which focuses on an individual decision maker in a real-world situation. Furthermore, this paradigm has been accepted because it helps the researcher to identify a problem and view it from all angles, thus resulting in research inquiry that seeks to better understand and finally address the problem. Generally, the mixture of approaches encourages researcher participation, allows for flexible manipulation, and develops research to its fullest degree. Finally, and maybe most importantly, it displays excellent representativeness and dependability.

3.3 Research Approach

The study employed mixed research approach. The rationale behind using this approach is based on complementarities because it allows researchers to conceptually

and analytically integrate qualitative research and quantitative data with traditional epidemiological and quantitative research methodologies to facilitate translation. In the context of the current study, the researcher collected and analysed both quantitative and qualitative data to examine the role of information and communication technology in enhancing pupils' academic performance in Same district, Tanzania. The use of complementary strengths, triangulation and flexibility of the two approaches, increased the response rates.

3.4 Research Design

This study used a mixed-methods approach called explanatory sequential design where the collection of data was primarily done quantitatively through questionnaire and later on followed or supplemented by an interview for qualitative data and data analysis as well. The reason for employing an explanatory sequential design was that, the explanatory sequential design was very valuable for several reasons, including to complement strengths, triangulation clarification and contextualisation of the research results.

The initial quantitative data gave a comprehensive overview of the study subject, such as detecting trends or patterns. The accompanying qualitative data explained and contextualised the findings, thus giving more insight into the underlying causes. Another rationale is that it earned improved validity. By combining quantitative and qualitative data, the researcher enabled triangulation of the findings, thus increasing the credibility and validity of the conclusions and finally convergence of both data types improved the overall research outcomes.

3.5 Area of the Study

This research was conducted in Same district, in Kilimanjaro region. Same district was chosen because of the poor indicators shown by the teachers in the use of ICT. It should be noted that Same district was among the districts that received tablets for use in the teaching and learning process, as mandated by the MOEST. Nonetheless, relatively few teachers were found to have used the devices handed to them.

According to the Same District Council Report (2022), just a few of teachers were using the tablets to its full capacity while the majority using it for casual and random activities such as YouTube reviews and other social media related applications. According to the Same District Councils' Human Resources Department Report (2022-2023), just 180 (10%) of the 1800 gadgets supplied to teachers were being used for academic reasons in contrast to 1620 (90%) of the gadgets that were being used for personal issues, some of them being handed to children and some of them never being utilised at all.

3.6 The Study Population

In this study, the target population was 850 respondents, including one (01) District Pre- and Primary Education Officer (DPPEO), thirty-four (34) Ward Education Officers (WEO) and eight hundred and fifteen (815) primary school teachers (Same District Council, 2023). However, not all 187 (100.0%) public primary schools were engaged because some had no installed IT infrastructure. Therefore, only 08 (17.7%) of the public government primary schools from eight wards in the Same district were examined in the current study. The inclusion/exclusion criteria were the

presence/absence of IT supporting infrastructure such as computer labs, computer and other gadgets such as iPad.

3.7 Sample Size and Sampling Procedures

3.7.1 Sampling Techniques

3.7.1.1 Simple Random Sampling

Teachers were chosen randomly from a different school with ICT facilities. Each school population was provided, and responses were chosen using sequence numbers from a random number Table. Hence, 9 teachers from each school were sampled which led to A total of 72 teachers from 8 public primary schools.

3.7.1.2 Purposive Sampling

Purposive sampling was used to choose the DPPEO, 8 (eight) WEO and 8 (eight) heads of School. This was done to help the researcher choose respondents based on their unique characters which is DPPEO and WEO. The technique also was applied to allow the researcher to collect qualitative replies and specific information from the best-fit individuals which led to more precise study results and deeper insights.

3.7.2 Research Sample Size

The sample size for this study was 89 respondents including one (01) DPPEO, eight (08) WEO, eight (8) head of schools and eighty (72) teachers. This sample size is as shown in Table 3.1. The sample size was obtained by using Yamane's (1967) formula as described and articulated below:

$$n = \frac{N}{1 + N(e^2)}$$

Whereby:

$n = N/(1+N(e)^2)$

Where; n = sample size estimate

N = Population size or Sampling frame

e = Error of reduction is 0.1

Therefore:

N = 850

e = Confidence Interval 90% which is 10%=0.1standard error

n = sample size

$n = 850 / 1+850\ (0.1)^2$.

n = 850/1+850 (0.01).

n = 850/1+8.50

n = 850/9.5

n = 89

Table 3.1: Summary of the Sample Composition and Characteristics for the Study Respondents

Category	Type of Sampling	Sample
District Public Primary Education Officer	Purposive Sampling	01
Ward Education officers	Purposive sampling	08
Head Teachers	Purposive sampling	08
Teachers	Random sampling	72
Total		**89**

Source: Researcher's Data Collection Logistics (2024)

Table 3.1 above indicates the type of the respondents involved in the study. The study focused on the district education officer as the main administrator, monitor and managerial unit of teaching and learning process under the district, Ward education officers (WEO) as the education administrators at the ward level, Head Teachers (HT) as they are directly involved in implementing the teaching and learning process at the school level, managing human and material resources. These head teachers were knowledgeable about the teaching strategies, assessment methods, and challenges faced by teachers and learners. Moreover, Teachers were involved because they are the main implementors of the teaching and learning process.

3.8 Data Collection Methods

For this study, the researcher used primary data gathering instruments which were interviews schedules and questionnaires. These were used as explained below.

3.8.1 Questionnaires

One of the methods used in this study was a questionnaire, which was completed by primary school teachers. Teachers were given the questionnaire, and they responded to it on their own free choice, without any interference from anyone else. The questionnaires method was chosen because it is simple and can be administered to a relatively large groups of people who are geographically dispersed. As a standardised method of data collection, it guarantees that all respondents are given the same questions in the same way. In the context of the current study, this uniformity aided in comparing responses and therefore reaching sound conclusions. Another reason for using the questionnaire is its adaptability to varied study contexts and

demographics, as it may be administered in a variety of ways, including online, by mail, or in person. Apart from these advantages, questionnaires have been used because of their versatility in data processing, since data acquired via surveys may be easily quantified and analysed using statistical methods, thus allowing for the detection of patterns and trends.

3.8.2 Semi - Structured Interview

The researcher conducted semi-structured interviews to elicit additional vital information relevant to the research aims. The semi-structured interview enhanced the researcher's time management and allowed for systematic follow-up questions, thus allowing for a deeper understanding of the informants. An interview guide was produced prior to the interview, which directed the researcher in asking the chosen participants, such as the heads of school, district educational officer and ward educational officers. The interview questions were related to the research objectives, and the interview lasted between 25 and 28 minutes.

The interviewer coordinated with the interviewees to find a mutually convenient time, place and purpose of the interview. The interviewer/researcher built a rapport by introducing herself and engaging in some small talks with the interviewees to make them comfortable. The interviewee was informed of the time to be spent and the types of the questions to be asked. The questions were asked beginning with the general to specific ones. However, there was some follow-up questions based on the interviewee’s responses. These were asked to make the researcher gather deeper insights. For the sake of saving time, the interviews were conducted using a recorder

with the interviewees' consent. The reasons behind that being for accuracy and references.

3.9 Validity and Reliability of the Instruments

3.9.1 Validity of the Instruments

To verify the study's validity, the researcher validated the research instruments by using a variety of data collection methods, both qualitative and quantitative, to determine whether the instrument produced the desired data or information. According to Kothari (2011), validity is the question of whether the results actually address the topics they seem to. It is a measure of how well a test extracts the data for which it is intended. In this instance, content validity was the primary focus of the validity test.

A pilot study involving 10 participants was conducted to verify the content validity, such that the questions designed answered what they were supposed to answer. The purpose of the pilot research was to determine whether the tool would collect the anticipated data. Again, the purpose of conducting the pilot study was to gauge how well the instrument measured what it purported to measure or promised to measure. tools translation both forward and backward in terms of language. The questionnaire was read by an expert chosen by the researcher, who clarified and simplified some of the terms.

3.9.2 Reliability of the Instruments

The researcher, in this study, assured the legitimacy of data through environmental and methodological triangulation, in which the researcher gathers information from

several sources and employs various data gathering methods. Supervisors needed to cross-check and evaluate the tools. Their feedback was used to improve the quality of the research tools by eliminating or adding as it was indicated by the supervisors.

