TUTORS' APPLICATION OF INFORMATION COMMUNICATION TECHNOLOGY INTEGRATION IN TEACHING OF KISWAHILI IN PUBLIC PRIMARY TEACHERS' COLLEGES IN KENYA: THE CASE OF RIFT VALLEY REGION

BY

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DECLARATION

Declaration by the Candidate

This thesis is my original work and has not been copied or presented for a degree in any other University.

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DEDICATION

I dedicate this work to my daughters, Natalie Marcelo and Nicole Marcelo, Tracy Magoma and my sons Nolan Marcelo and Kevin Omare Moogi.

ABSTRACT

Integrating ICT has been a major agenda in transforming education, Kiswahili as a subject has not been left behind. Integration is achieved when Kiswahili tutors select ICT tools for delivery of content, use the tools to analyze content, synthesize it and present it professionally. This study investigated the application of ICT integration in the teaching of Kiswahili in Public Primary Teachers' Colleges in Kenya; The case of Rift Valley region. It sought to establish the; types of ICT integration tools applied, benefits of application of ICT, attitudes of the tutors on ICT, and challenges facing tutors in the application of ICT integration in teaching Kiswahili in Public PTCs. The study was guided by Socio Cultural Theory (SCT) that states that human mind is always and everywhere mediated (Vygotsky, 1978). The inquiry employed sequential mixed methods design and pragmatic philosophical paradigm. The study was conducted in five Public PTCs namely: Baringo, Tambach, Mosoriot, Kericho and Narok. Purposive sampling was used to select the five colleges, 36 Kiswahili tutors, second year student teachers, 5 deans of curriculum and the Director of e-learning at KICD; while stratified random sampling was used to select 232 student teachers from the colleges. A questionnaire, observation guide and interview schedule were used to collect data. Quantitative data was analyzed descriptively and presented using tables and bar graphs in frequencies and percentages while qualitative data was thematically analyzed and presented in narrative & verbatim. The findings of the study revealed that, first ICT tools like smart phones, e-books, DVDs, LCDprojectors, computers, were available in PTCs. Second, among tools available the internet, power point and YouTube were mostly applied in the teaching of Kiswahili. Third, there were many benefits ranging from improving communication skills to giving relevance to teacher education. Fourth, the tutors had positive attitudes towards ICT integration. Fifth, challenges faced by the tutors included computer illiteracy, inadequate facilities, and lack of integration policy in PTCs. The research concluded that even though ICT tools were available, beneficial and the tutors' attitudes were positive, ICT was rarely integrated in the teaching of Kiswahili in the PTCs because of challenges such as tutor computer illiteracy. Based on these findings the study recommended development of ICT integration policy, provision of more funds to purchase facilities, further training for tutors and close monitoring of ICT integration and organize INSETS. The study will benefit MOE, KICD, college administrators and student teachers, to understand the application of ICT knowledge, skills and tools in the teaching of Kiswahili.

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LIST OF ABBREVIATIONS

ACE	Accelerating 21st Century Education
CEMASTEA	Centre for Mathematics, Science & Technology Education in Africa
CMC	Computer Mediated Communication
CRE	Christian Religious Education
DVD	Digital Video Disc
EFA	Education for All
ESL	English as a Second Language
ETBs	Electronically Talking Books
FHi360	Family Health International
FPE	Free Primary Education
ICT	Information and Communication Technology
INSETS	In service Training
IRE	Islamic Religious Education
IT	Information Technology
IWB	Interactive Whiteboard
KEMI	Kenya Education Management Institute
KICD	Kenya Institute of Curriculum Development
KIE	Kenya Institute of Education
L2	Second Language
MDGs	Millennium Development Goals
MoEST	Ministry of Education Science and Technology
MoEVT	Ministry of Education and Vocational Training
NACOSTI	National Commission for Science Technology and Innovation
NEPAD	New Partnership for Africa's Development
NI3C	National ICT Innovation &Integration Centre
PC	Personal Computer
PTCs	Primary Teachers' Colleges
PTRs	Pupil Teacher Ratios
SAS	Support Application Systems
SCT	Social Cultural Theory
SDGs	Sustainable Development Goals
SLA	Second Language Acquisition
SMASSE	Strengthening of Mathematics and Science in Secondary Education
SPSS	Statistical Package for Social Sciences
TTCs	Teachers Training Colleges

TVET	Technical, Industrial, Vocational and Entrepreneurship Training
UPE	Universal Primary Education
USAID	United States Agency for International Development
WWW	World Wide Web
ZPD	Zone of Proximal Development

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CHAPTER ONE

INTRODUCTION TO THE STUDY

1.1 Overview

This chapter presents the background to the study, the statement of the problem, the purpose, the objectives, research questions of the study, justification, significance, scope and limitations, assumptions, theoretical frame work, conceptual frame work of the study, operational definition of terms and summary.

1.2 Background to the Study

Kiswahili is one of the African languages that have been accepted for use in Information and Communications Technology (ICT). It plays an important role in ICT use (Akinyi and Matu, 2011). For instance, for a long time English and other languages from the West have been the only languages through which people globally access ICT resources (Webb 2002).

Kiswahili is spoken by 100 million plus speakers who speak it as a second language (L2) while the number of its native speakers has been conservatively placed at just under two million.The use of Kiswahili has been influenced by the need to make ICT accessible to a large population that speaks it (Akinyi and Matu (2011). Therefore, Kiswahili offers an opportunity to bridge the digital divide since for a long time ICT was perceived as a preserve for the elites who could speak English and other colonial languages. The availability of competitive tool for language manipulation in ICT in Kiswahili speaking countries strengthens the chances of the language to develop into a viable means of communication.

According to UNESCO, 2002 as foreword by John Daniel stated that;

> Teacher education institutions may either assume a leadership role in the transformation of education or be left behind in the swirl of rapid technological change. For education to reap its full benefits from ICTs in learning, it is essential that pre- and in-service teachers are able to effectively use these new tools for learning (P3).

This is relevant to the current study, if teachers are not prepared well and trained to use ICT in the teaching process then; education sector will be left behind technologically. Thus, there should be in-service courses in ICT for the teachers who were trained earlier before the technological changes and those being trained should be prepared to use ICT in the teaching process.

Integrating ICT in teaching and learning has been a major agenda among the countries in the world and organizations have been established to promote its use in education. Such organizations include school net which introduces computers and internet connectivity to schools and is found in Canada, Europe, South East Asian countries and some of the African countries. Other evolutions in this area are e-school initiative of the United Nations ICT Task force and the New Partnership for Africa's Development (NEPAD) schools programme (Magambo, 2007).

In the year 2000 during the Dakar Summit the global community adopted eight millennium Development Goals (MDGs) which were to be met by the year 2015. These were replaced by a set of 17 Sustainable Development Goals (SDGs) to end poverty, fight inequality and injustice, and tackle climate change by 2030. These goals included eradication of extreme poverty and hunger, achievement of universal primary education, strengthening of gender equity, improvement of sanitary conditions, promotion of environmental sustainability and in general terms the promotion of development in poorer countries. One of the eighth goal was to ensure

benefits provided by new technologies, particularly making ICTs available to all people (Magambo, 2007).

This is a clear indication that for universal primary education to be achieved and technologies made available to all, the teachers should be well trained. There should be application of ICT integration in the training of the teachers who would in turn help in the achievement of the SDGs. ICT is a powerful tool for training as it transfers knowledge to the person most likely to achieve effective dissemination (Magambo 2007).

The quality of an education system will not exceed the quality of its teachers, this is because 80% of learning is directly influenced by the quality of teaching thus improving quality will have a significant impact on learning (Republic of Kenya, 2015). There are determinants in improving the quality of teaching, these are; first, personal, academic and professional qualification, second, curriculum content, knowledge and understanding, third, tools and methodology of delivery (pedagogy) and fourth, support systems and conditions (governance, management, physical and working environment) (Republic of Kenya, 2015).

There have been numerous efforts directed towards improving teacher competence and use of ICT in the classroom. This has been portrayed by the governments' effort to ensure that there are computers in the Public Primary Teachers College, there has been continuous deployment of ICT infrastructure to schools and learning institutions, some of the projects along this line include NEPAD e-schools (2005); the e-school initiative; the multi-media lab project (TELEVIC); the ESP-ICT computer for school project (2010-2012); the accelerating 21st Century education (ACE) project (2010-

2012); Tafakari project in TTCs; the Badiliko project (British Council) and the Holistic model project (2011-2012) (Republic of Kenya, 2015).

Additionally, the Ministry of Education Science and Technology (MoEST) has developed policies on ICT in education (Ministry of Education, 2006). Some of these initiatives include the national ICT strategy for education and training 2006 which was developed and implemented to operationalize the sessional paper No. 1 of 2005. Also ESP-ICT computer for schools project, 210 ICT champions for each constituency have been trained and have in turn trained over 20,000 teachers on ICT integration in education through a cascade model. CEMASTEA has also trained 1,500 district master trainers who have trained 20,000 teachers on ICT integrated lesson plans. Finally, KICD through elimika platform has oriented over 200 primary school teachers on new curriculum changes (RoK 2015).

The National ICT innovation and Integration Centre (NI3C) has been providing support desk services to teachers and schools in ICT new innovations and advising senior management about innovative hosting and national teachers' portal (RoK, 2015). Additionally, KICD has digitalized Mathematics and Science subject for classes' 4 to 7 primary education and 12 subjects except Christian Religious Education (CRE), Islamic Religious Education (IRE) and Hindu in secondary education. Digital content for primary and secondary school level for other publishers has also been vetted and included in the orange book; this is an online book that contains supplementary story books and text books approved for use in primary and secondary schools in Kenya (RoK, (2015).

In order to provide coordination and harmonization of ICT integration initiatives in education, the department established ICT unit and ICT integration team that has provided continued guidance on public-private partnerships to mobilize resources for ICT in education (RoK, (2015).

The vision of MoEST is to facilitate ICT as a universal tool for education and training, to achieve this vision every educational institution, teacher, learner and respective community should be provided with appropriate infrastructure, competencies and policies for usage and progress (Ministry of Education, 2006). Therefore, it calls for transforming teaching and learning to incorporate new pedagogies that are appropriate for the 21st century.

Additionally, the principal objective of MoEST is to integrate ICT in the delivery of education and training curricula, it's worth noting that one of the objectives is to support initiatives that provide digital equipment to educational institutions with priority to secondary and primary schools. Another strategic objective is to train teachers on integration techniques and sensitize educational managers on ICT which will lead to improved performance in education and examinations as well as enhance transition rates at all levels of education (Ministry of Education, 2006).

Kiswahili is a crucial language in the Kenyan Education System and cannot be left behind the technological changes since the changes affect the teachers and delivery of Kiswahili content. Various organizations have been established to support ICT integration in the education system. In Kenya, there have been numerous efforts to support ICT integration in the teaching and learning process for instance ensuring that the computers are in learning institutions such as public primary teachers' colleges. Despite these efforts the researcher realizes gaps which include more focus on ICT

integration being directed to primary and secondary schools since more training programmes are for these levels. Secondly, emphasize is more in Mathematics and Science. A good example is the digitalization of class 4-7 Mathematics and Science by the Kenya Institute of Curriculum Development (KICD).

More so, in some trainings that tutors from colleges attend, they emphasize on ICT integration in the teaching of Mathematics and Sciences these include CEMASTEA and SMASSE. Additionally, in most of the researches there is evidence on ICT integration in Sciences, Mathematics, English and Music but there is no much information on ICT integration in the teaching of Kiswahili.

1.3 Statement of the Problem

Kiswahili is a compulsory and examinable subject in the Kenyan educational system. It is also one of the compulsory subjects taught in the public primary teachers colleges in Kenya. The Kenya constitution of 2010 points out that, Kiswahili is the first official language in Kenya alongside English. It is for this reason that Kiswahili is regarded as a very crucial language in the Kenya's system of Education. Vision 2030 states that ICT integration is one of the key components in the education system and that the government will make education a natural platform for equipping the nation with ICT skills. For the government to realize the gain of ICT, it needs to integrate ICT into curriculum at all levels that is in preparing the teachers and learners.

Integrating of ICT in the teaching and teacher preparation will contribute positively toward the achievement of improved education outcome since ICT is an interactive media. Good preparation by the teacher or good methods of delivery from the teachers, will contribute to good performance in the subject and the realization of

vision 2030 where other levels of education and training apart from basic education will play a crucial role in transforming the country into middle income economy.

It is evident that more emphasis on ICT integration is being put in primary and secondary schools since more training programmes are for these levels. Secondly, emphasize is more in Mathematics and Science. A good example is the digitalization of class 4-7 Mathematics and Science by the Kenya Institute of Curriculum Development (KICD) (RoK, 2015). More so, some trainings that tutors from colleges attend, emphasize on ICT integration in the teaching of Mathematics and Sciences these include CEMASTEA and SMASSE. Additionally, in most of the researches there is evidence on ICT integration in Sciences, Mathematics, English and Music but there is no much information on ICT integration in the teaching of Kiswahili.

The public primary teachers colleges are equipped with the ICT tools and the tutors' have continued receiving training on how to use ICT but emphasise is more on integration of ICT in Mathematics and Science. Do the Kiswahili tutors apply ICT integration in teaching it? Which areas of Kiswahili do they integrate? What tools do they integrate? The study therefore, investigated tutors application of information and communication technology integration in the teaching of Kiswahili among tutors' in public primary teachers' colleges in Kenya: the case of Rift Valley Region.

1.4 The Purpose of the Study

The purpose of this study was to find out how tutors integrate ICT knowledge, skills and tools in the teaching of Kiswahili in PTCs.

1.5 Objectives of the Study

The specific objectives of this study were to:

i. Establish the types of ICT integration tools applied in the teaching of Kiswahili in Public PTCs.
ii. Determine the benefits of application of ICT integration in teaching Kiswahili in Public PTCs.
iii. Determine the attitudes of the tutors on ICT integration in teaching Kiswahili in Public PTCs.
iv. Establish the challenges facing tutors in the application of ICT integration in teaching Kiswahili in Public PTCs.

1.6 Research Questions

The research sought to answer the following questions:

i. What types of ICT integration tools are applied in the teaching of Kiswahili in Public Primary Teachers' Colleges in Rift Valley region?
ii. What are the benefits of ICT integration in the teaching of Kiswahili in Public PTCs?
iii. What are the attitudes of tutors on ICT integration in the teaching of Kiswahili in Public PTCs?
iv. What are the challenges facing tutors in application of ICT integration in the teaching of Kiswahili in Public PTCs?