3.10 Data Processing and Analysis

The initial step in the analysis of the data gathered for this study involved organising the information obtained from the completed questionnaires according to common characteristics. On the data, both qualitative and quantitative analysis were carried out. Quantitative data from closed-ended surveys were analysed using the SPSS (Statistical Package for the Social Sciences - version 22) and descriptively presented using computed percentages and frequencies to provide a broad overview of the features on the role of ICT toward students' academic performance. The thematic analysis of the qualitative data collected through open-ended questionnaires and interview questions required three processes.

Initially, all of the information collected from the field was merged by the researcher to create the data assembly. Sorting and arranging the gathered data into more logical themes that most effectively answered the research question is known as data coding. The assigning of interpretations and meanings to each category marked the end of the third step, often referred to as the "building of meanings," and set the stage for a discussion and publication of the study's findings. The collected data were frequently categorized, sorted, and classified to find the pertinent portions that fitted the goals and inquiries of the study.

3.11 Ethical Issues and Considerations

Before the research, commenced, a clearance was issued by the office of the Vice Chancellor, The Open University of Tanzania, and addressed to the Director of the Same District Council (DED), who introduced the researcher to all those involved in the study. Before data collection, the researcher ensured that, there was mutual, readiness, and willingness amongst the respondents prior to participating in these exercises. The respondents were ensured of their anonymity and were ensured that, all the information acquired would be kept and utilised purely for scholarly purposes. The respondents were not required to use their real names but false names, and the schools' names were pseudonyms. This was to preserve the respondents' anonymity and improve the quality of the responses. The respondents were allowed to use pseudonyms, such as school X and school P. Instead of using the real names of the schools.

CHAPTER FOUR

PRESENTATION OF FINDINGS

4.1 Introduction

This chapter covers the data analysis and presentation of the findings. The findings of the study are linked with the specific objectives as presented in chapter one. The data were collected using questionnaire and semi structured interviews. Data presentation and analysis have been made with regard to the three specific objectives of this study.

4.2 Characteristics of Respondents

This research involved district pre and primary Education officer, ward education officers, Head Teachers and teachers. The study solicited data regarding the respondent's age, highest educational attainment, and years of professional experience. The descriptive text and frequency percentage Tables were employed to elucidate the characteristics. Tables documented the participants' ages, educational attainment, and years of professional experience. The demographic data that were collected were as follows:

4.2.1 Distribution of the Respondents by Gender/Sex Profile

Table 4.1: Distribution of the Respondents by Gender/Sex Profile

Participants	Male	Female	Total
	F (%)	F (%)	F (%)
Classroom teachers	37(41.57)	35(39.3)	72(80.69)
Headteachers	5(5.6)	3(3.4)	8(8.98)
Ward Education officer	4(4.49)	4(4.49)	8(9.0)
DPPEO	1(1.12)	-	1(1.12)
Total	47(52.8)	42(47.2)	89(100)

Source: Field data (2024), Note: F= Frequency

The findings show that gender as a perspective implies that biological and social gender were reflected in research content where male participants were 47 (52.8%) and female participants were 42 (47.2%) Table 4.1. This helped to enhance the scientific quality and social relevance of the research without bias on investigating the role of information and communication technology in enhancing pupils' academic performance in Same District.

4.2.2 Number of the Respondents by Age

Table 4.2: Number of the Respondents by Age

Respondents' Age Categories	Frequency	Per cent
Below 25 Years	4	4.4
Between 25- 35 Years	7	7.8
Between 36-45 Years	49	55.0
Between 46-55 Years	21	23.5
56 and above Years	8	8.9
Total	**89**	**100.0**

Source: Field Data (2024).

Table 4.2 indicates that 49 respondents, constituting 55.0%, were aged between 36 and 45 years. Conversely, 21 respondents (23.5%) were aged between 46 and 55 years, while notably, 8 respondents (8.9%) were aged between 56 and above years. Furthermore, we found that 7 (7.8%) respondents were aged between 25 and 35 years. Last but not least, 4 (4.4%) of the respondents were below 25 years. The results indicate that the majority of the respondents in the study were between 36 and 45 years old. This suggests that majority of the primary school teachers possessed sufficient maturity, hence corroborating the gathered findings.

4.2.3 Distribution of the Respondents by Education

Table 4.3: Distribution of the Respondents by Education

Respondents' Education	Frequency	Per cent
Diploma/advanced diploma	54	60.6
First degree	29	32.5
Master's degree	6	6.7
Total	**89**	**100.0**

Source: Field Data (2024)

Table 4.3 indicates that of the 89 respondents in the survey, 54 (60.6%) possessed an advanced diploma, while 29 (32.5%) held a degree. Conversely, 6 respondents (6.7%) had a master's degree. The results demonstrate that most respondents possessed at least a bachelor's degree or diploma level of education. This indicates that the study participants possessed the ability to read, comprehend, and write, thus ensuring the reliability of their responses.

4.2.4 Working Experience of the Respondents

Table 4.4 Working Experience of the Respondents

Working Experience	Frequency	Per cent
Less than a year	3	3.3
Between 1 -3 years	9	10.1
Between 4 -6 years	27	30.3
Above 6 Years	50	56.1
Total	**89**	**100.0**

Source: Field Data (2024)

Table 4.4 above reveals that 50 respondents, constituting 56.1%, possessed a minimum of 6 years of professional experience. Moreover, 27 (30.3%) respondents had worked for 4 to 6 years, while 9 (10.1%) respondents had less than a year of working experience. Lastly, three respondents (3.3%) possessed less than one year of

professional experience. The study's findings indicate that most respondents had worked in the education sector for more than six years. This indicates that the majority of the respondents possessed sufficient experience to furnish relatively accurate information.

4.3 Data Presentation and Analysis

This part presents and analyses the data findings. The study's objectives, which include subsections or patterns in other sections, focus on the presentations of findings. The study involved 80 respondents (teachers) who used questionnaires and 9 respondents (Key informants).

4.3.1 The Extent to Which ICT is Being Utilised in Learning Process Amongst Pupils in Same Primary School

This is first objective of the study which aimed to determine the extent to which ICT was being utilised in learning process amongst pupils in Same Primary School. Data were gathered using questionnaires that were administered to 80 randomly selected participants.

4.3.1.1 Good Understanding about ICT

It was found that teachers in public primary schools possessed a strong comprehension of ICT in pedagogy and learning. The respondents were requested to express their views on the extent to which teachers had comprehension on ICT in the context of teaching and learning inside the public primary schools. Table 4.4 gives their responses.

Table 4.5: Teachers Have Enough Knowledge about ICT

Responses	Frequency	Per cent
Strongly agreed	12	15.0
Agreed	41	51.0
Undecided	9	11.2
Disagreed	18	22.5
Total	**80**	**100.0**

Source: Field Data (2024)

The data shown in Table 4.5 reveal that 41 respondents, constituting 51.0%, concurred with the assertion that teachers in public primary schools had enough knowledge of ICT on teaching and learning. In contrast, 18 (22.5%) respondents expressed disagreement, 12 (15.0%) strongly concurred that teachers in public primary schools had enough knowledge of ICT on teaching and learning. Lastly, the findings revealed that 9 respondents (11.2%) who participated in the study were undecided. The findings indicate that most of the respondents had enough knowledge about ICT. This shows that they had knowledge about what ICT implies in the process of teaching and learning to improve the academic performance in public primary schools.

4.3.2 Awareness and Availability of ICT Policy in Fostering Teaching and Learning Process

The participants were requested to express their views on the extent to which teachers were mindful of the existence of ICT policies that were promoting teaching and learning in public primary schools. Table 4.5 presents their responses.

Table 4.6: Availability of ICT Policy Fosters Teaching and Learning Process

Responses	Frequency	Per cent
Strongly agreed	31	38.7
Agreed	6	7.5
Undecided	20	25.0
Disagreed	20	20.0
Strongly disagreed	3	3.7
Total	**80**	**100.0**

Source: Field Data (2024).

The findings in Table 4.6 show that 31 respondents (38.7%) strongly agreed that teachers were aware of the ICT policy that it was improving teaching and learning in public primary schools. Additionally, 20 respondents (20.0%) were undecided, while 20 respondents (20.0%) explicitly disagreed with the assertion. In contrast, 6 (7.5%) respondents agreed with the assertion while 3 respondents (3.7%) strongly disagreed. This shows that a larger number of the respondents were aware of the availability of the ICT policy and its importance in fostering teaching and learning in primary schools.