1.7 Justification of the Study

Technologies are increasingly finding applications in teaching and learning. ICTs and computers have moved from being the object of study to a learning tool in the classroom and teachers are increasingly expected to have the basic ICT skills and able to apply them in the classroom teaching. Adoption of computers in education has progressed in nearly identical pattern, which is from acquisition of basic computer skills, computer aided teaching, communications and research to usage in every subject. According to Sessional Paper No. 1 of 2005 the overall goals of education were, to attain UPE by 2010, to achieve the EFA by 2015 and to increase the transition rate from primary to secondary. In order to realize these objectives, commitments were made to integrate ICTs in the delivery of the education curricula.

In 2003, the government introduced FPE and there were many challenges due to increased enrollment rates and high Pupil Teacher Ratios (PTRs). ICT can contribute considerably in addressing these challenges especially if the student teachers are going to be equipped with the skills of using ICT in the process of teaching subjects such as Kiswahili.

In Kenya, learning institutions are under pressure to integrate ICT in the process of teaching and learning arising from vision 2030 document, the laptop project for primary school and the national ICT policy on education. Additionally, the vision of MOEST is to facilitate ICT as a universal tool for education and training thus, it calls for transforming teaching and learning to incorporate new pedagogies that are appropriate for the 21st century.

It is worth noting that one of the strategic objectives of the MOEST is to support initiatives that provide digital equipment to educational institutions, with priority to

secondary and primary schools. The Colleges have not been left behind since they are equipped with the computers and the colleges are where the teachers are being trained. Thus, it's worth investigating whether tutors do integrate ICT in the preparation of the student teachers.

Additionally, for the universities and colleges, there was the building capacity of TVET trainers and university lecturers to promote the development, adoption and use of ICT tools of production in all sectors or the economy. From this, the tutors are expected to apply ICT integration in the process of teaching since colleges are a level of education in the Kenyan educational system. Thus the researcher aims at: establishing the types of ICT tools integrated in the teaching of Kiswahili in Public PTCs, establishing whether ICT integration is done in the process of teaching different aspects of Kiswahili in Public PTCs, which produces teachers to teach Kiswahili; a compulsory subject at primary school. Kiswahili is one of the subjects that affect the Kenyan learner since it has a direct effect on the learners' performance in primary, secondary school, teachers colleges and even placement in the university.

1.8 Significance of the Study

The study investigated tutors application of ICT integration in teaching Kiswahili in Public Primary Teachers Colleges. The findings are important to the Ministry of Education in assessing the impact of continued investment in ICT and inform policy formulation that is helpful in successful application of ICT integration in PTCs.

The findings of the inquiry expose the challenges faced by tutors on application of ICT integration in the teaching of Kiswahili in Public PTCs. For this reasons the recommendations will help the educationists, administrators and tutors to improve the level of application of ICT integration which will thus improve the teaching and

learning of Kiswahili. The study it is important since it provides information on the extent to which tutors are prepared for the application of ICT integration in the teaching of Kiswahili.

Moreover, the investigation generated new and original knowledge that will be added to the existing knowledge in the area of the application of ICT integration in the teaching of Kiswahili. Finally, the study will arouse interest and forms a base on which other researchers can develop their studies.

1.9 Scope and Limitation of the Study

1.9.1 Scope of the Study

The research was based on the types of ICT applied in the teaching of Kiswahili, benefits of ICT integration, attitudes of the tutors on ICT integration, challenges of ICT integration, and the solution to the challenges of ICT integration in Public PTCs. The investigation was confined in Baringo, Elgeiyo Marakwet, Nandi, Kericho and Narok Counties and the Kenya Institute of Curriculum Development. The second year student teachers were involved since they were deemed to possess valuable information for the study, they had covered most of Kiswahili content taught in PTCs, Kiswahili tutors and Deans of curriculum were also involved in the study which took place from the months of February to June 2017. Data collected was a triangulation of both quantitative and qualitative.

1.9.2 The Limitation of the Study

The investigation was limited by the scarcity of studies on ICT integration in PTCs thus the researcher referred to literature of ICT integration in secondary schools and also literature on integration on other subjects. Additionally distance from one county

to another was a limitation; the researcher started very early and also extended the number of days in during the process of data collection.

1.10 Assumption of the Study

This study assumed that:

i. Kiswahili tutors will freely and willingly respond to the questionnaire.
ii. Kiswahili student teachers will freely and willingly respond to the questionnaire.
iii. ICT is applied in the teaching of Kiswahili.

1.11 Theoretical Frame Work

The study was based on the Social Cultural theory (SCT) and the process of second language acquisition by Vygotsky (1978, 1987). The theory involves constructing new Knowledge through social interactions that plays a fundamental role in the development of cognition. Socio cultural theory provides a framework for constructing new knowledge he called Zone of Proximal Development (ZPD) that is, the distance between the actual developmental level as determined by problem solving and the level of potential development as determined through problem solving under guidance (Vygotsky, 1978).

Socio Cultural theory is based on two branches; Firstly, that the human mind is always and everywhere mediated primarily by linguistically based communication and secondly, activity theory which holds that mental functioning is mediated, this implies that for the learner to learn a language like Kiswahili there should be mediation, in that the learner is involved in activities that will facilitate the learning process. Second language acquisition (SLA) as a mediated process has been viewed in three general perspectives: social mediation by experts and peers, self mediation

and the artifact mediation (Lantolf 2002). All the three perspectives entail symbolic (usually linguistics) mediation to a significant degree.

Learning occurs in social context (socio cultural theories) and involves the creation and self organization of Knowledge (cognitive constructivism of the individual) (Nguyen and William, 2016). Learning of an individual happens in social interaction and culturally arranged activities (Shar, 2016). This implies that for learning to take place there is social interaction with more skilled individual. There is social interaction with a more Knowledgable Other who can be a teacher, tutor, parent, an older adult, a coach or even a peer (McLeod, 2014).

Vygotsky (1978) maintains that learning for individuals always takes place in a social context where learners seek support from more able peers or teachers or technical tools or artifacts in their zone of proximal development. To maximize learning the learning environment must be constructed as a rich and complex tapestry of activities and there must be repeated opportunities for shared activities and access to expertise (molly and Greenberg, 1990 in whipp, Eckman and Kieboom, 2005).

Second language (L2) development moves through stages that need mediation by the expert to a point where the learner is able to perform appropriately in the language. Mediation is done by the teachers and learners themselves, through dialogue and correcting learners in sentence construction, when reading and when writing. This is applicable to this research since proper teaching of Kiswahili needs mediation especially by the expert who, in this case, is the tutor.

Comparative research has shown how teachers can engage learners in their Zone of Proximal Development (ZPD) through instructional conversations that scaffold novices into L2. The novices are the learners of the second language. The teacher involves the novice (L2 learners) into dialogue which assists them in learning.

The dialogic teacher, exhibits frequent use of proleptic interaction: that is the process of involving the learners into the learning process. It is the kind of learning that emphasizes on learner participation in the learning activity. This is similar to an elliptical teacher, who assumes a shared body of knowledge between the interlocutors but which has a specific pedagogical aim of drawing novices into activities they are unable to perform alone. Therefore, through dialogue the teacher effectively involves learners in their own learning.

Peer mediation on the other hand involves dialogue among learners and this can be as effective as dialogue between teachers and learners. The learners have different mediation strategies. They rely on concrete artifacts like dictionaries and textbooks which help them in learning the L2. They also seek help from their teachers in areas they do not understand. This is also appropriate to this research since the researcher investigated the use of concrete artifacts such as computers which can be used in mediating learning among the peers (Lantolf 2002). This is applicable in this research since the student teachers can assist each other in the process of learning, they can use technology such as Electronic Talking Books (ETBs), the dictionaries that are online, blogs and other artifacts to assist their peers in the learning of Kiswahili which will also assist them in the process of delivery of the curriculum to the primary schools.

Self mediation as expressed by Vygotsky (1987) is a process that involves privatizing speech that we gain control over our ability to remember, think, attend, plan, evaluate,

inhibit and learn. Private speech has been well attested among L2 speakers. This is relevant to the study, in that the student teacher need to privatize speech and use ICT to learn and remember the concepts taught in Kiswahili such as pronunciation of sounds and words in Kiswahili language.

Students learn best in collaboration with peers, teachers, parents and others when they are actively engaged in meaningful, interesting tasks (Vygotsky, 1978). ICT provides opportunities for teachers and students to collaborate with others across the country and across the globe. UNESCO (2002) states, that ICT provide a new tool to support collaborative learning in the classroom and online.

Vygotsky (1987) in the activity theory holds that, mental functioning is mediated, and that human reasoning emerges through practical activity in a social environment. Vgotsky (1978) promoted the notion that human activity is purposeful and carried out by sets of actions through the use of tools which can be physical and psychological. The theory offers a coherent framework for theorizing mediation as embedded in and emerging from, the experience of others in the present (social), the experiences of others from the past (culture) and the immediate experiences of the individual with these others and with the artifacts they constructed.

Human mental activity is also mediated by other forms of artifacts (like computers, videos, tasks) that entail non linguistic features. Computer Mediated Communication (CMC) as part of the activity theory is seen to foster among the students an enhanced sense of freedom and diminished culpability for their utterances (Thorne in Lantolf, 2002).

Additionally, Thorne in Lantof, 2002 argues that the shift to electronically mediated interaction allowed the students to exercise their agency as creative linguistic beings in ways that face to face interaction did not. Communication in electronically mediated classroom took on a much more dynamic quality than it occurred in the normal classroom environment.

Salmon in Kaplan (2002) hypothesized that aside from enhanced efficiency and accuracy; technology can actually impact on the way human beings think and learn. Salmon states that we internalize and mentally reconstruct the mediating means arising from the technology, which then becomes available for cognitive use. The theory emphasizes on learning being a social process and the origin of human intelligence in the society.

Learning being a social process applies to all aspects including learning of Kiswahili which is in different categories such as *Kiswahili sarufi* (grammar), *insha* (composition), *fasihi andishi* (English literature), *fasihi simulizi* (oral literature) and *ushairi* (poetry). For learning to take place there should be interaction between the learner and the society or even culture. In this case there should be interaction of the student teacher as a learner with ICT which is part of the 21st Century culture. Such interaction constitutes the origin of human intelligence.

The student teacher will interact with other student teachers who are computer literate and can be able to manipulate ICT in the process of learning. They will also interact with the tutors who are integrating in the process of teaching Kiswahili. Another interaction is that of the artifacts such as computers, DVDs, e-books, YouTube, internet, hyperlink among others. After interaction they will be able to integrate the knowledge into the individuals' member structure and learning will have taken place.

For instance, in writing *insha* (composition), the student teacher interacts with a DVD that has a teacher explaining the various steps of writing the composition, an example of a good composition and an interactive session of student and teachers outlining the common mistakes in compositions. This is a good example of the student teacher interacting with the peers, the expert and artifacts by so doing the student teacher will integrate the process of writing in their mental structure, this will also enhance self mediation since one is able to correct her/ himself in the process of writing *Kiswahili insha* (composition). Additionally the student teacher is able to privatize speech and the use of ICT will make them remember the concepts being taught.

Additionally, a more experienced peer in ICT integration or even an expert such as the tutor will support the student teachers in providing the learner with scaffolding to support the student's evolving understanding of development of complex skills such as integrating in the process of learning and teaching Kiswahili.

Language is the most powerful and pervasive cultural artifact, it cannot be separated from culture and it benefits from culture as a result, change in culture will always bring change in the language. For instance the culture of the people and even teaching has changed from the old culture of talk and chalk to learner centered methods which have been influenced greatly by ICT. Due to this changes language such as Kiswahili should benefit from introduction of ICT and its integration.

Artifacts offer mediation in learning for instance computers, projectors, DVDs, YouTube, and internet. The theory enlightens that human beings do things that are significant to themselves including learning. Use of these artifacts is significant to the tutor because he or she will involve various senses in the process of teaching Kiswahili. One will be able to cater for the visual, auditory and kinesthetic learner. It

is also significant to the student teacher since it will enhance understanding of the concepts.

The sociocultural theory informs this research in the area of tools in the social environment that can play a role in mediation, and whether these tools offer a framework for construction of knowledge in Kiswahili, also that learning is best through collaboration that is between the students, among the students, with artifacts and collaboration with the expert who in this research is paramount since a More Knowledgable Other provides cognitive development through social interaction (McLeod, 2014)

1.12 Conceptual Frame Work

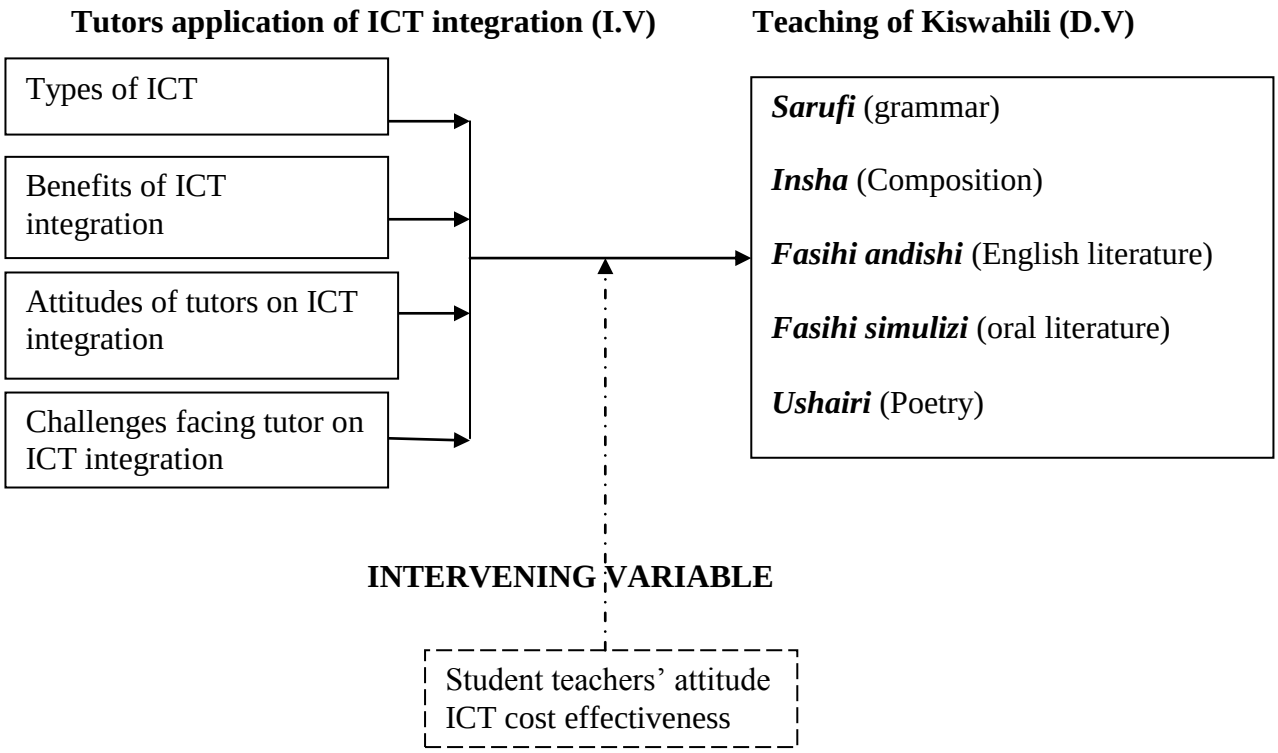

Figure 1: Conceptual framework showing the relationship between application of ICT integration and teaching of Kiswahili in Public PTCs
(Source: Author's development, 2017)

Figure 1 shows the relationship between application of ICT integration and the teaching of Kiswahili in Public Primary Teachers' Colleges. The independent variable for the study is represented by application of ICT integration. In this model, ICT integration is viewed through the following; Types of ICT, attitudes of the tutors' on ICT integration, benefits of ICT integration, challenges facing tutors in ICT integration

Secondly, the dependent variable in this study is the teaching of Kiswahili which involves teaching of *sarufi* (grammar), *insha* (composition), *fasihi andishi* (English literature), *fasihi simulizi* (oral literature) and *ushairi* (poetry). As various forms of mediation takes place such as expert and peers, self mediation and artifact mediation,

there will be improved communication skills, reading skills, writing skills and improved analytical skills.

The model also shows the intervening variables which comprises of student teachers' attitudes, and ICT cost effectiveness. The researcher assumed that the intervening variables have minimal impact on the results of the study. The researcher administered questionnaires with questions that captured other variables besides the ones that are being researched.

1.13 Operational Definition of Terms

Attitudes: Tutors state of mind or feelings towards ICT in the process of teaching Kiswahili. It refers to the liking or disliking the use of technology in the process of teaching Kiswahili.

Desktop: This is a personal computer designed for use at a particular location for instance in the computer lab.

Hyperlink: is a reference to data that the learner can directly follow. It may point to the whole document or specific element within the document.

Information and Communications Technology: is the use of computer, internet, weblogs, power point, interactive white boards and LCD projectors, word processor, YouTube, hyperlink, CD/DVD ROM and e-books in the process of teaching Kiswahili.

Integration: is the application of ICT tools in the process of teaching Kiswahili. It involves tutors selection of ICT tool for delivery of content, use of the tool to analyze content, to synthesis information and present information professionally.

Laptop: This is a portable personal computer.

Online Orange Books: is a list of textbooks approved for use in primary schools, it contains supplementary story books and text books.

Orange Book: Is the official list of text books approved for use in primary schools.

Power point: This are well organized slide presentations that a tutor uses in the process of teaching Kiswahili. It involves summarized points, pictures, quizzes that are projected on the wall or board for students to see and learn from.

Primary School: is a school for children of age six to thirteen. It also involves class one to class eight.

Primary Teacher Colleges: Learning institutions that prepare teachers to teach in primary schools.

Rift Valley Region: This is the region that occupies the Rift Valley Province of Kenya. Teachers training colleges have been put into regions more so for co-curriculum activities.

Student Teacher: Are the students being prepared by the tutors to teach in primary schools.

Tutors: These are the lecturers or teacher trainers who prepare the student teachers to teach primary schools.

1.14 Summary

Because of its importance as a language, Kiswahili is one of the compulsory subjects in Kenya's Educational system. This chapter established gaps to fill in that despite the efforts to sensitize on ICT integration, more effort is put in primary and secondary level of education, also emphasise is in Mathematics and Science like the digitalization of class 4-7 Mathematics and Science curriculum by the KICD. Finally evidence from literature reveals that ICT integration is in Sciences, Mathematics, English and Music. There is no much information on ICT integration in the teaching of Kiswahili thus the researcher sought to establish the types of ICT integration tools applied in the teaching of Kiswahili, to determine the benefits of ICT integration in the teaching of Kiswahili, to determine the attitudes of the tutors on ICT integration in the teaching of Kiswahili and to establish the challenges facing tutors in the application of ICT integration in the teaching of Kiswahili and the solutions to these challenges.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature relating to the application of ICT integration in the teaching of Kiswahili in Public Primary Teachers' Colleges in Kenya: the case of Rift Valley Region, under the following sub-headings; types of ICT integration tools applied in the teaching of Kiswahili, benefits of ICT integration in the teaching of Kiswahili, attitudes of tutors on ICT integration in the teaching of Kiswahili, and Challenges facing tutors on application of ICT integration in the teaching of Kiswahili in Public Primary Teachers' Colleges,

2.2 Types of ICT Integration Tools Applied in the Teaching of Kiswahili

Svensson in Kullberg (2011) states that there are different ways that one can make use of information technology (IT). These ways are referred to as the 'four pillars' which exist side by side in the process of learning. The first pillar presents IT as an automaton, a drill instructor of sorts. This is manifested in language education by the various programs aimed at teaching the students different aspects of language such as prepositions, verb endings, and glossaries. This is relevant to teaching and learning of Kiswahili since it is a language that has different aspect as any other for instance it has *sarufi*; *vitenzi* (verbs), *nomino* (nouns), *misamiati* (vocabularies) and *fasihi andishi* (written literature), *fasihi simulizi* (Oral literature), *ushairi* (Poetry) and others.

The second pillar describes IT as a tool that should be used by students in any possible way. That is, it should not be used for one particular purpose since the

computer is viewed as a machine without limited capabilities as opposed to white boards, over head projector and encyclopedia. It is in this pillar that the student is only limited by his or her imagination; the student can use the computer to find information, blogging, creating, searching wikis and writing essays (Svennson in Kullberg, 2011). This is also applicable to the teaching of Kiswahili in that if the teacher integrates ICT in the teaching of Kiswahili, the learner can be creative to find information concerning a topic or the unit of study and also in writing Kiswahili essays.

Svennson in Kullberg (2011) mentions, the third pillar is using IT as an arena. This can be chat room, a computer game or a virtual meeting place such as play station at home where the learners interact with each other and collaborate with one another in doing projects. The fourth pillar, IT is seen as a medium that is mainly used by teachers rather than students. This implies that the teachers use it for distribution of information and administrative data such as course information, test results, and schedules. This is also relevant to this research since Kiswahili teacher can communicate course information with the teacher trainees, give assignments and any other relevant information.

However UNESCO (2004) views the forms of integration in the perspective of the teacher's approaches that he or she uses in class. UNESCO discusses three main approaches. These are integrated approach, enhancement approach and complementary approach. In the integrated approach, ICT is used within the subject to enhance particular concepts and to improve improve particular skills.

It is in this approach that the students are confronted with challenges to their existing knowledge and given deeper insights into the subject being studied. For example in

the case of Kiswahili, in case a student is learning about the sentence structures then one is able to confront more structures that have been used in the programmes within the ICT.

The enhancement approach according to UNESCO (2004) comes in when the teacher uses ICT as a resource to enhance the existing topic or some aspects of the lesson. This approach encourages the learners to formulate their own explanation from what they encounter through the ICT. The complementary approach involves using the ICT to empower the students' learning such that they are able to focus on more challenging and subject tasks. For instance the student teachers can be able to analyze different forms of sentence structures such as simple, compound and complex structures.

Bhattacharya and Sharma (2007) in the study on India in the knowledge economy- an electronic paradigm stated that there are various types of ICT tools available and relevant in education. They include teleconferencing, email, video, interactive radio, interactive voice response system, YouTube, internet, websites, animations, audio cassettes and CD ROMs among others that have been used in education for different reasons.

Lei and Zhao (2007) found that, different technologies play different role, in the learning process. In their view students can learn from computers where technology is used essentially as tutors to increase the basic skills and knowledge of the students. Additionally, they can learn with computers where technology is used as a tool applied to a variety of goals in the learning process.

It is used as a resource to help in developing higher order thinking, creativity and research skills (Ringstaff and Kelley, 2002)

Hennessy, Harrison and Wamakote (2010) in the study of teacher factors influencing classroom ICT use states that, the technologies available in the class context today range from simple tool-based applications such as word processors, to online repositories of scientific data that includes other forms such as electronic versions of primary historical documents, handheld computers, closed-circuit television channels, and two-way distance learning classrooms. Additionally, Prensky (2005) has a strong view that asserts that cell phones can be used to learn.

Yunus, Nordin, Salehi, Embi, and Salehi, (2014) in their article, future of ICT as a pedagogical tool in English as a Second Language (ESL) states that short messages can be adopted as an online application and twitter as part of classroom assignment, with these approach students are required to make a number of tweets which can be used to create a sense of belonging in education. Sweeny (2010) concurs to this by stating that texting can be used to create a community of writers and through it they can share their ideas, more so, provide support to individual member. This is relevant to Kiswahili teaching and learning in that the student teachers can write and correct each other in spellings, punctuations and even the meaning of what is written.

Majumdar (2006) in the research emerging trends in ICT for education and training discusses on the availability of user friendly authoring tools that make it possible to develop a multimedia course ware by any teacher. This would support drill and practice to master basic skills, simulate complicated situations, and produce individualized instruction with multimedia elements which contain built-in evaluations, questions and scores. This is relevant to this study because the tutor can

use the authoring tool to prepare the lesson materials in Kiswahili for instance word to develop the lesson notes, animate while presenting the lesson and explain the concepts then use spread sheet to prepare the students records.

Hennesy, Harrison and Wamakote (2010) states that the use of audio, video, the internet, CD ROMs, DVDs and other new ICTs are crucial in the development of strategies for the use of ICT in the teacher training. These are forms which can be integrated and in return contribute to better learning environment.

Yunus, Nordin, Salehi Embi and Salehi (2014), discuss of e-books that employ a multimodal feature such as video, audio and hyperlinks as well as interactive tools. The interactive tool allows readers to physically interact with the text through inserting, deleting or replacing text; marking passages by highlighting, underlining or crossing out words, adding comments by inserting notes, attaching files or recording audio comment and others. E-books are relevant to this study since they are a form that can assist the tutor to teach Kiswahili since the student teachers can use them for classroom reading. Larson (2008) adds that electronic texts can help foster literacy development and in particular reading comprehension.

ICT is a broad term that encompasses applications of technology including the internet, mobile phones and devices, gaming, assistive technologies, digital photography, music and media production (Walsh, Lemon, Mangan and Collins ,2011). This is relevant to this research for instance Kiswahili oral literature can be taught well using such applications like music and media, digital photography and others.

There are many digital tools such as tutor, technology-based tutorial, intelligent tutoring system; web Quest, mind tool, visualization tools, simulations and animations, hypertext and hypermedia and web conferencing that support learning (Cennamon, Doss and Ertmer (2014). These tools are applicable in the teaching of Kiswahili for instance web conferencing can be used to teach student teachers.

Reid (2002) explains that there are various forms of information and communication technology which include internet applications such as CD-ROMs, video technology and various computer attachments and software programs that have caused many changes in the society. The changes have been more of structural nature than technical nature. These different forms are relevant to Kiswahili teaching and can cause changes in teaching of the language, for instance video technology can be used to teach different actors in a set book that is taught in the Primary Teachers' College.

Blogs or classroom weblogs are popular with teachers and teacher education, it is a webpage made up of usually short frequently updated posts that are arranged chronologically. The content and purposes of blogs vary from link to commentary about other websites, to news about a company, idea, photos, poetry, mini essays, project updates, even fiction (Majumdar, 2006). Blogs are relevant to Kiswahili teaching in that a tutor can use blogs in networking and personal sharing of knowledge, sharing of information, instructional tips for the student teachers', course announcements and readings.

Learners can also take part in blogs by reflective writing, assignment submission, collaborative work, e-portfolios and sharing course related resources (Majumdar 2006). This is applicable to Kiswahili since the tutor can easily build a blog on a topic or start a new topic in an existing blog for the classes he/she teaches.

Yunus, Nordin, Salehi Embi and Salehi (2014), in the research future of ICT as a pedagogical tool in English as a Second Language (ESL) teaching and learning states that blogs are used in teaching of writing and that students are free to take charge of their own learning and feel free to correct each others' work. This is further supported by Lenhart, Arafeh, Smith, and Macgill (2008), who stated that students can become mentors of their classmates by sharing their writings and processes for idea generation. Indeed blogs can be used to teach writing skills, the student teachers are able to take charge of their learning and will feel free to correct each other's work.

There are various forms of ICT integration which involve the use of generic software applications that teachers would use in the teaching activities. These include: CDs, DVDs, Power point presentations, captions, YouTube, animations, Hyperlinks, Social media, internet, Use of smart boards and pens among others (Miima, Ondigi and Mavisi 2013).

Digital equipments that have been used in the delivery of education to improve access, teaching and learning include; electric board, audio cassette, radio for interactive instructions (IRI), video/TV – learning, computer, Support Application Systems (SAS) and integrated ICT infrastructure (Ministry of Education 2006).

Kiptalam and Rodrigues (2010), in a cross sectional descriptive survey, looked at the utilization of internet among teachers and students in 11 connected rural and urban secondary schools in Kenya. The findings revealed that the use of internet and its integration in teaching and learning in secondary education was increasing among the students and teachers as a means of communication and for information searching.

Additionally, the study established that teachers were integrating ICT in Sciences, Mathematics, English and Music. This is relevant to this study since if internet can be integrated to teach the above mentioned subject then it can also be used in the teaching of Kiswahili.

2.3 Benefits of ICT Integration in Teaching Kiswahili in Public Primary Teachers' Colleges

There are various benefits accrued due to integration of ICT in teaching especially in the developing countries. Adoption and use of ICT in schools can promote collaborative, active and life long learning, increase motivation, offer better access to information and shared working resources, deepens understanding, help students to thind and communicate creatively (Khan, Hasan and Clement, 2012). For instance in a research study on the uses and effects of mobile computing devices in K-8 classrooms, Swan, Hooft, and Kratcoski (2005) reported that the students' motivation to learn and engagement in learning processes were improved by use of mobile computing. Lim and Tay (2003), in the study exploring the use of ICT tools to engage students in higher-order thinking in a Singapore school observed higher students' engagement in higher order thinking by using the ICT. This is relevant to the research since the student teachers if engaged in the learning process using ICT will end up being motivated. Khan, Hasan and Clement (2012) established that, adoption and use of ICT in schools promote collaborative and active learning that increases students' motivation.

ICT enable teachers and students to access various information through the World Wide Web (www) Network, and are able to learn different things and get information on what is happening around the world this is because of the rapidly developing

information society, where internet and world wide web are the order of the day. A good example is, the tutors and student teachers can use their smart phones or computers to get the Kiswahili words from the translator that is available in the internet, the spell checker is available, they can learn on the history and development of Kiswahili in the East Africa and international development and recognition of Kiswahili.