4.3.2.1 Existing Facilities Facilitate the Policy

The respondents were asked to give their views on the availability of infrastructures supporting policy integration procedures in public primary schools.

Table 4.7: Existing Facilities that Facilitate the ICT Policy

Responses	Frequency	Per cent
Strongly agreed	39	48.7
Agreed	9	11.2
Undecided	8	10.0
Disagreed	13	16.2
Strongly disagreed	11	13.7
Total	**80**	**100.0**

Source: Field Data (2024)

Table 4.7 above reveals that 39 (48.7%) participants in the study explicitly agreed with the assertion that the existing infrastructure was facilitating policy integration practices in public primary schools. Also, 13 (16.2%) of the participants strongly disagreed with the above statement, while 11 (13.7%) of the participants in the study strongly agreed that there were infrastructures in public primary schools that were making policy integration activities easier. Finally, 9 (10.0%) respondents concurred with the assertion, while the remaining 8 respondents (10.0%) were uncertain. As the findings reveal, the participants agreed with the assentation that the existence of infrastructure facilities were fostering the integration of ICT policy in public primary schools. This indicates that the availability of ICT infrastructure fosters the improvement of academic performance in primary schools.

4.3.2.2 The Current Infrastructure Adequately Facilitates the Implementation of ICT Policy

Respondents were asked for their views on the adequacy of the existing facilities in facilitating ICT policy within the teaching and learning process. Table 4.7 presents the results.

Table 4.8: Adequacy of the Existing Facilities in Facilitating ICT Policy

Responses	Frequency	Percent
Strongly agreed	15	18.7
Agreed	17	21.2
Undecided	23	28.7
Disagreed	23	28.7
Strongly disagreed	2	3.7
Total	**80**	**100.0**

Source: Field Data (2024).

Table 4.8 reveals that 23 participants (28.70%) in the survey remain undecided about the adequacy of available infrastructures to support ICT policies in the teaching and learning process. Conversely, 23 respondents (28.7%) explicitly disagreed with the assertion that necessary facilities were not in existence to support ICT policy. Additionally, 17 (21.2%) participants concurred with the assertion that the existing infrastructures were sufficiently supporting ICT policy in the teaching and learning process, while 15 (18.7%) respondents strongly agreed. Finally, 2 individuals (3.7%) strongly disagreed with the assertion. The study finds that those necessary facilities did not exist in the primary schools under the study to support ICT policy. Based on the findings, the study advises that necessary facilities should be provided to support ICT policy.

4.3.2.3 Effective use of the Available ICT Infrastructure

It was presumed that teacher efficient utilisation of the existing ICT infrastructure would impact the teaching and learning process. The respondents were requested to express their views on the efficacy of teachers in utilising the existing ICT infrastructure for the implementation of teaching and learning activities. The results are displayed in Table 4.8.

Table 4.9: Effective use of the Available ICT Infrastructure in Primary Schools

Responses	Frequency	Percent
Strongly agreed	37	46.2
Agreed	9	11.2
Undecided	20	25.0
Disagreed	9	11.2
Strongly disagreed	5	6.2
Total	**80**	**100.0**

Source: Field Data (2024)

Table 4.9 reveals that 37 respondents (46.2%) strongly agreed that teachers were not utilising the given infrastructure properly. In contrast, 20 respondents (25.0%) strongly disagreed, while 9 respondents (11.2%) agreed that teachers were utilising the current infrastructure efficiently. Furthermore, 9 respondents (11.2%) disagreed, while 5 respondents (6.2%) strongly disagreed with the assertion that teachers were not adequately utilising the current ICT infrastructure. These results indicates that many respondents agreed that teachers' efficient utilisation of the existing ICT infrastructure would impact the teaching and learning process. This shows that the existing infrastructure must be used in teaching and learning processes to improve the academic performance in public primary schools.

4.3.2.4 Teachers are Proficient at Using ICT

Participants were requested to give their views as to whether teachers were proficient in the utilisation of ICT in the teaching and learning process. Their responses are given in Table 4.10.

Table 4.10: Teachers are Proficient in Using ICT

Responses	Frequency	Percent
Strongly agreed	37	46.2
Agreed	25	31.2
Undecided	12	15.0
Disagreed	4	5.0
Strongly disagreed	2	2.5
Total	**80**	**100.0**

Source: Field Data (2024).

Out of the 80 respondents, 27 (46.2%) strongly agreed that teachers were well versed in the use of ICT in the teaching and learning process. Furthermore, 25 (31.2%)

participants simply agreed, while 12 (15.0%) were undecided about teachers' familiarity with the use of ICT in the teaching and learning process. Furthermore, 4 (5.0%) respondents merely disagreed with being familiar, while 2 (2.5%) strongly disagreed. These results indicate that teachers were conversant with the use of ICT in the teaching and learning process. This implies that many teachers could use ICT during the process of teaching and learning.

To complement the results from the key indicators, which included District Pre and Primary Educational Officer (DPPEO), and ward educational officers (WEO), the researcher conducted an interview session. The researcher asked the first interview question to determine the current ICT practices in the public primary schools. The question was asked with the assumption that all schools had ICT facilities and they were being used for teaching and learning. The question was as follows: How would you characterise the current district's ICT usage practices in relation to pupils' learning?

The responses to the questions were as follows;

> *"ICT is used in few primary schools but other schools do not use it due to inadequate infrastructure, lack of training to teachers…." (Semi-structured interview with the WEO1 on 10th of October, 2024).*

Another WEO, that is WEO2, had these to say regarding the use of ICT in schools

> *"…Practically, ICT is mostly used by teachers and pupils are taught theoretically about its use in public primary schools. For*

> *private primary schools, pupils are taught practically because most of those schools have ICT facilities." (Semi- structured interview with the WEO 2, on 10th of October, 2024).*

Furthermore, the WEO 3 was asked the same question and his response was as follows:

> *...It improves the performance if it is used to a large extent.…". (Semi- structured interview with the WEO 3, on 12th of October, 2024).*

Again, the WEO 4 had these to say:

> *...The Same district's ICT use is very low although Information and Communications Technology (ICT) can impact pupils' learning when teachers are digitally literate and understand how to integrate it into curriculum and the presence of enough ICT intellectualised materials…" (Semi-structured interview with the WEO 4, on 12th October, 2024).*

The second interview question regarding the use of ICT in the Same District primary schools, was "What is the extent of ICT use in the learning process among pupils in the Same primary schools?" Responding to this question, the WEO3had these to say;

> *"...The ICT is being utilized to the low extent due to unavailability of digital tools, lack of teachers training on ICT use (Semi- structured interview with WEO 3 on 14th of October, 2024).*

Another WEO had this to say:

> *.... Many pupils do not know how to utilise ICT because it is not found in their schools*…." (Semi- structured interview with the WEO 4, on 14th of October, 2024).

Furthermore, the WEO 5 had these to say:

> *"……. Utilisation of ICT is very low in =Same District primary schools …." (Semi- structured interview with the WEO 5 on 14th of October, 2024).*

On the same regard, another respondent had these to say:

> *"…. The ICT utilisation in learning process among pupils in Same district is very low due to the absence of ICT materials and infrastructures. These make the pupils and teachers rely on images and imaginations of ICT materials in teaching and learning process. These slow down the deliberate effort of the government for pupils' needs of getting quality education and 21st century skills……"*

4.3.2.5 Pupils' Awareness on the Role of the Application of ICT

This is second objective of the study which aimed to determine the awareness on the role of the application of ICT in learning process amongst pupils in Same Primary School. Data were gathered using questionnaires that were administered to 80 randomly selected participants.

4.3.2.6 Positive Attitude about ICT

Public primary schools' teachers were found to possess a strong positive attitude regarding the use of ICT as a learning instrument. The respondents were requested to express their views on the positive attitude about ICT in the context of teaching and learning inside the public primary schools. Table 4.10 gives the respondents' views.

Table 4.11: Respondents' Attitude about ICT

Responses	Frequency	Percent
Strongly agreed	12	15.0
Agreed	41	51.0
Undecided	9	11.2
Disagreed	18	22.5
Total	**80**	**100.0**

Source: Field Data (2024)

The data shown in Table 4.11 reveal that 41 respondents, constituting 51.0%, concurred with the assertion that there is a positive attitude of ICT in teaching and learning among the pupils in public primary schools. In contrast, 18 (22.5%) respondents disagreed. On the other hand, 12 (15.0%) strongly concurred that educators in public primary schools possessed sufficient knowledge of ICT in ideology and learning. Finally, 9 respondents (11.2%) who participated in the study were undecided. Based on the findings, it was revealed that most of the respondents believed that pupils had positive attitude on ICT as a tool used in teaching and learning.

4.3.2.7 Pupils' Satisfaction with the Use of ICT

The respondents were invited to give their views the extent to which pupils were satisfied with the use of ICT in their learning activities on a day-to-day basis of teaching and learning in public primary schools. Table 4.11 gives their responses.

Table 4.12: Pupils' Satisfaction with the Use of ICT

Responses	Frequency	Per cent
Strongly agreed	41	51.2
Agreed	16	20.0
Undecided	20	25.0
Disagreed	3	3.7
Total	**80**	**100.0**

Source: Field Data (2024).

Table 4.12 findings show that 41 respondents (51.25%) strongly agreed that pupils were satisfied with the use ICT in teaching and learning processes in public primary schools. Additionally, 20 respondents (25.0%) were uncertain, In contrast, 16 (20.0%) respondents agreed while 3 respondents (3.75%) disagreed with the assertion. Based on the findings, the researcher discovered that pupils in primary were satisfied with the use of ICT in the teaching and learning activities.

4.3.2.8 Effectiveness of ICT in the Revision and Consolidation of Knowledge

The respondents were asked for their perspectives on the effectiveness of ICT in the revision and consolidation of knowledge during the process of teaching and learning in public primary schools. Their responses are presented in Table 4.12;

Table 4.13: Effectiveness of ICT in the Revision and Consolidation of Knowledge

Responses	Frequency	Per cent
Strongly agreed	39	48.7
Agreed	10	12.5
Undecided	8	10.0
Disagreed	13	16.2
Strongly disagreed	10	12.5
Total	**80**	**100.0**

Source: Field Data (2024)

Table 4.13 above reveals that 39 (48.75%) participants in the study explicitly strongly agreed with the assertion;13 (16.25%) of the participants disagreed with the above statement, while 10 (12.5%) of the participants strongly disagreed. Finally, 10 (12.5%) respondents agreed with the assertion, while 8 (10.0%) were uncertain. Based on the findings, it was revealed that ICT was effective to pupils during lessons revision and consolidation of their knowledge.

4.3.2.9 ICT is Easier to Understand and Makes the Learning Process Easier

Respondents were asked for their views as to whether ICT was easier to understand and if it was making the learning process easier within the teaching and learning process. Table 4.14 presents the results.

Table 4.14: ICT is Easier to Understand and Makes the Learning Process Easier

Responses	Frequency	Percent
Strongly agreed	40	50.0
Agreed	17	21.2
Undecided	23	28.7
Total	80	100.0

Source: Field Data (2024).

Table 4.14 reveals that 40 participants (50%) strongly agreed that ICT was easier to understand and that it was making learning easier. In contrast, 23 respondents (28.75%) were undecided as to whether ICT was easier to understand and was making the learning process easier. The remaining 17 (21.25%) participants agreed with the assertion that ICT was easier to understand and was making the teaching and learning process easier. Based on the findings, it can be argued that the respondents believed that learners who were using ICT, were finding it easier to understand it thus making their learning and understand of the subjects easier.

4.3.2.10 The Influence of ICT Integration on the Pupils' Attitude

The respondents were requested to give their views on the influence of ICT integration on the pupi's' attitude during the processes of teaching and learning. The findings on this aspect are displayed in Table 4.14.

Table 4.15: The Influence of ICT Integration on the Pupils' Attitude

Responses	Frequency	Percent
Strongly agreed	38	47.5
Agreed	13	16.2
Undecided	20	25.0
Disagreed	9	11.2
Total	**80**	**100.0**

Source: Field Data (2024)

Table 4.15 reveals that 39 respondents (47.5%) strongly agreed that ICT integration had influence on the pupils' attitude. In contrast, 13 participants (16.25%) agreed that ICT had influence on pupils' attitude while 20 respondents (25.0%) were undecided. Furthermore, 9 respondents (11.2%) disagreed with the assertion that the ICT integration had influence on the pupils' attitude. Based on the findings, it can be generally indicated that pupils' attitude to teaching and learning process is influenced by ICT integration.

4.3.2.11 ICT Improves Pupils' Understanding and Academic Performance

Regarding this subsection, the respondents were asked to give their views as to whether ICT was improving pupils understanding and their academic performance in the teaching and learning process. Their responses are presented in Table 4.15.

Table 4.16: ICT Improves Pupils' Understanding and Academic Performance

Responses	Frequency	Percent
Strongly agreed	37	46.2
Agreed	25	31.2
Undecided	14	17.5
Disagreed	4	5.0
Total	**80**	**100.0**

Source: Field Data (2024).

Table 4.16 reveals that, out of the 80 respondents, 37 (46.2%) strongly agreed that the use of ICT in the teaching and learning process was improving pupils' understanding of the lessons and hence improving their academic performance. Furthermore, 25 (31.2%) participants simply agreed, while 14 (17.5%) were undecided about the role of ICT in improving pupils' knowledge and their academic performance. Furthermore, 4 (5.0%) respondents disagreed. Thus, based on the study's findings, it can be said that ICT improves the knowledge and academic performance of pupils during the process of teaching and learning in public primary schools.

How do pupils view the use of ICT in their teaching and learning processes? The responses to the questions indicated that pupils enjoy and appreciate the use of ICT in teaching and learning because it helps them to develop strong memory. (Semi-interview, HT6 10th October, 2024). "Pupils perceive the use of ICT in their teaching and learning processes as entertainment, and only those who can afford ICT facilities utilize it," expressed another WEO 7 participant. (Semi-interview, WEO 8, 11th October, 2024).

On the same regard, through the semi-structured interviews, the WEOs were asked this question “How do pupils view the use of ICT in their teaching and learning processes”? And their responses were as follows: "The pupils view of using ICT is very good.”. (Semi- structured interview with the WEO1, 21st October, 2024). On the same matter, another respondent had these to say;

> *“Pupils view ICT use in teaching and learning process, positively. It makes them enjoy their lessons …”* (Semi-structured interview, with the WEO 2, on 21st of October, 2024).

Another positive perception of ICT in teaching and learning as revealed by pupils was evidenced by DEO, who had these to say:

> *“Pupils perceive that using internet search engines to find information helps them in their studies."* (Semi-structured interview with the DEO, on 22nd of October, 2024).

> "*A few people who can afford ICT’s facilities use it for communication and entertainment, such as video, music, games, and cinema*,". *(Semi- structured interview with the WEO 8, on 23rd* of October*, 2024).*

Another respondent stated”

> *"They perceive themselves as good learners because ICT use makes them strong memories." (Semi- structured interview, with the WEO 8, on 23rd of October, 2024.*

Another positive perception was evidenced by WEO 6 who said:

> *“They have positive perception of ICT and therefore they need it to build their competence on ICT use and application in the teaching and learning process….” (Semi- structured interview with the WEO 6, on 23rd of October, 2024).*

The findings under this objective show the responses of the respondents to the questions that pupils were enjoying and appreciating the use of ICT in teaching and learning because it was making them develop sharp memory. This implies that pupils were aware of the role of ICT that it was sharpening their memory, thus helping them to make revise and retain what they had learnt thus improving their performance during the process of teaching and learning in public primary schools

4.3.3 Challenges Hindering the Role ICT in Learning Process in Pupils in Same Primary Schools

This was the third objective of the study, which aimed to examine the challenges affecting the use of ICT in the teaching and learning process in public primary schools in Same District. Data for this objective were gathered using questionnaires and interviews with 89 randomly selected participants, comprising 80 teachers and 9 key informants who participated in the interview sessions. Based on the findings, the following challenges are presented below:

4.3.3.1 Unavailability of ICT Infrastructures

The respondents were requested to give their opinions on whether the lack of ICT infrastructure, inadequate tools, and insufficient power supply hinder the integration of ICT in public primary schools. The results are as presented in Table 4.17:

Table 4.17: Unavailability of ICT Infrastructures

Responses	Frequency	Percent
Strongly Agreed	52	65.0
Agreed	5	6.2
Undecided	5	6.2
Disagreed	9	11.2
Strongly disagreed	9	11.2
Total	**80**	**100.0**

Source: Field Data (2024)

Table 4.17 indicates that, among the 80 respondents in the study, 52 (65.0%) strongly agreed, while 9 (11.2%) strongly disagreed that lack of ICT infrastructure, inadequate tools, and poor power supply were hindering ICT integration in public primary schools. Nine respondents (11.2%) expressed disagreement, five respondents (6.2%) agreed, and another five respondents (6.2%) were undecided. The findings reveal that majority of the respondents believed that lack of ICT **I**nfrastructure, inadequate tools, and poor power supply was impeding the ICT integration in public primary schools.