Cennamo, Ross and Ertmer (2014) in the study, technology for meaningful classroom use: A standard-based approach stated that ICT offers a powerful resource for engaging students in genuine experiences; it increased both their motivation and learning. This is because incorporating ICT in learning makes it real and realistic instructional methods support development of critical thinking skills since they provide learners with opportunities to actively participate in the learning process.

Use of ICT tools such as smart boards, ensure enduring learning since the students pay more attention to a lesson and play an active role in it as a result wht they learn endures for a long time. Interactive whiteboards draws attention of the students and many volunteers to compete with each other, they volunteer to participate which facilitates learning among students (Gursul and Tozmaz, 2010). This is applicable to the teaching of Kiswahili where students can compete in filling in blank spaces on the smart board and compete on Kiswahili vocabularies, certain items can be shown and students allowed identifying or mentioning the appropriate Kiswahili vocabularies for them.

ICT plays a central role in supporting critical analysis skills development (McFarlane and Sakellariou, 2002; Mansbach, 2015), these skills included ability to search vast multimedia sources, identify and interpret relevant information, critique sources in

terms of origin, including source, accuracy, validity and reliability (McFarlane and Sakellariou, 2002). Mansbach (2015), states that the foundation of critical thinking are analysism interpretation, evaluation, inference and self regulation. Additionally, ICT helps weigh evidence which may be conflicting and finally collect and synthesize sources into an authentic representation of personal knowledge. The critical analysis skills development can also be needed in Kiswahili language teaching and learning especially in reading and analyzing of riwaya (Kiswahili novel), tamthilia (Kiswahili Play) and ushairi (poetry). However Yildrim, (2007) found out that, teachers use ICT more frequently for the preparation of handouts and tests than to promote critical thinking.

Additionally the use of tools such as hyperlink leads the learner to on-line readings, lecture outlines or even sample questions that are not otherwise distributed in class, it can also be used by the tutor/lecturer to provide materials not available to student in other forms (Brinkley, A., Dessants B., Flamm, M., Fleming, C.& Rothschild E., 2011). This is applicable in the teaching of Kiswahili where the tutor can give the course outline for the two years, sample questions and even sample schemes of work and lesson plan

Pelgrum, Law and Plomp (2007) in the study "international comparative survey of pedagogical practices and ICT in education," Education and information technologies established that there have been great contribution of ICT in the creation of digital resources like digital libraries where the students, teachers and professionals can access research material and course materials for at anytime and anywhere facilitating sharing of work materials avoiding duplication.

Digital tools have a potential to support students' performance in reading and writing.Cullen, Richards and Frank, 2008; Faith, Gustafsom, Tjus, Heimann and Svensson, 2013. The ICT supported reading can stimulate students' development of basic skills and motivation for reading and writing activities. For instance ICT supporting the reading of Sounds and words will stimulate motivation and interest to undersgtanding how different words can be read and written.

A report by the United Nations Development Programme (1999) on human development quoted by Kozma et al. (2004) states that "The global gap between the haves and have-nots, between know and know-nots, is widening." The technological disparity is seen as one of the significant socio-economic and political concerns in developing countries (Sugiyama, 2005). Therefore integration of ICT in the teaching of Kiswahili will play a major role in reducing the gap since it is one of the languages that is used for learning and communication nationally and internationally.

Technology provides diverse experiences to learners even when actual classroom is not taking place; students come with a lot of information. Thus it is important that teachers pay attention to the affective needs and diverse cognitive learning styles of individual students which will provide them autonomy to explore in learning (Butucha, 2012). When the teacher pays attention to studnts learning process he is able to guide and correct what is appropriate and not appropriate.

Magambo (2007) adds that during pre-service teacher training ICTs can improve practice by providing access to more and better educational resources, offering multimedia simulations of good teaching practice, catalyzing teacher-to-trainee collaboration and increasing productivity of non-instructional tasks.

Technology such as blogs provide a space where teachers and students can work collaboratively to further develop writing skills, teachers can offer instructional tips and students can practice and benefit from peer review and teacher's guidelines (Arbaoui, 2014). Among the writing activities that can be done through blogs are reporting, keeping and online diary, posting comments and writing about topics suggested by the teacher for instance, Kiswahili tutor may ask the student to sum up all the important elements that were previously discussed in the classroom and write them in a coherent and cohesive paragraph, provide a review of a movie that the teacher may post in a blog or describe a picture or a poster.

Additionally, ICT such as interactive whiteboard can serve as a facilitative technological tool in classroom to promote, effectiveness and to help teachers develop various pedagogical approaches with this technological integration (Jan and Tsai, 2012; Weinzeried, Dalgarno and Tinkler, 2010). Different pedagogical approaches enable a tutor to attend to different types of learner thus raising educational quality.

Technology use creates a learner-centered environment (Majumdar, 2006) by motivating learners as it combines text, sound, color and moving images that enhance content for easier learning, facilitates basic skills through drill and practice. This is better accomplished by education television broadcast that teach literacy and numeracy at basic education level, enhances teacher training by improving access to the quality of teacher training. Karsenti (2016) argues that the main benefits of Interactive whiteboard was having internet access in the classroom, high students motivation and that it helped the teachers diversify their teaching approaches, which benefits the teaching and learning process regardless of the subject being taught.

At the Summit in September 2000, United Nations adopted eight Millennium Development Goals (MDGs) which now are referred to as Sustainable Development Goals. One of the issues included in goal eight referred to ensuring that benefits provided by new technologies, particularly ICTs are made available to all people (United Nations ICT Task Force, 2003). ICT has the potential to increase the availability of quality of educational materials through interactivity and global reach, and by sharing knowledge, materials and databases quickly and cheaply independent of geographical distances (World Bank, 2003).

One of the challenges of educationists is how to harness the potential of ICT to complement the role of the teacher in teaching and learning process. Hennessy, Harrison and Wamakote (2010) states that, teachers who do not have a chance to develop professionally in the use of emerging technologies and acquire modern computer literacy skills are under threat and the relevance of the 21st century teacher is the will to develop professionally and appropriately. Therefore integration of the ICT in the teaching creates relevance of the 21st century teacher.

UNESCO, (2004) established that, ICT enables the teachers to demonstrate understanding of the opportunities and implications of the uses for learning and teaching in an open and flexible learning environment. It also facilitates enhanced learning in subject areas and learning at home on one's own and these require the use of new tools like modelling simulations, use of databases etc.

Reid (2002) established that, teachers gave different examples of how technology had changed their work. For instance websites were used to give students notes and to getting students creating their own Web pages, it was also used to enhance an actual field trip, it introduces students to animals and shows them techniques of analyzing

the ecosystem and recording data, it prepares the student prior to the actual field trip. Other teachers reported that they used power point and other computer programs to improve their presentation of material to class. That through technology they are able to deliver more material to students and eliminate basic problems such as; poor hand writing, poor artistic skill, contrast, lighting and visibility.

Reid (2002) in the research the integration of ICT in to classroom teaching stated that, several teachers mentioned that they used PowerPoint and other programs to improve their presentation of materials in class. An example of Physics teachers who used extensive software programs to teach physics was mentioned. During the physics lesson, students go to the laboratory; they collect data using the computer, then use word processing programs along with Excel to do graphs and presentations. The use of computer technology provides more time for the, students to explore beyond the mechanics of counting dots and setting up the experiment. It actually lets them look at it and understand the concepts better.

ICT helps recall previous learning; this is because the learners use most of the senses in the learning process. They can see, touch, and hear thus making the learning process less abstract, as a result they are able to recall what they had learnt. Ashaver and Ingyuves (2013) states that when learning is based in sense experience, it encourages participation, stimulates interest, individualizes instructions, serves as a source of information and makes learning permanent. Ngozi, Samuel and Ameh (2012) agreed that the learner gains understanding in terms of multiple impressions recorded through the eye, ear, touch and other series.

Further, ICT provides new instructional stimuli and activates the learner's response in the process of learning. It also facilitates appropriate practice and sequencing, this is

relevant to this study since the use of computers help vary the traditional methods of teaching as a result making the teaching of Kiswahili more interesting. ICT provides a viable source of information for enhanced learning; as a result the learners are able to find more information on the subject area and on different topics. ICT facilitates a pedagogical shift entailing an educational interaction between teachers and learners (Mingaine, 2013). Such interaction assists the learner of Kiswahili and delivery of content by the teacher.

ICT tools such as e-books are an important element of teaching collaboration, by using e-books students can easily highlight, annotate and then share notes with friends, tutors or study group. For instance e book can be put on a projector or interactive whiteboard so that students can work through specific concepts or models with their classmates (Hakim, 2018).

It is worth noting that ICT internationally is no longer used to only learn ICT skills but it is a tool that can help facilitate reform of education, introducing pedagogical approaches by which students would be stimulated to play a very active role in the learning process. The Ministry of education (2011), in the training package titled National Primary Teacher Trainer Induction Course stated that, the digital content can be used to support, illustrate, explain and revise specific topics and provide extra support for individual learners.

Moallem (2003) explains that there is a lot of evidence indicating that technology has great potential to increase learners' motivation, link learners to various information sources, support collaborative learning and allow teachers more time for facilitation in classroom. Moreover, Roblyer, Edwards and Havriluk (2004), in their research indicated that, the use of ICT can support new instructional approaches and make

hard- to- implement instructional methods such as simulation or cooperative learning more flexible.

ICT can support various types of interaction: learner-content, learner-learner, learner-teacher, and learner-interface (Chou, 2003). These types of interaction make the learning process more interactive and learners more active and engaged (Wang and Woo 2007). Majumdar (2006) in the article Emerging Trends in ICT for Education and Training adds that, integration of computers and communication offers unprecedented opportunities to the education system with its capacity to integrate, enhance and interact with each other over a wide geographic distance in a meaningful way to achieve the learning objectives. This is relevant to this research since through integration of ICT in the teaching of Kiswahili, it will enable the student teachers to interact with learners from other teachers colleges in Kenya and outside Kenya, they will be able to share ideas and information, more so, they will be able to have access to a world beyond the classroom.

Using technology to create texts provides students with many opportunities since students can gain confidence in witing skills by learning to use tools such as spell check thus increasing their vocabulary by use of a thesaurus tool (Eady and Lockyer, 2013). In addition students have plenty of opportunity to review each others work and use tools such a as track changes in Microsoft word and edit each others' creative writing (Eady and Lockyer, 2013). More so, Blogs have also been an effective and engaging way to promote writing skills among primary school students (Richardson, 2006) particularly when student peers provide feedback to the blogs written (Chen, Liu, Shih, Wu, and yuan, 2011). With the blogs access can be provided to the teacher, the class, the students, parents and the world.

Technology generated interest in students' courses, enhanced learning and understanding of the course materials, provided useful feedback on assignments and improved interaction between the learners and their lecturer (OIadiran and Uziak, 2009). This amounts to different levels of mediation as indicated by Vygotsky, 1978 who stated that there is self, peer and expert mediation.

ICT changes the strategy, instructional content, role of the teacher and content of the curricula are all seen by teachers as obvious as well as inevitable. ICT heightens motivation for the learner; Cuban (2002) in Wanami et al (2011) concurs with this and states that computers offer ways of motivating students to learn about the subjects they would seldom engage otherwise and to come to grips with real-world issues. Moreover, more technologies can create a deeper understanding of complex concepts by integrating different disciplines through work on individual and group projects.

Kidombo, Gakuu and Ndiritu (2013) in the report presented to Pan African Research Agenda on the Pedagogical Integration of ICT in Education in Kenya, established that the teacher trainee stated that the use of ICT by teachers, especially the smart board improved their concentration and retention of content taught. The greatest impact was on practical subjects like engineering where ICT has enabled the demonstration of very expensive machine parts that would have been difficult to dismantle. Additionally, through internet one is able to enroll on online higher-level courses in universities locally and internationally.

Kidombo, Gakuu and Ndiritu (2013) state that, investment in educational programmes such as the Encarta Encyclopedia has revolutionalized learning in some schools for instance in some institutions teachers use the information to confirm facts in the recommended school textbooks. Tafakari Project that is for primary school teachers

tutors in teacher training colleges, student teachers in primary teachers training colleges and primary school pupils have provided digital content for various subject areas. This is relevant to the study since such programmes will transform the nature and the process of the learning environment and envision a new learning culture.

ICT is an interactive media thus it facilitates students to develop diversified skills needed for industrialization and knowledge-based economy. It also allows teachers and learners to proceed at different paces depending on the prevailing circumstances. Integration will assist in preparing students for demanding job market (Ministry of Education, 2006).

Ministry of Education (2006) indicated that, ICT has the potential of increasing resources and improving the environment for learning. It also plays a role in preparing students to acquire skills competencies and socio skills that are fundamental for competing in the emerging global "knowledge" economy. Eady and Lockyer (2013) states that students will possess excellent collaboration skill and be able to work together with many different types of people, each of whom has her or hid own special disciplines and unique ways of learning and working together

Additionally, according to sessional paper No. 1 of 2005, the overall goal of education is to achieve EFA by 2015 in tandem with national and international commitments, also the policy provides commitment to ensure that learning needs for all are met through appropriate learning and lifelong skills by 2015. Therefore, to realize these policy objectives commitment is made to integrate ICTs in the delivery of the education curricula at all levels of education.

The introduction of FPE in 2003 led to increased enrolment which in turn led to various challenges such as overcrowded classrooms and high Pupil Teacher Ratios (PTRs) in densely populated areas and semi-arid areas. ICT can be used to address some of these challenges in the teaching of the five examinable subjects (Ministry of Education 2006). Additionally, in the areas where student-textbook ratio remains substantially high, ICT can be used to give a solution. The ministry has noted that there has been poor performance in Mathematics and Science as observed in the national examination and it considers the strategy of ICT to have the potential to address these and other challenges.

2.4 Attitudes of Teacher Trainers on Integration of ICT in the Teaching of Kiswahili

Teachers attitude refer to the liking or disliking the use of technology. Ang'ondi (2013), in the study on teachers attitudes and perceptions on the use of ICT in teaching and learning as observed by ICT champions established that, although a number of teachers were motivated, many others felt that integration was an additional bother to their already so huge burden. They did not believe that ICT was an important component in the process of teaching.

Korte and Oldfield (2010) states that majority of teachers believe that ICTs have the ability to improve classroom learning, an almost equal number of them still find it difficult to understand ICTs specific benefits or how it can be used so as to achieve maximum results'. More so, Studies by Husing (2007), Korte and Oldfield (2010), have tried to bring to the fore these contrasting perception of teachers and revealed that despite the continuous hype of the advantages of ICTs in teaching and learning,

there is still a small group of teachers who do not see any considerable benefit of learners learning while using ICTs.