4.3.3.2 Insufficient Knowledge Regarding the Utilisation of Information and Communication Technology

The respondents were additionally requested to express their views on whether insufficient understanding regarding the use of ICT by teachers as a pedagogical tool was impeding the use of ICT in teaching and learning. The responses are as given in Table 4.18:

Table 4.18: Insufficient Knowledge Regarding the Utilisation of Information and Communication Technology

Responses	Frequency	Percent
Strongly agreed	37	46.2
Agreed	28	35.0
Undecided	4	5.0
Disagreed	11	13.7
Total	**80**	**100.0**

Source: Field Data (2024)

Table 4.18 reveals that 37 respondents (46.2%) strongly agreed that insufficient understanding regarding the use of ICT by teachers as a pedagogical tool was impeding the application of ICT in teaching and learning. Furthermore, 28 (35.0%) respondents agreed, but 11 (13.7%) respondents disagreed about the assertion. Finally, 4 (5.0%) respondents in the study were either uncertain or lacked opinions. The study's findings reveal that most respondents believed that lack of understanding regarding the use of ICT by teachers as a pedagogical tool was impeding the integration of ICT in teaching and learning.

4.3.3.3 The Utilisation of ICT is a Significant Concern among Teachers

The respondent's views on the perceived seriousness of ICT usage as an educational tool amongst teachers are presented in Table 4.18 below:

Table 4.19: ICT as an Educational Tool as a Serious Condition among Teachers

Responses	Frequency	Percent
Strongly agreed	40	50.0
Agreed	11	13.7
Undecided	11	13.7
Disagreed	18	22.5
Total	**80**	**100.0**

Source: Field Data (2024)

Table 4.19 indicates that 40 (50.0%) respondents strongly agreed with the assertion that the utilisation of ICT as an educational instrument was perceived as a significant issue among educators. Conversely, 18 (22.5%) respondents explicitly disagreed with the aforementioned assertion, while 11 (13.7%) respondents disagreed. Finally, 11 respondents (13.7%) agreed. The study results indicated that most of the respondents saw the utilisation of ICT as an educational tool to be a significant issue among teachers.

4.3.3.4 Public Primary School Teachers Lack of Skills

The respondents' thoughts regarding the extent to which majority of the public primary school teachers' lack of skills in using tools was impacting the integration process as presented in Table 4.20.

Table 4.20: Public Primary School Teachers' Lack of Skills

Responses	Frequency	Percent
Strongly agreed	52	65.0
Agreed	28	35.0
Total	**80**	**100.0**

Source: Field Data (2024)

Among the 80 participants in the survey, 52 (65.0%) strongly agreed with the assertion that majority of the public primary school teachers lacked the abilities necessary for effective integration of the instruments. Additionally, 27 respondents (45.0%) participating in the study expressed their agreement. The data revealed that all 80 respondents who participated in this goal believed that majority of the public primary school teachers lacked the abilities necessary to facilitate the integration process.

4.3.3.5 Expenses Associated with Accessing and Utilising ICT Tools

Another notion was that the integration of ICT in the teaching and learning process was being hindered by the high expenses associated with obtaining and utilising ICT resources. The results pertaining to this matter are shown in Table 4.21.

Table 4.21: Expenses Associated with Accessing and Utilising ICT Tools

Responses	Frequency	Percent
Strongly agreed	53	66.2
Agreed	17	21.2
Undecided	10	12.5
Total	**80**	**100.0**

Source: Field Data (2024)

Table 4.2**1** reveals that 53 respondents (66.2%) strongly agreed with the assertion that the substantial expenses associated with obtaining and utilising ICT tool was hindering the integration of ICT in the teaching and learning process. Conversely, 17 respondents (21.2%) expressed agreement, and 10 respondents (12.5%) remained undecided. The study results reveal that most respondents perceived the high cost of accessing and utilising ICT tools as a significant obstacle to their integration in educational processes.

4.3.3.6 Insufficient Fundamental ICT Facilities

Another hurdle found that majority of the primary schools lacked fundamental ICT facilities, thus making the integration of ICT into teaching and learning activities unfeasible. The examination of this challenge is shown in Table 4.22.

Table 4.22: Public Primary Schools Lacks basic ICT Facilities

Responses	Frequency	Percent
Strongly agreed	52	65.0
Agreed	9	11.2
Undecided	14	17.5
Disagreed	5	6.2
Total	**80**	**100.0**

Source: Field Data (2024)

Incorporating ICT into the teaching and learning activities is impossible in most public primary schools due to a lack of basic ICT facilities, as stated by 52 (65.0%) respondents who strongly agreed with the statement. In contrast, nine (11.2%) participants merely agreed, while fourteen (17.5%) were uncertain. Lastly, 5 people (6.2% of the total) just didn't feel that public primary schools had adequate technology resources. There is a limit to accessing online courses or resources. Respondents discussed whether a lack of educational line-ups or internet access was hampering the adoption of ICT in the teaching and learning processes in public elementary schools.

4.3.3.7 Lack of Access to Online Courses or Resources

The respondents commented on whether the absence of educational programmes or internet access was hindering the incorporation of ICT in the teaching and learning processes within the public primary schools. The responses are shown in Table 4.23.

Table 4.23: Unavailability of Educational Programmes or Internet Access

Responses	Frequency	Percent
Strongly agreed	55	68.7
Agreed	17	21.2
Undecided	8	10.0
Total	**80**	**100.0**

Source: Field Data (2024)

Out of the 80 survey participants, 55 (68.7%) agreed that public primary schools were unable to effectively integrate ICT into their lessons due to lack of instructional programmes and internet access. In addition, 8% were unsure, while seventeen persons (21.2%) simply agreed. According to the findings, most of the respondents believed that public primary schools were unable to fully utilise ICT due to a lack of educational programmes and internet access.

4.3.3.8 Power Supply Shortage

Table 4.24 shows the respondents' perspectives on whether the insufficiency of power supply required to support installation and operation, hampered the integration process.

Table.4.24: Power Supply Shortage

Responses	Frequency	Percent
Strongly agreed	65	81.2
Agreed	5	6.2
Undecided	5	6.2
Disagreed	5	6.2
Total	**80**	**100.0**

Source: Field Data (2024)

The survey revealed that 65 respondents (81.2%) strongly concurred that insufficient power supply necessary for installation and operation adversely affected the integration process, while 5 respondents (6.2%) just agreed. Conversely, 5 (6.2%) respondents contended that insufficient power supply was indeed a hindrance to the integration process, while another 5 (6.2%) remained equivocal in their stance. The study's findings indicated that most of the respondents believed that the lack of necessary power supply for installation and operation affected the integration process.

On the other hand, when one of the Ward Education Officers was interviewed through the question "What are the challenges affecting the use of ICT in the teaching and learning process in public primary schools in Same District?" The Ward Education Officer had these to say:

> *"Limited knowledge of the teachers on the use of ICT and other intellectualised materials, inadequate teaching and learning ICT materials which limit teachers from teaching the reality using ICT materials, Absence of digital school infrastructures, negative attitude of some teachers toward the use of ICT materials or integration of ICT in the implementation of the curriculum" (WEO 5)*

Another respondent had these to say:

> *"The challenges affecting the use of ICT in public primary schools is lack of knowledge on ICT among teachers, lack of electric power in many public primary schools, lack of ICT facilities such as computers, internet networking system, tablets, projectors and insufficient training to public primary teachers in the Same district"…. (WEO 3)*

The findings through the interview conducted revealed that even the pupils liked to use ICT in teaching and learning process but still there were challenges which were hindering the use of ICT in public primary schools. These were like low knowledge to the teachers, unavailability of ICT materials, lack of electric power, insufficient training to teachers. These findings are supported by the study of Muia (2021) who reported that the implementation of ICT can be affected by lack of effective training, lack of technological tools and poor infrastructure. The findings imply that in order to improve the academic performance through ICT, there must be improvement in teachers' training, teaching materials and availability of internet and power supply.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 Introduction

This chapter discusses the findings on the impact of information and communication technology on enhancing teaching and learning in the Same district, Tanzania. Three specific objectives underpinned the discussion: establishing the context of ICT policy integration in teaching and learning processes, and examining pupils' understanding of the role of ICT application in the learning process in Same Primary Schools. Lastly, to the exploration of the obstacles that hinder the use of ICT in teaching and learning procedures in Same's public primary schools.

5.2 The Extent to which ICT is Being Utilised in Learning Process Amongst Pupils in Same Primary Schools

Regarding objective number one, the respondents were requested to give their perspective on the level of comprehension of ICT in teaching and learning among educators in public primary schools. The findings indicated that most of the respondents believed that teachers in public primary schools possessed a strong comprehension of ICT in education. This suggests that educators consider ICT essential for improving teaching and learning. These findings related with those by Chirwa (2018) as they indicate that educators predominantly utilise ICTs for everyday activities, including record maintenance, lesson plan formulation, information dissemination, and fundamental Internet enquiries. Teachers with greater expertise in ICTs utilise computer-assisted instruction less frequently than their counterparts. However, overall, they engage in ICTs more extensively.

Additionally, the respondents were asked to indicate their views on the awareness of teachers regarding the existence of ICT policies that promote teaching and learning in public primary schools. The study's findings indicated that most teachers were cognizant of the existence of an ICT policy promoting teaching and learning in public primary schools. Over 50% of the participants in the study exhibited this awareness. The survey results indicate that, despite the problems teachers might encounter, they recognised the significant of incorporation of ICT into education.

The study came to the following conclusions about the infrastructure supporting policy integration activities in public primary schools: The majority of respondents said that there were indeed infrastructures available to facilitate policy integration practices in public primary schools. This suggests that, despite the clearly defined policies, vision, and objectives of the government, integration will falter. The current infrastructure is inadequate, resulting in the policy's failure unless significant improvements are made to facilitate the integration process.

The study's findings indicated that educators were not utilising the existing ICT infrastructure properly. This was posited on the premise that, if the limited infrastructure were employed, integration may have been straightforward. Nonetheless, most respondents recognised the inefficient utilisation of ICT infrastructure, which contradicts the findings. The study findings reveal that, despite the inadequate infrastructure, teachers continued to refrain from using it. This indicates that additional efforts are needed to be made to completely integrate the ICT policy.

In line with these findings, Enu and Nkum (2019) assert that, despite educators' aspirations to integrate ICT in pedagogy, significant obstacles include insufficient authentic software, inadequate classroom computers, slow internet connectivity, a lack of motivation from both educators and learners, insufficient training skills, unavailability of modern ICT equipment, the absence of expert technical personnel, inadequate administrative support and enough training.

Moreover, the results demonstrate that educators were insufficiently familiar with the application of ICT. The respondents were solicited for their views on the proficiency of teachers in utilising ICT within the educational process. The majority of the respondents rejected the idea that teachers were incompetent in utilising ICT facilities. This outcome indicates that the government's inadequate initiatives to develop the ICT policy and its insufficient infrastructure would be futile if the major executors who are the teachers lagged behind. It is a given fact that if teachers aren't given priority, the policy will stagnate.

These findings are supported by the World Bank Report,2023 that recognised the inadequate skills and experience of teachers in using ICT in teaching and learning in Tanzania hence, advocated for improvement by putting emphasis on Learning Management System (LMS), e-learning library, ICT integration strategy, digital skills framework, and hub schools to effectively ensure adaptation in the classroom. The survey findings indicate a significant emphasis from school administration on promoting the use of ICT in the teaching and learning process by teachers. The majority of the respondents reported that school administration was prioritising teachers' utilisation of ICT in the educational procedures.

5.3 Pupils' Awareness on the Role of the Application of ICT in Learning Process in Pupils in Same Primary Schools

Based on the findings on this objective which aimed to assess pupils' awareness on role of the application of ICT in learning process in pupils in Same primary schools; it became clear that pupils in public primary schools in the Same primary school perceived ICT as crucial to their learning processes. Pupils viewed that ICT was crucial, as it was not only aiding in the creation of learning materials but also were providing pupils with the opportunity to explore a wider range of materials and information sources. The findings also demonstrate the importance of ICT integration, as it aids pupils in effectively exploring different material and facilitating easy access to other materials from their teachers. Agbo's (2019) study supports the aforementioned findings, asserting that technology plays a crucial role in incorporating ICT into the teaching-learning process. Furthermore, pupils hold a positive view of ICT usage.

The researcher also discovered that pupils were enjoying and appreciating the use of ICT in teaching and learning because it was helping them develop strong memories. Another interesting finding is that pupils were viewing the use of ICT in their teaching and learning processes as entertainment. Ali (2018) supports this, asserting that students were perceiving the use of ICT in the teaching and learning process as a positive and joyful experience, igniting their ambition and eagerness to learn more, thereby enhancing their school retention. Furthermore, the students believed that using internet search engines to find information was beneficial for their studies. This is because it was enhancing their memory retention statistics where 80% of the

teachers in developing countries feel that the use of ICT in pupils' learning is essential as it helps to improve their memory (Santos).Another interesting finding was that pupils perceived that they needed to incorporate ICT in their learning process as it was enhancing their competence.

Based on the findings, the ICT policy (MoEVT, 2007) proposes that the integration of ICT in teaching is imperative because during this era of science and technology, pupils should be taught using modern technology during teaching and learning. This suggests that integrating ICT can enhance pupils' subject grasp and therefore increasing their competency in improving their academic performance.

These results indicate that students generally hold a positive attitude towards the use of ICT (Information and Communication Technology) in their educational pursuits. The results further imply that many pupils find ICT tools intriguing and encouraging. The interactive aspect of digital technologies can make learning more engaging and fascinating.

Pupils love the ability to learn at their own pace. ICT gives students access to a wide range of resources that they can review as needed, thus enabling personalised learning experiences. Sumardi (2021) discovered a significant correlation between students' perceptions of ICT integration in the teaching-learning process and their actual usage of ICT. The findings of Torres (2021), which demonstrated that pupils generally have a positive perception of using ICT (Information and Communication Technology) in their learning process, also connects to this.

5.4 Challenges Hindering the Role ICT in Learning Process in Pupils in Same Primary School

This is the third objective of the study which aimed to identify challenges hindering the role of ICT in the learning process for pupils in the Same District Primary Schools. Data for this objective were collected using a questionnaire covering 80 participants who were randomly selected. Below, a variety of challenges are discussed. The findings indicated that the main barrier to ICT integration in public primary schools was insufficient ICT infrastructure. The majority of respondents indicated that public primary schools' failure to integrate ICT was attributable to inadequate infrastructure, substandard tools, and unreliable power supply. This suggests that teachers had difficulties in properly executing the policy, notwithstanding their willingness and favourable disposition toward the utilisation of ICT. The study's conclusions align with those of Courtney, Karakus, Ersozlu, and Nurumov (2022), who argued that most developing nations, particularly in Africa, are lagging behind in the integration of ICT in educational settings. Irrespective of the government’s intents, objectives and explicitly articulated policies, the integration of ICT in public schools remains acute.

Furthermore, the study revealed that the majority of the participants recognised their lack of ICT proficiency as one of the various challenges they were facing. This outcome signifies that educators are aware of the challenges they faced throughout the implementation of the policy. It also indicates that the majority of the educators were possessing insufficient skills in information and communication technology. It might also be asserted that the government has overlooked people responsible for

implementing policy in favour of infrastructural development. This study corroborates the conclusions of Courtney, Karakus, Ersozlu, and Nurumov (2022), which indicate that public primary school educators were inadequately funded and devalued, notwithstanding their essential function in the execution of information and communication technology (ICT).

The survey revealed that all the participants considered that the inexperience of most of the public primary school teachers with technology were impeding their capacity to assist pupils in integrating ICT. The data indicate that majority of the teachers lacked the proficiency to utilise ICT devices efficiently, which may account for their infrequent or non-existent usage. Research indicates that public primary schools within the Same district were encountering further challenges to ICT integration due to the substantial costs associated with acquiring the technology. This conclusion indicates that most of the teachers were financially unable to obtain the information and communication technology (ICT) instruments necessary for their classroom activities. It indicates that the equipment was expensive in relation to teachers' salaries, hence necessitating government provision.