Ertmer and Ottenbreit – Leftwich (2010), states that teachers' beliefs about their own efficacy play an important role in integrating technology into instruction. This according to Windschitl and Sahl (2002) plays a predominant role in how they conceptualize and use ICTs in their teaching. This is applicable to this research in that unless teacher trainers see the connection between technology and subject content they teach, they will not be able to develop technology – supported pedagogy.

The study by Palak and Walls on whether teachers who frequently integrate technology and work in technology-rich schools shift their beliefs and practices towards a student-centered paradigm, noted that teachers' attitudes towards technology significantly predict teachers' ability to use technology and variety of instructional strategies (Palak and Walls 2009) This is relevant to this study because if a tutor will have positive attitude towards ICT then he/she will comfortably integrate it into the teaching of Kiswahili. Research by Ng'eno, Githua and Changeywo (2013) on Teachers perception of their preparedness to integrate information communication and technology in secondary school mathematics, established that teachers with high qualifications perceived themselves to be more prepared to use and apply ICT in their area of specialization such as mathematics, English and others.

Some of the underlying reasons for the prospective teachers' negative perception of ICT use in the teaching process include lack of exposure to lessons fully designed with ICT tools, lack of opportunities to try ICT, the need to practice in a technology laboratory, lack of educational technology teachers (Hismanoglu, 2012). In addition

to these reasons Hismanoglu (2012) states that an exam driven educational system and studying to learn only what is tested was a reason for negative perception by the teachers. This is applicable since Kiswahili being one of the compulsory subjects in the curriculum, the student teachers only struggles to learn what is likely to be brought in the exam, similarly the tutors are likely to dwell on the examinable area.

Ndibalema (2014) in the research on teachers' attitudes towards the use of ICT as a pedagogical in secondary schools in Tanzania, established that, teachers have positive attitudes towards the use of ICT as pedagogical tool since most of the respondents felt confident in working with students in the digital environment and believed that ICT can improve their teaching practice. This is relevant to this study since by being positive the tutors will be able to demonstrate to the student teachers the innovative ways of teaching and learning.

Oloo (2009) in the baseline survey report for ICT in Secondary Schools in selected parts of Kenya, a draft report prepared for developing partnership for higher education, established that the use of computers for teaching and learning was dismal. Only the NEPAD e-schools reported some significant activity and most of the teachers saw computers as an important tool for motivating students, support teaching as a result improving learning. This implies that the attitudes were negative to some teachers and positive to others especially in NEPAD E-schools.

Wanami, Kitainge and Ng'ang'a (2011) in the article; Key determinants for integrating computer skills in the Secondary School Curriculum in Uasin Gishu County established that majority of the teachers were enthusiastic about computers since it made a valuable teaching tool. Additionally, teachers were quite positive about using computers in the classroom, they supported the integration of computers

in the Secondary School Curriculum but since the schools did not have computers to be used for classroom instruction, their enthusiasm amounted to nothing.

Menjo and Boit (2005) in their study of attitudes investigated under the values and goals subsystem established that attitudes of administrators and teachers to ICT implementation in the secondary schools in Nandi North District were generally positive with and overall mean of 4.06 on a scale of 1-5. Positive attitude will affect the level of integration of ICT in the teaching process since the tutors understand the importance of technology in the teaching process. Oloo (2009) states that most teachers saw computers as an important tool for motivating students and that it is a tool that can be used to support teaching as result helping learning to take place.

2.5 Challenges of ICT Integration in Teaching Kiswahili in Public Primary Teachers Colleges

The researcher discusses the professional view on the challenges associated with integration of ICT in the teaching of Kiswahili. Integration of ICT largely depends on the condition of infrastructures such as electricity supply, reasonable buildings and telephone lines. Kozma, McGhee, Quellmalz, and Zalles, (2004) states that infrastructure in the developing countries is not available which affects the implementation of ICT.

Barriers of the use of technology include congested classes, insufficient training, inadequate technical and pedagogical support, rigid school syllabi, inadequate motivation, lack of strong leadership and inadequate cooperation among teachers (Yildirim (2007). Resource limitation, teacher knowledge and skills and teachers attitudes and beliefs are some of the barriers of using technology. Teachers tend not

to use technology if they become frustrated when it does not work properly or when there is a lack of technical support in their schools (Hew and Brush, 2007). Infact lack of specific technological skills is a common reason teachers give for not using technology. However, those teachers who take the opportunity to build skills through professional development activities are most likely to integrate technology in their teaching than those who do not (Mueller, Wood, Wiloughby, Rose, and Specht 2008).

Kozma, McGhee, Quellmalz, and Zalles, (2004) while researching in secondary schools established that there are several factors that made teachers not to use ICT facilities in the teaching. They included lack of time because of the overloaded curriculum and test requirements, lack of a congruent national policy, lack of adequate condition of telephone services for the internet, lack of resources such as computers software and reliable internet connections and lack of training and support to integrate ICT into the curriculum.

Apart from physical factors that affect the use of ICT, lack of appropriate training and continuous support for the teacher ICT hinders effective use of ICT (Kozma, McGhee, Quellmalz, and Zalles, (2004); Hew and Brush, 2007). Such challenges are applicable to this research since Kiswahili is one of the subjects that is in the curriculum and is examinable, thus if the system of assessment encourages the use of ICT, there will be a positive impact on the teaching using the technology but if it does not encourage, there will be a negative impact. Additionally, support for tutors is crucial for instance the tutors need to be provided with soft ware materials that can be used in the teaching of Kiswahili, these include Kiswahili spell checker which helps the editors who chose to write in Kiswahili, Microsoft office in Kiswahili which is

already developed by Microsoft company to enable a large population that speak Kiswahili to use computers, the Kamusi project and others.

There are various aspects in the education system which include policy, budget, curriculum, professional development, teaching and learning assessment practices and research that affects the integration of ICT (UNESCO, 2004). The budget ensures that ICT integration tools are available and adequate, professional development is paramount since the tutors guide the students on the use of ICT in the learning process. Additionally, the ongoing changes in the system and policy may include use of ICT in all aspects of education such as teaching other subjects and not only being taught as a subject, thus the education system must be responsive to technological changes that would make it easy to integrate the changes in the system.

Reid (2002), states that there are very many challenges or concerns in integrating ICT. These include; maintenance of the equipment, need for teachers professional development in integrating information technology into classroom teaching, loss of control of the education process to business partners, pace of change and stress among teachers since it is hard to keep to the pace of change, lastly ICT was creating more demand on to the teachers time.

In addition there are challenges on the learners, such as disparities between students who have access to computers at home and those who do not have, information overload thus the students are unable to filter and plagiarism thus some reproduce someone else's work (Reid, 2002). This is relevant to this research since there is a lot of information in the technology that if the student teacher is unable to filter and use what is relevant, learning will not be effective. Additionally, some student teachers may copy and present other people's work especially when assigned areas to research.

Unwin (2005) states that ICT initiatives need to be driven by the provision of appropriate technological solutions for the challenges faced by communities rather than by an interest purely in these physical technologies themselves, particularly in countries where resources are limited. Those implementing technological solutions need to ensure that they are sustainable, context-specific and adapted to the local needs and conditions. The actual technologies themselves have little development impact since it is only when the potential users have a sound understanding of how they can use new ICTs effectively thus leaving real influence. If it is not used effectively to create an influence for instance in the teaching and learning process, it becomes just a drain on the organisation or community (Unwin, 2005).

Swarts and Wachira (2010), state that in Tanzania there is no government initiative to provide ICT in schools. Schools with ICT have benefited from parent contributions or donations from non-governmental organizations and some private sector companies. However the Ministry of Education and Vocational Training (MoEVT) was planning to provide ICT to schools in a phased approach beginning with two hundred secondary schools.

ICT in the education system is mainly used for ICT skill training. For instance, in Tanzania where the Teachers Training Colleges (TTCs) have impressive infrastructures are offering ICT training for trainees. The tutors have received training in the use of ICT for teaching and learning but all accounts suggest that the training is focused on basic ICT skill (Swarts and Wachira, 2010). This is a clear indicator that the tutors do not integrate ICT in teaching their area of specialization and in particular Kiswahili.

Gakenga, Gikandi and Kamau (2015) in the research, analysis of technological factors influencing adoption of ICT in Public Secondary Schools in Kenya, explained that it is time consuming to prepare electronic material for use in teaching. Additionally, in case of computer system failure in the process of teaching, a lot of time is wasted trying to mend hence fearing to use ICT in the lesson work.

Inadequate national ICT Policy and electricity infrastructure especially in the rural areas is also a challenge in the integration of ICT. Thus the telecommunication networks are limited to the main cities and internet access costs are still high which makes it difficult for educational institutions to afford internet access. However, in a country like Tanzania the mobile subscription has grown enormously but the education sector has not tapped this potential especially in the rural areas (Swarts and Wachira, 2010, Ministry of Education, 2006). This is applicable to this research since in Kenya most of the student teachers in Public Primary Teachers College own a phone and majority own smart phones which can be tapped as a potential to be used in teaching of Kiswahili.

Lack of capacity at all levels to integrate and use ICT was cited as a major problem in Tanzania. The capacity constraints include; lack of coordination of ICT in educational activities, limited information sharing, limited skills for integration of ICT in education, ineffective organizational structures at the various education management levels to accommodate ICT integration in teaching and learning, lack of incentives and schemes of service for ICT trained personnel to reduce attrition and resource constraints (Swarts and Wachira, 2010). There is also little evidence that concerted efforts are being directed at the development or adoption of electronic

content into the curriculum, the systematic training of teachers or even continuous monitoring of ICT use in schools to determine whether the programmes are effective.

Sugiyama (2005), states that physical implementation is not difficult as it is a case of financing or a matter of money, but meaningful, appropriate and effective use of ICT in schools is a challenging task. Additionally, the developing countries face very many challenges and one may wonder in schools where there is shortage of textbooks, as resources to be used in the teaching process, is it practical to discuss integration of ICT in the teaching process.

In Kenya, the challenge of limited and uncoordinated approach to imparting appropriate ICT skills and competencies to teachers' remain a major barrier in the integration of ICT in education (Ministry of Education, 2006). Additionally unavailability of ICT teachers, gender disparities and high cost of ICT components are other challenges that have continued to hamper the adoption of ICTs in most parts of Africa and in the education sector in Kenya.

Farrel (2007) found that, the ministry's policy framework indicates a number of challenges, concerning access to and use of ICT in Kenya. These include high level of poverty, limited rural electrification, frequent power disruptions, insufficient ICT tools for teachers and students for instance the student computer ratio has been 150:1. The ratio is wider in the disadvantaged regions and access to computers varies according to various sub-sectors of education. In Kenya the computer student ratio varies in different learning levels for instance, the ratio for universities and colleges is 1:45 students, in secondary schools the ratio is 1:120 students while in Primary school the ratio is 1:250 students.

Farrel (2007) notes that, although a small number of schools have direct access to high speed connectivity through an Internet service provider, generally there is limited penetration of the national physical telecommunication infrastructure into rural and low-income areas. Due to this there is limited access to dedicated phone lines and high-speed connectivity for e-mail and the internet. Digital content is also a challenge, it is indicated that the national curricula developed at the Kenya Institute of Curriculum Development (KICD) needs transformation from text to digital in order to facilitate integration of ICT in delivery of education programmes (Ministry of Education, 2006).

Additionally, it is noted in the Education Policy Framework (EPF) that there is limited expertise and infrastructure for transformation of the national curricula to digital education curricula. The national curriculum that is currently in text needs to be changed to digital format to facilitate integration of ICT in the delivery of the education programmes, this means that most of the materials that are used in the process of learning are in hard copies such as text books and limited materials are accessible through ICT. More so, education software varied and is obtained from various manufacturers thus creating a challenge of how to customize or develop education software to meet local education requirement in teaching (Ministry of Education 2006).

However, Kenya has placed emphasis on the importance of ICT in its Education Sector Support Programme that is evident in the promulgation of National ICT strategy for Education and Training (Farrel, 2007). There are various ICT activities and projects such as the Learning Resource centre that offers training in educational management and integration of ICT for school managers, lecturers and students,

development of learning content: digitalisation of curriculum content for delivery in schools by KICD, the introduction of computers and distance learning to supplement teaching and improve learning methods.

Wanjala, Khaemba and Mukwa (2011) examined the factors that are significant in professional development that contribute to efficacy of Secondary School teachers' use of ICT in their instruction in Bungoma District. They found out that teachers had limited access to computer hardware, lacked knowledge and skills to integrate ICT, lacked time to integrate ICT into their subjects, lacked appropriate subject content software, lacked support from administration and more so they had negative attitude towards ICT.

Oloo (2009) in the baseline report established that there were many challenges that faced the teachers such as number of computers which are an average of 1PC to 21.5 students, educational applications, training, policy and strategy on how integration should be done. Wanjala, Khaemba and Mukwa (2011) found out that most teachers were found to use trial and error in ICT integration and referred to their course work completed at the universities and training colleges so as to assist them in ICT integration. This implies that the teachers were not competent in the process of integration and there were no guidelines as they used ICT. Since computer is taught in universities and colleges, the teachers used the skills acquired to try and integrate ICT in the process of teaching.

Wanami, Kitainge and Ng'ang'a (2011) in a study conducted in Uasin Gishu County established that teachers had not integrated computers in their teaching to a great extent. Lack of integration occurred even when the teachers had access to school computers. Additionally some schools lacked electricity, rooms, computer hardware,

classroom software and finance to make it possible to integrate computers in the secondary school curriculum.

Menjo and Boit (2005) in a study conducted in Nandi North District on the challenges of using information and Communications Technology in school administration in Kenya established that, major challenges faced by the schools that have contributed to limited use of ICT included lack of adequate training in ICT for teachers and administrators, limited computer hardware dedicated to administrative work, lack of time and absence of appropriate administrative soft ware. This challenge is likely to interfere with the process of ICT integration in schools and colleges since some of the school administrators are also Kiswahili teachers.

Gode, Obegi and Macharia (2014) in a research, factors influencing integration of information and communications technology in public primary teachers training colleges in central region of Kenya, found out that a large number of trainers did not have access to computers to aid the teaching and learning process, also they did not have access to internet due to the poor network coverage. More so, Ng'eno et al (2013) in the research established that older teachers never went through training on the use of ICT and therefore are not in a position to successfully apply the technology in their lesson. This implies that there is a need to in-service teachers who have been in the teaching profession on new research findings and tools of instruction. These challenges are likely to affect the process of integration in colleges in Rift Valley or not.

2.6 Summary

This chapter has reviewed literature based on the four objectives of the study. Literature has shown that there are various types of ICT integration tool that have been applied in subjects like Mathematics, Science, English and Music. The types of ICT integration tools include word processor, internet, animations, hyperlinks, social media, YouTube, DVDs, e-books, blogs, Computer mobile phones and others. Studies have established various benefits that range from motivating the learners, access to information, weighing evidence that may be conflicting, critical analysis of skills, complementing the role of the teacher in the teaching and learning process, it provides new instructional technologies and introducing pedagogical and andragogical approaches.