These findings align with Ishaq's (2020) research which contends that the installation of ICT gear, including tablets, laptops and routers for internet connectivity as well as internet fibres and ICT laboratories can be costly for both individuals and the government. They necessitate a significant financial investment which most tutors struggle to afford. The absence of fundamental information and communication technology infrastructure in most public primary schools renders the utilisation of

these technologies in the classroom exceedingly challenging, if not unfeasible, The findings of this align with previous research indicating that the cost of developing ICT infrastructure surpasses the resources of both individuals (teachers) and institutions.

Kawulich (2018) asserts that most public primary schools in impoverished countries lack the financial resource to implement ICT.As a result, the majority of educational institutions obtain several devices, each employed separately for administrative functions. The report also emphasized the absence of educational programmes and internet access as a significant issue. Research indicates that the majority of the individuals believe public primary schools face challenges in integrating ICT into their curricula due to a lack of accessible resources, such as educational programmes and internet connectivity. Kisirkoi (2018) supports the study's conclusions by asserting that public schools cannot integrate ICT due to insufficient teaching programmes and inadequate connectivity.

It should be noted that deficiency of power supply was impeding the implementation of technology in public primary school classrooms. More than 90% of survey participants concurred with this statement. This analysis indicates that most public primary schools lacked assurances of a dependable electricity supply. Furthermore, the results show a significant correlation between power supply concerns and most of the previously mentioned challenges. For instance, Jacob and Jegede (2021) identified analogous results, contending that the use of ICT is an unattainable aspiration in the absence of a dependable power source. All information and

communication technology (ICT) tools, regardless of size, require a consistent supply. This is supported by the education policy of 2007 which explains the challenges that face the implementation of ICT in schools. These are like, limited access to energy sources especially for schools in rural areas, disintegrated education management information systems and infrastructure in institutions, lack of Internet connectivity, and computer labs in schools.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS'

6.1 Introduction

This chapter summarises the findings to elucidate the overall results and methodology employed in the study in a clearer and more comprehensible manner. The chapter also gives the conclusion and suggestions for further studies.

6.2 The Summary of the Study

The main objective of the study was to examine the role of information and communication technology in enhancing the academic performance of pupils in primary schools in the Same district, Tanzania. The study aimed to achieve three specific objectives: assessing the extent of ICT utilisation in the learning process among pupils in the same primary school, and examining the pupils' awareness of the role of ICT application in the learning process. The final objective was to identify the challenges hindering the role of ICT in the learning process among pupils in the Same district primary schools. The study used the following questions to gather data: How much do pupils in the Same primary schools use ICT in their learning process? How much do pupils in Same primary schools understand the role of ICT in their learning process? What obstacles do prevent the use of ICT in the learning process for students in the Same primary school? Constructivist learning theory informed the research. The evaluation of empirical investigations detected the research gap. The research gap was discovered by evaluating empirical studies. The study utilised a pragmatic paradigm and a mixed-methods research methodology to gather both numerical and non-numerical data.

The study employed a multiple-case study methodology with a sample size of 89 respondents, comprising 80 respondents selected through simple random sampling and 9 respondents selected through purposive sampling methods. The research incorporated primary data sources, obtained via questionnaire and interviews. The qualitative data were assessed by content analysis, while the quantitative data were studied using frequencies and percentages. The reliability and validity assessments indicated that the study was both valid and reliable, adhering to all ethical criteria.

6.3 Summary of the Major Findings

This section gives the summary of the findings derived from the previously stated particular objectives.

6.3.1 The Extent to which ICT is Being Utilised in Learning Process Amongst Pupils in Same Primary Schools

Research indicates that public primary schools in Same district were extensively utilising e ICT in the classroom. According to the survey, educators in public primary schools were cognizant of the existence of ICT policies that were facilitating the learning and teaching process. The research indicated that public primary schools lacked the essential infrastructure for effective policy integration procedures. It was found that teachers were not utilising the current infrastructures due to unsatisfactory knowledge of ICT technologies. It was found that the school administration was prioritising ICT utilisation despite insufficient resources and facilities to keep it running.

6.3.2 Pupils' Awareness on the Role of Application of ICT in Learning Process in Same Primary Schools

The study's findings demonstrated that most teachers understood the role that ICT plays in the teaching and learning process. Pupils viewed ICT as crucial, that it was not only aiding in the creation of learning materials but also providing pupils with the opportunity to explore a wider range of materials and information sources. The findings also demonstrated the importance of ICT integration, as it was aiding pupils in effectively exploring different materials and easing the access to other materials from their teachers. The pupils believed that using online search engines to gather information was beneficial for their studies. This was because; it was enhancing their memories. Pupils were found to appreciate the opportunity to learn at their own speed. It was noted that Access to a wide range of materials through information and communication technology was allowing for personalised learning experiences.

6.3.3 Challenges affecting the use of ICT in Teaching and Learning Process

Several challenges, including the lack of ICT infrastructure and tools, insufficient ICT knowledge among most teachers, and the high cost of accessing ICT tools, were found to impede ICT integration. It was noted that additional issues were encompassing the deficiency of fundamental ICT infrastructure in most of the public primary schools. These went along with inadequate power supply.

6.4 Conclusions

Despite the recognition of ICT in the teaching and learning process, schools were found to rarely implement it. Despite the school administration's emphasis on the

policy, its infrequent implementation was found to result in minimal integration into teaching and learning activities.

Furthermore, based on the outcomes of this study, it is evident that teachers possessed a favourable impression of the integration of ICT in the teaching and learning process. They recognised that ICT integration was facilitating the development of teaching and learning resources. ICT was benefiting pupils by providing them easier access to a wide range of diverse information sources compared to traditional methods. It was found that both educators and pupils regard it as beneficial and efficacious, as it was fostering a congenial and engaging learning atmosphere.

Moreover, despite the favourable perception of ICT integration in teaching and learning among educators, they continue to encounter numerous problems, including inadequate power supply, insufficient ICT infrastructure, and the unavailability of ICT products. Another noted difficulty was the lack of technical expertise, as most teachers exhibited minimal knowledge regarding the utilisation of ICT technologies in teaching and learning activities.

6.5 Implication of the Study

Despite conducting the research in the Same district, the study's findings hold significant implications for education practitioners worldwide. The research indicates that, despite various problems, ICT policy is well-known among most teachers in public primary schools. It also illustrates that the school administration is making

efforts to emphasise the implementation of the policy, despite the unsupportive atmosphere.

Moreover, the teachers' opinion of the integration of ICT in teaching and learning is favourable, thus making them to regard it as beneficial for the production of educational resources and the establishment of a conducive learning environment. However, problems such as teachers' limited ICT knowledge and inadequate ICT infrastructure, should be addressed to facilitate the incorporation of ICT in the teaching and learning process. Furthermore, despite the favourable view of educators, the integration of ICT was found to be faltering due to several problems obstructing the process and policy execution.

The study's findings suggest that the challenge of establishing ICT stems from the absence of a reliable power source, which is essential for its operation. However, implementing ICT tools in the teaching and learning process can be challenging, given that most teachers in public primary schools have limited expertise in ICT usage. Notwithstanding the persistent attention from school administrations, the current ICT infrastructures and tools have failed to facilitate the seamless integration of the process.

6.6 Recommendations

Based on the concerns identified in the study, several recommendations addressing these specific challenges are directed towards the government under the Ministry of Education and Vocational Training, educators, and school administration.

6.6.1 Recommendations for Actions

Teachers require adequate training to proficiently utilise ICT, particularly in the teaching and learning process. The training may be conducted as on-the-job training to avoid disrupting the annual schedule. Once educators are proficient in utilising ICT, it will be easier for the government to allocate a budget for the adequate provision of ICT resources in schools. Ensuring sufficient, adequate, and relevant information and communication technology (ICT) facilities for the teaching and learning process, should be a priority for the government.

In that context, the government should invest in information and communication technology (ICT) labs and supply schools with adequate ICT equipment. There should be maximisation of the effectiveness of the integration process. To achieve this, the government should guarantee that schools have an adequate supply of electricity, since this will allow instructors to make full use of the available technology.

6.7 Recommendations for Further Studies

Since this study only looked at public primary schools in the Same district, it would be helpful to have a parallel investigation of how teachers feel about using technology in the classroom at both public and private schools.

To further understand the relationship between the use of ICT in the classroom and pupils' academic achievement, more research is required in all the pre and primary schools worldwide.

The researcher used a combination of questionnaires and in-person interviews to compile primary data for the study, which followed an explanatory research design. Therefore, in future research, pupils' perspectives on the use of information and communication technologies in the classroom should be the subject of a new study that uses a combination of survey, interview, focus group, and observational methods.