Researches show varied attitudes to ICT integration in the process of teaching various subjects. Some teachers have positive attitudes while others have negative attitude. Positive attitude will allow a tutor to integrate while the negative attitude will make the tutor reluctant to integrate thus affecting the preparation of the student teacher in their future roles. Studies have mentioned many challenges that affect ICT Integration in the teaching they include; infrastructure, lack of government initiative, limited and uncoordinated approach, lack of human resources and others

It is worth noting that scholars have established the types of ICT integration tools applied in other subjects apart from Kiswahili. Additionally the attitudes established were both negative and positive, it is not clear what attitudes the Kiswahili tutors have, the benefits of ICT integration in the teaching of Kiswahili, challenges of ICT integration in the teaching of Kiswahili and the solutions to the challenges.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter deals with the research design, methodology, and procedures adopted in carrying out the study. The chapter describes the research design, location of the study, study population, sampling procedures, research instruments, reliability and validity, pilot study, ethical considerations, data collection procedure, data analysis and finally, the summary of the chapter.

3.2 Location of the Study

The research was carried out in Public Primary Teachers colleges in the Rift Valley region. The region covered five Public PTCs; these are Kericho, Mosoriot, Tambach, Narok and Baringo Teachers Colleges. They are located in different counties namely Kericho County, Nandi County, Elgeiyo Marakwet County, Narok County and Baringo County. Additionally, most of the student teachers have capitation from the government, there are government subsidies in the public colleges. The Public PTCs are government parastatals which are under performance contacting and ICT integration in teaching is an aspect in the performance contract that every tutor should integrate.

3.3 Research Paradigm

According to Taylor, Kermonde, and Roberts (2007), a paradigm is "a broad view or perspective of something." "Paradigms are patterns of beliefs and practices that regulate inquiry within a discipline by providing lenses, frames and processes through which investigation is accomplished" (Weaver and Olson, 2006).

The study followed pragmatic philosophical paradigm or world view. Pragmatism arises out of actions, situations and consequences rather than antecedent conditions (Creswell 2011). The concerns of pragmatist are what works and the solutions of the problem. The researcher emphasizes on the research problem and uses all approaches to understand the problem (Rossman and Wilson in Creswell 2011).

Pragmatism is the philosophy that underpins mixed method studies. The main focus is on the research problem and how the researcher can use pluralistic approaches to derive knowledge about the problem and the researcher uses various methods such as observation guide, interview schedule and questionnaire to derive knowledge about the problem.

Creswell (2011) explains that pragmatism opens the door to multiple methods, different assumptions as well as different forms of data collection and analysis. In pragmatism the inquirer draws liberally from both qualitative and quantitative assumptions. The researcher has freedom of choice of methods, techniques and procedures that best meet her/his needs and purposes (Creswell 2011). The use of qualitative and quantitative data helped the researcher to best understand the research problem also helps to eradicate biases.

In this research pragmatic paradigm was applicable because the researcher chose to use mixed method approach. This is because the researcher was able to use multiple

forms of data collection such as questionnaires, observation and interviews. Additionally, different forms of analysis were incorporated such as SPSS and qualitative analysis table.

3.4 Research Design

The study applied sequential mixed methods design. This is where the researcher seeks to elaborate on or expand on the finding of one method with another (Creswell 2012). The researcher may begin with a qualitative interview for exploratory purposes and follows it with a quantitative survey method with a large sample so that the results can be generalized to the population. Alternatively, the study may begin with the quantitative method in which a theory or concept is tested, followed by a qualitative method involving detailed exploration with few cases of individuals. In this research the inquirer begun with the quantitative method then qualitative. The questionnaire was issued to the tutors and the student teachers then the researcher interviewed the deans of curriculum and the Director e-learning at the KICD.

Mixed methods research uses two or more methods in a research project to yield both qualitative and quantitative data (Teddlie and Tashakkori, 2009). Mixed method study employs either the qualitative or the quantitative approach (or some combination) to writing an introduction (Creswell, 2012).

Creswell (2013) argues that using mixed methods design allows for multiple perspectives of understandings of research findings. Additionally, the design helps to confirm quantitative measures with qualitative experiences.

In this research the inquirer begun by issuing a questionnaire to the respondents (tutors and student teachers), at the same time, the researcher used observation guide

to record what was observed. This was followed by interview for the Deans of Curriculum in the five colleges in Rift Valley Region and interview with the Director e-learning at the KICD.

3.5 Target Population

Kalof, Dan and Dietz (2008) describe a population as a collection of people, objects, countries, that share a common characteristic of interest. Kothari (2004) describes a population as the complete group of items from which knowledge is sought. Kiplagat (2016) describes a target population as the one consisting of all elements; individuals, items or objects which its characteristics are being studied. Thus, the target population in this study comprised of 36 Kiswahili tutors in five Public Primary Teacher Colleges, 2137 second year student teachers', five Deans of Curriculum in the five colleges, and Director e-learning, Kenya Institute of Curriculum Development (KICD).

3.6 Sample and Sampling Procedure

Kalof, Dan and Dietz (2008) describe a sample as a subgroup from the population. Sampling is the process of selecting a number of individuals for a study. Purposive sampling and stratified random sampling were used in this study. Purposive sampling was used to select Kiswahili tutors from each Public Primary Teachers' College; this is because they have the required characteristics for the inquiry. It was also used to select second year student teachers since they have been taught both *lugha ya* Kiswahili (Kiswahili language) and fasihi ya Kiswahili (Kiswahili literature), then stratified random sampling was used to get student teachers from each college. Purposive sampling was also used to select the Deans of Curriculum (DOC) in each

college and used to select Director e-learning, Kenya Institute of Curriculum Development (KICD).

Stratified random sampling was used to select the student teachers within a college. Kothari (2004) states that stratified random sampling technique are employed when a sample to be drawn does not constitute a homogenous group. It is applied in order to obtain a representative sample; here the population is divided into smaller sub-populations that are individually more homogeneous than the total population. Since the stratum is more homogeneous the researcher is able to get more precise estimates for each stratum and by estimating more accurately each of the component parts.

Stratified random sampling is a modification of random sampling in which the researcher divides the population into two or more relevant and significant strata based on one or a number of attribute (Mark, Philip, and Adrian, 2009). Kothari (2004) argues that stratified random sampling results in more reliable and detailed information. In this regard the purposively selected colleges had student teachers in different classes that were named alphabetically. Thus the researcher divided each class into two strata based on gender. The researcher further used simple random sampling technique to get student teachers from each stratum. Kothari (2004) defines random sampling as a method of sample selection which gives each possible sample combination an equal probability of being picked up and each item in the entire population equal chance of being included in the sample. Thus the researcher cut small pieces of papers which had been assigned numbers and distributed to the student teachers then, randomly picked the required number of student teachers from each stratum. The process was repeated in all the selected PTCs. A total of 10% of 2317 (N=232) second year student teachers' were selected. The use of 10% was

justified by various researchers, Yount, (2006); Sekaran and Bourgie, (2010) who also contend that 10% to 30% is considerably representative sample and is viable in social sciences studies. Kerlinger (1986) noted that a sample of between 10% and 30% is a good representation of the entire population.

The second year student teachers were randomly sampled and used for the investigation because they have been in the college for the past five terms and most of the Kiswahili syllabus had been covered. They have been taught *lugha ya Kiswahili, insha, fasihi andishi, fasihi simulizi ushairi, na mbinu za ufundishaji,* therefore the tutors had a wide scope of topics to integrate in the process of teaching Kiswahili. 36 tutors' were sampled, 232 student teachers, 5 Deans of Curriculum and the Director e-learning, Kenya Institute of Curriculum Development (KICD) were the respondents in the investigation, making a total sample of 274 respondents. Table 3.1 shows the sampling of the student teachers' in the selected PTCs.

Table 3.1: Sample of the Student Teachers

College	Total Second year students	Sample percentage	Sample
Moi Baringo	263	10%	26
Kericho	447	10%	45
Mosoriot	593	10%	59
Tambach	640	10%	64
Narok	374	10%	37
TOTAL	**2317**	**10%**	**232**

Source: DOC offices in PTCs 2016

3.7 Data Collection Instruments

The researcher adopted the following instruments in the study during the data collection stage. The study used a questionnaire, observation guide and interview

schedule. The use of more than one instrument is what is referred to as triangulation. Yeasmin, (2012) describes triangulation as a process of verification that increases validation by incorporating several view points and methods. Cohen, Manion and Morrison (2007) describe triangulation as the use of two or more methods of data collection in the study of some aspects of human behavior. They add that triangulation techniques in the social sciences attempt to map, put or explain more fully, the richness and complexity of human behavior by studying it from more than one stand point and by so doing making use of both quantitative and qualitative data.

Campbell and Fiske in Cohen, Manion and Morrice, (2007) state that triangulation is a powerful way of demonstrating concurrent validity particularly in qualitative research. The researcher applied three instruments which assisted in the realization of the objectives of the study. Both quantitative and qualitative data was collected in the study. Additionally, triangulation was important for this research so as to verify the information that was being collected.

3.7.1 Questionnaire

A questionnaire is a set of questions used for collecting data while carrying out a social research. Essentially it is a structured technique for collecting primary data (Robson, 2000; Beiske,2002; Zohrabi, 2013), Kalof, Dan and Dietz (2008) on the other hand states that, a questionnaire consists of a series of questions that respondents read themselves and answer, additionally questionnaire should be designed so as to ensure that the respondent can accurately complete the survey without assistance. A questionnaire is commonly used to obtain important information about the population.

There are two types of a questionnaire: closed ended or structured and open ended or unstructured (Kalof, Dan and Dietz 2008). The questionnaire with unstructured or open-ended items requires respondents to express their own views about the stated issues. These free response questions permit an individual to respond in his or her own words. The unstructured questionnaire may be used effectively to probe attitudes and reasons for certain actions and feeling, when a problem is being first explored and working hypothesis (Kothari, 2004).

Closed ended or structured questionnaire require a yes or no answer, they are simple to administer and relatively inexpensive to analyze. The respondents own words cannot be obtained with structured questions (Kothari, 2004). In this research, a questionnaire for the tutors and for the student teachers was prepared. The questionnaire was self-administered to Kiswahili tutors and student teachers from the selected Public PTCs. The raw data collected from the questionnaire was analysed and conclusions made accordingly.

The questionnaire was a convenient tool for data collection because of the large number of participant in the study. It facilitated easy and quick derivation of information within a short time (Kombo and Tromp, 2006). Additionally, the use of questionnaire ensured that confidentiality was upheld so that the participants would have no reason to be dishonest.

3.7.2 Observation Guide

Observation is one of the research instruments that provide information about actual behavior (Kombo and Tromp, 2006). Direct observation is useful because some behavior involves habitual routines of which people are hardly aware. There are

various forms of observation such as participant observation, unstructured observation, and structured observation. The researcher used structured observation whose focus is on a small number of specific behavior patterns, and only those appearing on a pre-defined observation list were recorded. The researcher used observation checklist that captured the objectives of the study.

Observation involves the researcher availing herself in the study area for the purpose of scientific investigation. The researcher visited the colleges; got permission from the principal who introduced the investigator to the Dean of Curriculum and then to the tutors'. The researcher requested the tutors' to assist in getting the information needed for the research study. The researcher assured the tutors that the information collected was purely for academic purpose and confidentiality was maintained.

The researcher requested the tutors to allow observation of the lessons as the teaching took place and of the ICT equipments that are used in the teaching of Kiswahili. Requests for timetables to enable the researcher know when Kiswahili lesson was being taught for the sake of observation was also made. The observation technique was used to establish what exactly happens in the Public Primary Teacher Colleges in the process of teaching Kiswahili, in the process of mediation; expert, peer, self and artifact. Through observation of colleges and classroom settings, it was possible to take note of the application of ICT integration in the teaching of Kiswahili and more so record events as they occur (Anderson, 1988).

Observation method in this study took a form of non- participant observation where the researcher was present in the classroom but did not take part in activities that were taking place during the Kiswahili lessons. The method was important because it was used to verify some of the information provided in the questionnaire. Observation

was done during the teaching process; from it the researcher was able to observe or not to observe application of ICT integration in teaching Kiswahili. Observation checklist was used to establish the physical ICT facilities, devices and infrastructure in the colleges.

3.7.3 Interview Schedule

The use of interviews in research marks a move away from seeing human subjects as simply manipulable and data as somehow external to individuals, and towards regarding knowledge as generated between humans, often through conversations (Kvale in Cohen, Manion and Morrison, 2007). Interview is not exclusively either subjective or objective; it is intersubjective (Laing in Cohen, Manion and Morrice, 2007).

Interviews enable participants that is interviewer and interviewees to discuss their interpretations of the world in which they live and express their view as such interview is not simply concerned with collecting data about life; it is part of life itself, it is human embeddedness is inescapable (Cohen, Manion and Morrison, 2007). Interviews are good at obtaining detailed information and few participants are needed to gather rich and detailed data (oleary, 2004; Shneiderman and Plaisat, 2005; Zohrabi, 2013; Burns, 1999; Merriem,1998; Flick,2006).

Interview is a flexible tool for data collection, it enables multi-sensory channels to be used: verbal, non verbal, spoken and heard (Cohen, Manion and Morrison, 2007). Additionally, that interview is a powerful implement for researches. Kirtwood in Cohen (2007) adds that interview is a potential means of pure information.

The researcher used a structured interview where the content and procedures were organized in advance. This means that the sequence and wording of the questions are determined by means of a schedule and the interviewer is left, little freedom to make modifications (Cohen, Manion and Morrison, 2007; Kalof, Dan and Dietz, 2008). Additionally, by asking each respondent the same question in the same order, direct comparison can reveal how the characteristics of the respondents are linked to her answers, to the questions (Kalof, Dan and Dietz, 2008).

The structured surveys are conducted by the interviewer. One ensures that each interview question is asked the same way, using the same response, option and follow-up questions (if applicable) and in the same manner for instance tone of voice. The interviewer also records the information verbatim without interpreting what the interviewee says or guiding their responses.

Patton in Cohen, Manion and Morrison (2007) states that the strength of standardized interview questions is that the respondents answer the same questions, thus increasing comparability of responses; data are complete for each person on the topic addressed in the interview, reduces interviewer effect and bias when several interviewers are used. It permits decision-makers to see and review the instrumentation used in the evaluation and facilitates organization and analysis of the data.

The goal of this survey method is to learn about the research topic from an individuals own perspective, in their own words and detail. The purpose of structured interviews is for standardization (Kalof, Dan and Dietz, 2008). However the interview's role is critical. Interviewer must build rapport and connect with respondents so that they feel comfortable. Interviewer keeps the respondent on track to maintain reasonable interview length (Kalof, Dan and Dietz, 2008).

The researcher conducted in-person interview where interviewer met face to face with the interviewee. In-person interviews permit longer questionnaire length than other survey modalities such as mail and web survey. Face-to-face interviews allows for interviewer to probe, clarify and ask follow-up questions (Kalof, Dan and Dietz, 2008).

Director e-learning, Kenya Institute of Curriculum Development (KICD) and the Deans of Curriculum (DOC) of the five colleges were interviewed. Interviews are useful in the research since they assist the researcher clarify the information that was collected in the questionnaire.

3.8 Pilot Study

Pilot testing is a preliminary survey (Kothari, 2004), that is done by the researcher in order to carry out the validity and reliability of the research instruments. All- wrights (1988) states that, even the most carefully constructed instruments cannot guarantee 100% reliable data. This was done using test retest method, where the questionnaires were administered to all Kiswahili tutors of two Public Primary Teachers' Colleges in Western Region, Kenya, 10% of the second year student teachers in the two colleges, and the two deans of Curriculum from Kaimosi and Eregi Primary Teachers Colleges. The participants were encouraged to make comments which were used to improve the items in the questionnaire and interview guides.

The instrument was administered to the same subjects after a period of two weeks. The two colleges gave a representative data because they had similar characteristics with the colleges researched on in the Rift Valley region; that is the student teachers have the same entry grade (C) and admission into Public Primary Teachers' College

in Kenya is done jointly through computerized system therefore they are likely to have trainee teachers from all counties in the country.

3.9 Validity and Reliability of Research Instruments

Kothari (2004) states that validity and reliability are among the major considerations one should use in evaluating a measurement tool.

3.9.1 Validity

Validity is the extent to which a test measures what we actually wish to measure and the results obtained therefore represents the phenomenon under study (Kothari, 2004; Gay, Mills, and Airasian (2009). It is the most important characteristic to consider when constructing or selecting a test or measurement technique (Ross, 2005). In addition a valid test is one which measures what it is intended to measure. It's therefore an essential criterion for evaluating the quality and acceptability of research (Golafshani, 2003; Merriam, 1998; Burns, 1999; Zohrani, 2013; Fraenkel and Wallen, 2003; Yin, 2003). Kothari (2004) adds that validity is the most critical criterion and indicates the degree to which an instrument measures what it is supposed to measure. It is the extent to which differences found with a measuring instrument reflect true differences among those being tested (Kothari and Garg, 2014).

The validity of the instruments was enhanced through expert scrutiny that was sought from the two university supervisors assigned to the researcher as well as a panel of experts from the department of Curriculum and Instruction and department of social sciences in the school of education, University of Eldoret. An expert opinionnaire was prepared and issued to different experts to give the opinion, their comments and suggestions were incorporated into the final draft of the research instruments.

Validation of the instrument focused on content validity which ascertained the quality of the content and availability of all the required information. Construct validity considered aspects of length in relation to the target population and whether the instruments were framed well, while face validity checked how the instruments appeared in relation to alignment and organization among others.

3.9.2 Reliability

Reliability is the accuracy and precision of a measurement procedure (Kothari, 2004). It is the measure to which a research instrument yields consistent results or data after repeated trials. It is the extent to which results are consistent overtime and an accurate representation of the total population under study (Creswell, 2009; Joppe, 2000; Nunan, 1999). Ross (2005) describes reliability as the degree to which a measuring procedure gives consistent results. To test reliability, the researcher used test retest which involves the administration of the same research instrument twice to the same group of tutors' and student teachers' at Kaimosi and Eregi Primary Teachers Colleges which had similar characteristics of the five colleges selected for this study.

Kothari (2004) asserts that, test retest method should be used to establish the reliability of the research instruments. Kothari and Garg (2014) add that, the degree of stability of an instrument is done by comparing the results of repeated measurements.

The structured and likert type items based of the research questions yielded quantitative data which was coded and entered into the Statistical Package for Social Sciences (SPSS) version 20 and used to compute Cronbach's Alpha. The scores from

both the tests were correlated, the tutor's questionnaire gave Cronbach's alpha coefficient of 0.75 and the student teachers' questionnaire gave 0.81, implying an acceptable internal consistency of the instruments which are said to yield data that has high test-retest reliability. According to (Bowling, 2002 in Mvumbi and Ngumbi, 2015), an alphax index of 0.5 or higher is considered a sign of acceptable internal consistency.

Reliability of research instruments in qualitative data focuses on the researcher being the instrument itself, also reliability and validity of the research instruments are treated together (Mvumbi and Ngumbi, 2015). In addition, credibility (truth value), transferability (applicability), dependability (consistency) and conformability (neutrality) form the basis of researchers' trustworthiness (Mvumbi and Ngumbi, 2015). In this study the researcher allowed respondents to consent to participate in the study, the right to withdraw and encouraged them to be frank. They were also assured that the findings will be treated with confidentiality. In addition, the researcher followed a research design and methodology to collect data for description of the phenomenon, this enables the researcher to understand well, make judgement of the findings and apply them to other contexts. The researcher reported in detail the process within the study, which would enable future researchers form a basis of their studies. Finally, the researcher ensured that the findings are not shaped by the investigators interests. Triangulation of various instruments helped to avoid researchers' bias, leading questions were avoided during interviews and respondents were given sufficient time to respond during engagements.

3.11 Data Collection Procedures

After the approval of the proposal by the school of Education in the University of Eldoret, The researcher applied for the permit from National Council of Science, Technology and Innovation (NACOSTI) through the University of Eldoret. After obtaining the authorization permit to conduct the study, the researcher visited the study sites for familiarization and introduced herself to the Deans of Curriculum in the Public Primary Teachers Colleges. Through the deans the researcher was able to meet the tutors and requested for their time tables for the purpose of observation. The researcher with the help of the research assistants administered the questionnaire to the tutors and student teachers in the five colleges. The researcher through the tutors organized to observe Kiswahili lesson in PTCs then organized for interview with the Deans of Curriculum and finally with the Director e-learning at the KICD.

Prior to data collection, the researcher trained five research assistants to ensure that they were familiar with the research objectives of the study, the instruments and to clarify statements where applicable. The research assistants assisted in the distribution, administration and collection of the questionnaire from the respondents. The completed instruments were collected and checked for inconsistencies to verify that data was reliable.

3.12 Data Analysis

Data analysis is the process of making sense of what has been collected from the field; it is the process of bringing order and meaning to raw data (Mvumbi and Ngumbi, 2015). Data analysis in mixed method research relates to the type of research strategy chosen from the procedure (Creswell, 2009). Analysis occurredboth within the quantitiative (descriptive and inferential numeric analysis) and the

qualitative (description and thematic text or image analysis) approach. In this study the researcher used quantitative and qualitative data analysis procedures. Quantitative data was obtained from closed ended items in the questionnaires. Raw data was coded and analysed using Statistical Package for Social Sciences (SPSS) version 20. Data was summarized using descriptive statistics that is frequency and percentages and presented using tables and bar graphs. Descriptive statistics provides a meaningful distribution of scores using statistical measures of central tendencies, dispersion and distribution (Kothari, 2004).

Qualitative data was derived from observation done during the actual teaching and in the five colleges, interviews conducted with the Deans of Curriculum and the Director e learning (KICD) and from the open ended items on various categories of questionnaires. The raw data was examined and analysed to establish, accuracy and completeness. Responses from observation and open ended items were organized and categorized into themes and used thematic analysis to discuss the findings and presented in form of narrative. Qualitative data from the interviews was transcribed, coded, a qualitative analysis table made, interpretation of the data done then categorized into theme. The findings were presented inform of narrative and verbatim.

3.10 Ethical Considerations

Research ethics is described as subscribing and conforming to the standardized conduct of a particular profession or group. When human behavior is subjected to scientific investigation, it involves ethical issues that need to be observed to ensure they don't infringe to the human rights. The researcher has an obligation to respect the rights, needs, values and desires of the informants, therefore, appropriate steps were taken to adhere to strict ethical guidelines inorder to uphold the participants'

privacy, confidentiality, dignity, rights and anonymity (Creswell, 2003; Cohen et al 2007)

The investigator sought informed consent from the respondents of the interview that is the Director e-learning, Kenya Institute of Curriculum Development (KICD) and the Deans of Curriculum in the PTCs. The study further ensured that all the respondents remained anonymous and the information provided had the right to confidentiality which was guaranteed by the transmittal letter. The summary of the deliberations in the interview was shared with the interviewee and the summary of the findings were to be shared with the respondents later.

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and categorized into themes and used thematic analysis to discuss the findings and presented in form of narrative. Data from the interviews was transcribed, coded, a qualitative analysis table made, interpretation of the data done then categorized into theme. Thematic analysis was used to discuss the findings and was presented in form of narrative and verbatim.

3.13 Summary

The study applied sequential mixed method design that yielded both quantitative and qualitative data. The inquiry was guided by pragmatic philosophical paradigm or world view that opened door to different forms of data collection and analysis such as questionnaire, observation and interviews. Quantitative data was analysed using SPSS Version 20 while qualitative data was analysed thematically. The research was conducted in Public PTCs because they are government parastatals that receive capitation, that are under performance contracting and ICT is an aspect under performance contracting. The researcher sampled tutors, student teachers, Deans of Curriculum and Director e-Learning at KICD. Purposive sampling and stratified random sampling techniques were employed. Quantitative data was presented in tables and bar graphs using frequencies and percentages. Qualitative data was reported in narrative and verbatim as seen in chapter four.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

The chapter focuses on analysis, presentation, interpretation and discussion of the collected data from the tutors, student teachers, deans of curriculum and the director KICD. This study examined tutors application of ICT integration in the teaching of Kiswahili in Public Primary Teachers Colleges in Rift Valley region, Kenya. Descriptive statistics was used in this study in which data was presented using frequency, percentages and charts. This chapter involves triangulation of both quantitative and qualitative data so that diverse views can light the application of ICT integration in the teaching of Kiswahili. The study sought to achieve the following objectives,

i. Establish the types of ICT integration tools applied in the teaching of Kiswahili in Public PTCs.
ii. Determine the benefits of application of ICT integration in teaching Kiswahili in Public PTCs.
iii. Determine the attitudes of the tutors on ICT integration in teaching Kiswahili in Public PTCs.
iv. Establish the challenges facing tutors in the application of ICT integration in teaching Kiswahili in Public PTCs.

The chapter begins with presenting questionnaire response rate, demographic information of the respondents' then discussion of the results based on the objectives of the study.

4.2 Response Rate

This section presents the response rate of the respondents from the five institutions selected for the study.

Table 4.1: Response Rate of the Tutors' Questionnaire

College	Number of Questionnaires Issued	Returned	Response Rate
Moi Baringo	6	6	100
Kericho	7	7	100
Mosoriot	8	8	100
Tambach	9	9	100
Narok	6	6	100

Table 4.2: Response Rate of the Student Teachers' Questionnaire

College	Number of Questionnaires Issued	Returned	Response Rate
Moi Baringo	26	26	100
Kericho	45	45	100
Mosoriot	60	60	100
Tambach	64	64	100
Narok	37	37	100

Table 4.1 and 4.2 reveals that tutors' and student teachers' response rate of 100% was realized. This was because the researcher had made appropriate prior plans with the selected institutions and research assistants. The researcher administered all the copies of the questionnaire with the help of the research assistants together with the support from the Deans of Curriculum.

This response rate of the tutors and the student teachers respectively was rated excellent. Mundy (2002) argues that 60% response rate would be marginal, 70% is

reasonable, 80% would be good and 90% would be excellent. Higher response rate tend towards findings that have greater credibility among key stake-holders (Rogelberg and Stanton, 2007). Moreso, Pinsonneault and Kraemer (1993) states that low response rates jeopardize any attempt to generalize findings in an adequate way.

4.3 Demographic Details of the Respondents

This section of results presents the demographic details of the respondents such as tutors' and student teachers' gender, tutors' and student teachers' age bracket, level of education and tutors' years of teaching Kiswahili that is experience.

4.3.1 Distribution of Respondents by Gender

Table 4.3 Tutors' and Student Teachers' Gender

	Tutors'		Student Teachers'	
Gender	**Frequency**	**Percent**	**Frequency**	**Percent**
Female	19	52.8	125	53.9
Male	17	47.2	107	46.1
Total	36	100.0	232	100.0

Table 4.3 shows the gender of the tutors teaching Kiswahili and student teachers learning Kiswahili in the sampled teachers' colleges in Rift Valley region. 52.8% N=19 were female while 47.2% (N=17) were male. Additionally, 53.9% (N=125) of the student teachers were female while 46.1% (N=107) were male student teachers'.

4.3.2 Distribution of Respondents by Age-Bracket

Table 4.4: Tutors' Age Bracket

Age	Frequency	Percent
20-30 Years	0	0.0
31-40 Years	9	25.0
41-50 Years	27	75.0
51-60 Years	0	0.0
Total	**36**	**100.0**

Table 4.4 shows the age bracket of tutors teaching the sampled primary teachers' colleges. 25% (N=9) are of bracket 31-40 while 75% (N=27) are of bracket 41-50 years. This implies that most of the tutors were between the age bracket of 41-50 years. Peeraer and petegem (2011) points out that gender and age influence integration of ICT in the teaching practice. The young teacher educators can be seen as ICT natives since they have been exposed to ICT (prensky in Peeraer and Petegem, 2011).

4.3.3 Distribution of Respondents by Level of Education

Table 4.5: Tutors' Level of Education

Highest level of education	Frequency	Percent
Diploma	0	0.0
Bachelors degree	16	44.4
Masters	18	50.0
Phd	2	5.6
Total	**36**	**100.0**

Table 4.5 shows the level of education of the tutors in primary teachers colleges. 44.4% (N=16) are bachelors degree holder, 50% (N=18) are masters degree holders

and 5.6% (N=2) are Phd degree holders. This implies that all tutors in the PTCs have a bachelor's degree as the minimum level of education. This is clearly shown by the fact that none was a diploma holder. Ng'eno, Githua and Changeywo (2013) established that teachers with high qualifications perceived themselves to be more prepared to use and apply ICT in their area of specialization. The findings of this research disagrees with the findings of Ng'eno, Githua and changeiywo (2013) in that though the tutors had bachelors degree and above integration was minimal in the teaching of Kiswahili.