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APPENDICES

APPENDIX: I

QUESTIONNAIRE FOR TEACHERS

Introduction

My name is **Libereta Petro Joseph**, a student pursuing a Master of Education degree in Administration Planning and Policy Studies, at the Open University of Tanzania. The intention of this questionnaire is to collect information about "*The Role of Information and Communication Technology in Enhancing Pupils' Academic Performance in Same District*". This research is solely for academic purposes; thus, your information is valuable and necessary in achieving the study's research aims. The information given is highly confidential and anonymous. To ensure the success of this project, I would like to urge you for your help and voluntary participation.

A: RESPONDENT PERSONAL INFORMATION

(Please circle the appropriate answer)

1.	Age	a. Below 25 Years b. Between 25- 35 Years c. Between 36-45 Years d. Between 46-55 Years e. 56 and above Years
2.	Highest level of education attained	a. Certificate b. Diploma c. First degree/advanced diploma d. Master's degrees e. Any training/ professional course……
3.	How long have you been working with the Same District?	a. Below 1 year. b. Between 1-3 year c. Between 4-6 year d. Above 6years year

B. THE EXTENT OF ICT USE IN LEARNING PROCESS AMONGST PUPILS IN SAME PRIMARY SCHOOL.

The following items suggest the extent to which ICT is being utilised in learning process amongst pupils in Same District Primary Schools. Indicate with a tick (√) in the appropriate box the letter suggesting the best alternative answer represented by these statements. The scale is rated from the highest to the lowest degree in the following order: Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D), and Strongly Disagree (SD).

S/N	Item	SA	A	N	D	SD
1	There is a good understanding of ICT in teaching and learning among teachers in public primary schools.					
2	Pupils are aware of the availability of an ICT policy encouraging teaching and learning in public primary schools.					
3	There are available infrastructures supporting policy integration practices in public primary schools.					
4	The available infrastructure is adequate for supporting ICT use in the teaching and learning process.					
5	Pupils effectively use the available ICT infrastructure to implement teaching and learning processes.					
6	Pupils are well conversant with the use of ICT in the teaching and learning process.					
7	Pupils are well conversant with the use of ICT in the teaching and learning process.					

C. PUPILS' AWARENESS ON THE ROLE OF THE APPLICATION OF ICT IN LEARNING PROCESS IN SAME PRIMARY SCHOOL.

The following items suggest the pupils' awareness on role of the application of ICT in learning process in pupils in Same Primary School. Indicate with a tick (√) in the appropriate box the letter suggesting the best alternative answer represented by these statements. The scale is rated from the highest to the lowest degree in the following

order: Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D), and Strongly Disagree (SD).

8	Pupils have positive attitudes regarding the use of ICT as a learning instrument.					
9	Pupils happily and properly use ICT in their learning activities on a day-to-day basis.					
10	The use of ICT is perceived more positively among pupils.					
11	Pupils consider that the use of ICT eases their understanding and makes the learning process easier.					
12	ICT integration into the learning process is heavily influenced by pupils' attitudes toward ICT integration.					
13	Pupils perceive that ICT improves their understanding and academic performance.					
14	Pupils perceive that ICT is effective in the revision and consolidation of knowledge.					

D. CHALLENGES HINDERING THE ROLE OF ICT IN LEARNING PROCESS IN SAME PRIMARY SCHOOL.

The following items suggest the challenges hindering the role ICT in learning process to pupils in Same Primary Schools. Indicate with a tick (√) in the appropriate box the letter suggesting the best alternative answer represented by these statements. The scale is rated from the highest to the lowest degree in the following order: Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D), and Strongly Disagree (SD).

16	The unavailability of ICT infrastructure, the unavailability of tools, and poor power supply, slow the integration of ICT in public primary schools.					
17	Both teachers and pupils lack knowledge about the use of ICT as a pedagogical tool, which hinders the use of ICT in learning activities.					
18	The use of ICT as an educational tool appears to be a serious condition among Pupils.					
19	The majority of public primary school pupils lack the skills to use the tools something that affects their					

	integration into using ICT.					
20	Integration of ICT in the learning process is being affected by the high costs of accessing and using ICT tools.					
21	Most of the public primary schools lack basic ICT facilities, thus making it impossible to incorporate ICT into learning activities.					
22	The unavailability of educational programmes or internet access hinders the integration of ICT in the learning process in public primary schools.					
23	A shortage of power supply necessary to facilitate the installation and operation affects the use of ICT in the learning process.					

Thanks for your cooperation

APPENDIX II

AN INTERVIEW GUIDE EDUCATIONAL OFFICERS

i. How would you describe the existing district's ICT use practices with regard to pupils' learning?

……

……

ii. What is the extent to which ICT is being utilised in the learning process among pupils in the Same district primary schools?

……

……

iii. How do pupils view the use of ICT in their teaching and learning processes?

……

What are the pupils' perceptions of the application of ICT in the teaching and learning process in public primary schools in Same district?

……

……

v. What are the challenges affecting the use of ICT in the teaching and learning process in public primary schools in Same district?

……

……

iv. What do you think the government should do to overcome the challenges hindering the integration of ICT in teaching and learning processes?

……

…….

THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

THE OPEN UNIVERSITY OF TANZANIA

Ref. No OUT//PG202285719 **24th September, 2024**

City Director,
Ilala City Council,
P.O.Box 20950,
DAR ES SALAAM.

Dear Director,

RE: RESEARCH CLEARANCE FOR MS. LIBERETA PETRO JOSEPH, REG NO: PG202285719

2. The Open University of Tanzania was established by an Act of Parliament No. 17 of 1992, which became operational on the 1st March 1993 by public notice No.55 in the official Gazette. The Act was however replaced by the Open University of Tanzania Charter of 2005, which became operational on 1st January 2007.In line with the Charter, the Open University of Tanzania mission is to generate and apply knowledge through research.

3. To facilitate and to simplify research process therefore, the act empowers the Vice Chancellor of the Open University of Tanzania to issue research clearance, on behalf of the Government of Tanzania and Tanzania Commission for Science and Technology, to both its staff and students who are doing research in Tanzania. With this brief background, the purpose of this letter is to introduce to you **Ms. Libereta Petro Joseph, Reg.No: PG202285719),** pursuing **Masters of Education in Administration Planning**

and Policy Studies (MEDAPPS). We here by grant this clearance to conduct a research titled **"Assessment of the Role of Information and Communication Technology on Enhancing Pupils' Academic Performance in Primary Schools in Same District, Tanzania".** She will collect her data at your area from 24th September 2024 to 30th October 2024.

4. In case you need any further information, kindly do not hesitate to contact the Deputy Vice Chancellor (Academic) of the Open University of Tanzania, P.O.Box 23409, Dar es Salaam. Tel: 022-2-2668820.We lastly thank you in advance for your assumed cooperation and facilitation of this research academic activity.

Yours sincerely,

THE OPEN UNIVERSITY OF TANZANIA

Prof.Gwahula Raphael Kimamala

For: VICE CHANCELLOR

UNITED REPUBLIC OF TANZANIA
PRESIDENT OFFICE.
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

SAME DISTRICT COUNCIL

All correspondence be addressed to:
Phone: +255 27 2758190 (Direct line)
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Fax/mail: +255 27 2758235/255 27 2758015
Website: http://www.samedc.go.tz
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District Executive Director
Same District Council,
118 Kibacha Road
P. O. Box. 138,
25601 SAME.

On reply please quote:
Ref. No. SDC/ D.30/132 Vol/145 **Tarehe : 26/09/2024**

Rector,
The Open University of Tanzania,
P. O. Box 23409,
KINONDONI - BIAFRA, KAWAWA.

REF: REQUEST FOR RESEARCH PERMIT FOR MS: LIBERETA PETRO JOSEPH.

Refer your letter of 23rd September, 2024 written to District Executive Director requesting permit for Ms. Libereta who is a bonafide Research Student from The Open University of Tanzania Research on ***"Assessment of the Role of Information and Communication Technology on Enhancing Pupil's Academic Performance in Primary Schools in Same District, Tanzania"***.

2. Be informed that the Mentioned Student has been accepted to undertake Research at Same District Council from **24th September, 2024** to **30th October, 2024** for his own costs. Since the Council has no fund for field students.

Thank you for Co-operation

Jimson Mhagama
DISTRICT EXECUTIVE DIRECTOR