4.3.4 Distribution of Respondents by Experience

Table 4.6 Tutors' Experience

Experience in years	Frequency	Percent
1-5 years	4	11.1
6-10 years	5	13.9
11-15 years	9	25.0
16-20 years	18	50.0
Total	**36**	**100.0**

Table 4.6 showed the experience tutors had in teaching primary teachers' colleges. 11.1% (N=4) had an experience of 1-5 years, 19.4% (N=7) had an experience of 6-10 years, 19.4% (N=7) had an experience of 11-15 years and 50% (N=18) had an experience of 16 to 20 years of teaching in primary teachers college. This implies that half of the tutors have had experience of teaching Kiswahili for many years in Public PTCs.

4.4 Types of ICT Integration Tools Applied in Teaching of Kiswahili in PTCs

The first objective of the study was to establish the types of ICT integration tools applied in the teaching of Kiswahili in Public Primary Teachers' Colleges. The

researcher focused on the following sub-sections; Presence of computer lab, types of computers, ratio of computer to student teachers, tutors' and student teachers' responses on availability of different types of ICT, tutors' and student teachers' access to ICT facilities, and tutors' experience in using different ICT integration tools in teaching *Kiswahili sarufi, insha, fasihi andishi, fasihi simulizi* and *ushairi.*

Table 4.7: Tutors and Student Teachers' Responses on Availability of Computer Lab

Computer lab	Tutors' responses		Student Teachers' Responses	
	Frequency	**Percent**	**Frequency**	**Percent**
Yes	32	88.9	220	94.8
No	4	11.1	12	5.2
Total	**36**	**100.0**	**232**	**100.0**

Table 4.7 showed results on presence of computer labs in the colleges. 88.9% (N=32) indicated that computer labs were present in the teachers' colleges while 11.1% (N=4) stated that there was no computer lab in the primary teachers' colleges. The table also shows the response from the student teachers' on having computer lab in the colleges. 94.8% (N=220) stated that there was computer lab in their colleges while 5.2% (N=12) stated that there was no computer lab in the colleges. This implies that most of the colleges had computer labs since majority of the tutors and student teachers stated so. This was also observed by the researcher that there was at least a computer lab in every college. It was also noted through the interview, that there was equipment handed from the ministry to the colleges that was to be used in the teaching of computer studies such equipment included computers. The Director e-learning in the KICD said that,

> There was some equipment given to colleges but so far we have not followed to know how the equipment were used or whether there has been integration. What I am sure of is computer studies being offered as a course in the TTC. In the course, integration of ICT in the teaching is offered as one of the unit (Director e-learning).

Additionally, in interviews with the Deans of Curriculum, one of the deans mentioned that,

> One time there were some equipment that were donated through USAID to the colleges, they included desktops and earphones. (D3)

Table 4.8: Tutors' and Student Teachers Responses on Types of Computers

Types of computers	Tutors' Responses		Student teachers' responses	
	Frequency	**Percent**	**Frequency**	**Percent**
Laptops	2	5.6	17	7.3
Desktops	30	83.3	186	80.2
Laptops and desktops	3	8.3	17	7.3
No laptops and desktops	1	2.8	12	5.2
Total	**36**	**100.0**	**232**	**100.0**

As indicated in Table 4.8, the results show the types of computers in the colleges. 5.6% (N=2), of the tutors stated that the colleges had laptops, 83.3% (N=30) of the tutors stated that the colleges had desktops, 8.3% (N=3) of the tutors' stated that the colleges had laptops and desk tops while 2.8% (N=1) of the tutors' state that they had no laptops and desktops.

The student teachers' responses concurred to the above information, 7.3% (N=17) of the student teachers stated that they had laptops, 80.2% (N=186) of the student teachers stated that they had desktop and 7.3% (N=17) of the student teachers stated that they had laptops and desk tops while 5.2 % (N=12) of the student teachers stated that they had neither laptops nor desktops. This implies that majority of the colleges had desktops in their computer lab and a few had laptops. This concurs with what the

researcher observed that the computer labs had desk tops that were used by the student teachers. A few laptops were there but they belonged to the tutors the findings are illustrated in the figure below that shows the response on the types of computers by the tutors and student teachers. The findings concurs with Eady and Locker (2013) that stated, computer devices are more powerful and come in different forms from those that sit on our desks to those that sit in the palm of our hands.

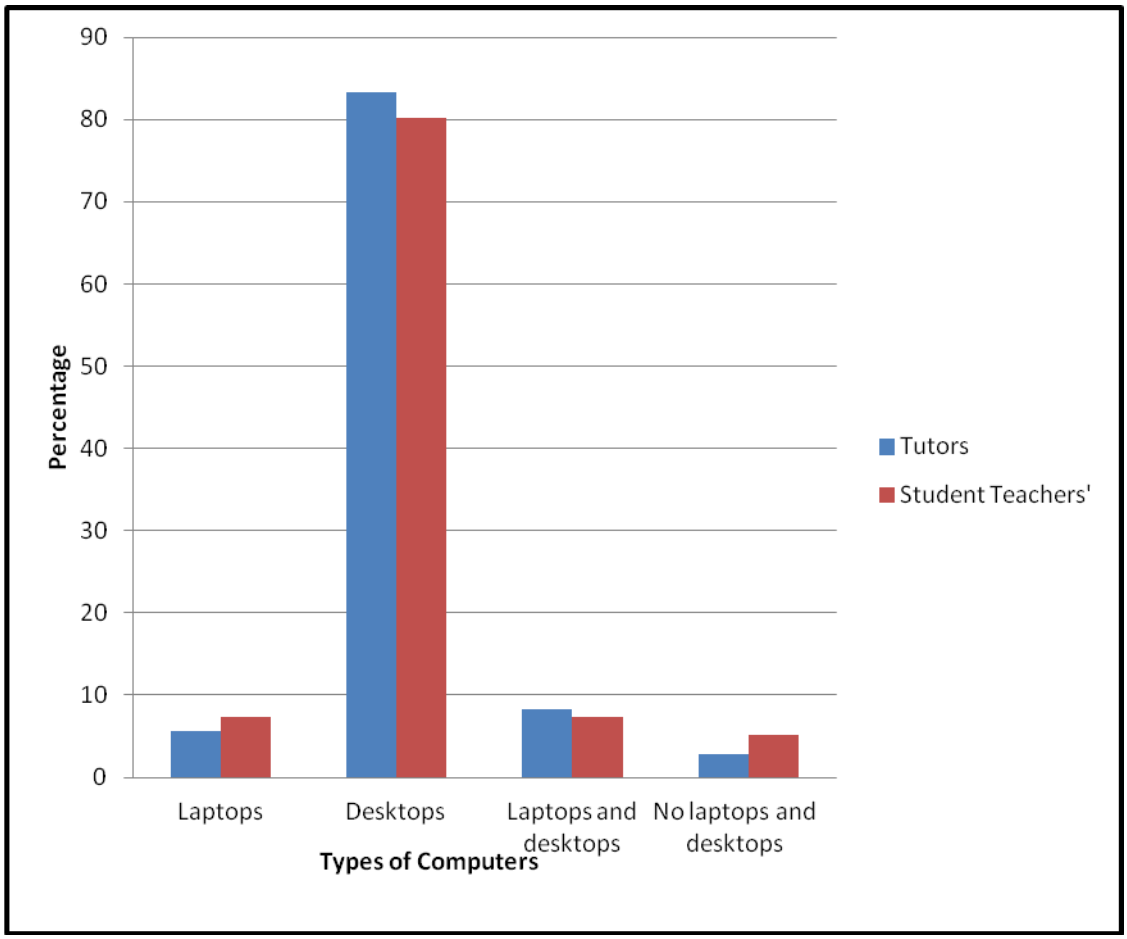

Figure 4.1: Tutors' and Student Teachers' Responses on Types of Computers

The following table shows tutors' and student teachers' responses on the ratio of computer to student teachers respectivel.

Table 4.9: Tutors' and Student Teachers' Responses on the Ratio of Computer to Student Teachers'

	Tutors' responses		Student teachers' responses	
Ratio	**Frequency**	**Percent**	**Frequency**	**Percent**
1:1	1	2.8	10	4.3
1:2	6	16.7	23	9.9
1:3	18	50.0	107	46.1
1:5	7	19.4	80	34.5
1 with crowded student teachers	4	11.1	12	5.2
Total	**36**	**100.0**	**232**	**100.0**

As indicated in table 4.9, 2.8% (N=1) of the tutors indicate that the ratio is 1:1, another 16.7% (N=6) of the tutors indicated that the ratio is 1:2, majority 50.0% (N=18) of the tutors stated that the ratio is 1:3 while 19.4% (N=7) of the tutors stated that computer ratio to student teachers was 1:5 while 11.1% (N=4) stated that the ratio was 1 with crowded student teachers.

Results from the student teachers, responses indicate that, 4.3% (N=10) of the student teachers stated that computer ratio to student teachers was 1:1, 9.9% (N=23) of the student teachers stated that computer ratio to student teachers was 1:2, 46.1% (N=107) of the student teachers stated that computer ratio to student teachers was 1:3, 34.5% (N=80) of the student teachers stated that computer ratio to student teachers' was 1:5, 5.2% (N=12) of the student teachers stated that computer ratio to student teachers was stated that the ratio 1 with crowded student teachers' or many students.

Thus the researcher concluded that, the ratio in most of the colleges was 1:3 additionally, there were colleges that had few computers with crowded student teachers. The study reveals that the computer and student teacher ratio was high and most of the student teachers have been sharing the facility in the process of learning. The findings of interview with the five Deans of Curriculum established that, the

facilities were not enough for each student teacher in the colleges. The findings concur with Gode (2013) in the study on factors influencing integration of information Technologies in Public Primary Training Colleges in Central Region Kenya that revealed that infrastructure in training colleges was not adequate.

This also agrees with the findings of Muyaka (2012), in the study on ICT infrastructure and teacher preparation in integration of ICT in teaching and learning in primary teacher training college that established inadequate access to the infrastructure available. Additionally, Omariba, Ayot and Ondigi (2015) in the study on teacher preparedness in integrating information and communications technologies in public primary teachers colleges in Kenya established that the different types of ICTs available were inadequate for teaching and learning and that access to the computers in the colleges was poor with limited internet connectivity.

Table 4.10: Tutors' Responses on Availability of Different Types of ICT

	Available		**Not Available**		**Total**	
Types of ICT	**Frequency**	**Percent**	**Frequency**	**Percent**	**Frequency**	**Percent**
Internet	27	75	9	25	36	100
weblogs	4	11.1	32	88.9	36	100
Interactive Whiteboard	7	19.4	29	80.6	36	100
LCD Projectors	26	72.2	10	27.8	36	100
Power point	32	88.9	4	11.1	36	100
YouTube	31	86.1	5	13.9	36	100
DVDs	30	83.3	6	16.7	36	100
E-books	11	30.6	25	69.4	36	100
Smart phones	33	91.7	3	8.3	36	100
Hyper link	3	8.3	33	91.7	36	100

Table 4.10 shows the availability of different types of ICT in the colleges. 75% (N=27) of the tutors stated that internet was available in primary teacher colleges, while 25 % (N=9) stated that internet was not available. This was similar to what was observed, in four of the colleges internet connection was there though the strength was weak; the student teachers would be seen crowding near the administration block. Additionally in on e of the colleges some classrooms accessed internet while others did not. In one of the colleges there was no internet connections additionally, the findings from the Deans interview established that in four colleges there was internet connection though the strength was weak implying that internet facility was available in the colleges.

Internet supports sharing of resources over the network thus lowering cost of buying resources that can be shared (Gakena, Gikandi and Kamau, 2015). Additionally, internet connectivity and access contributes much in the integration of ICT in the teaching of Kiswahili.

The same table shows that 11.1 % (N=4) of the tutors stated that weblogs were available in primary teacher colleges, while 88.9% (N=32) of the tutors stated that weblogs were not available. The researcher did not observe weblogs being used in the process of teaching, additionally interview with the deans of curriculum revealed that there were no weblogs in the process of teaching Kiswahili. This implies that weblogs were not available in the colleges despite having internet. The findings concur with those of Khalid (2009) that majority of the respondents in fact 69% indicated having no idea of the freely available web tools for secondary teaching yet Writer (2012) states that internet provides access to 50 web tools that teachers can effectively apply in the teaching of all subjects.

In addition, the same table shows that 19.4% (N=7) of the tutors stated that interactive white boards were available in primary teacher colleges while 80.6% (N=29), stated that interactive white boards were not available. The researcher observed that there were no interactive white boards in all the colleges, this was similar to the findings from the interview with the deans of curriculum that revealed that the colleges had white boards that were not interractive This implies that interactive white boards were not available in most of the colleges. Interactive whiteboard (IWB) is one of the technological tools that have become widely used by school teachers in many countries (Jang and Tsai 2012). For instance, the Ministry of Education in Taiwan has allocated funds to purchase the device for a number of schools so as to encourage school teachers to use it and increase effectiveness (Ministry of Education 2008). This is not the case in PTCs since the interactive whiteboard are not there as a result the tutors and student teachers cannot enjoy the advantages of such a technological tool that promotes effectiveness and help teachers to develop various pedagogical approaches with this technological integration (Jan and Tsai, 2012; Winzenried, Dalgarno and Tinkler, 2010).

Table 4.10 shows that 72.2% (N=6) of the tutors stated that LCD projectors was available in their primary teachers' colleges, while 27.8 % (N=10) stated that LCD projectors were not available.the researcher observed LCD projectors being used in the process of projecting power points in the teaching of Kiswahili. Interviews with the deans of Curriculum revealed that there were LCD projectors in the colleges. This implies that the LCD projectors were available in the colleges. LCD projectors provide a better interactive learning experience, new ways to learn, and ease of use (Marshal, 2016). The presence of the LCD projectors in PTCs agrees with Whitaker (2018) who states that teachers and students find projectors to be useful classroom

devices since it is easier in note taking, has greater teaching versatility, better use of classtime and has better presentation. Many teachers rather than writing notes across a board, they can make use of power point presentation, images and even film as a teaching tool through the use of projectors.

The same table shows that 88.9% (N=32) of the tutors stated that power point was available in primary teacher colleges while 11.1% (N=4) stated that power point was not available. The researcher observed power point presentation from tutors presenting Kiswahili lesson on *ushairi* (poetry) and another on *insha* (composition). Interview from the deans of curriculum revealed availability of power point presentations. This implies that power point was available in the colleges.

Additionally the table shows that 86.1% (N=31) of the tutors stated that YouTube was available in primary teacher colleges while 13.9% N=5) stated that YouTube was not available. This implies that YouTube was available in the colleges. Writer, (2012) notes that, YouTube is one of the ICT tool that can be used for teaching since the site contains a wealth of great learning materials for the classroom. Writer, (2012) adds that there is even a special education focused channel just for teachers and students, for instance in the education channel Kiswahili is also covered; *mashairi ya arudhi* have been explained so well, *aina za maneno, insha za methali kama achumiaye juani hulia kivulini*.

Table 4.10 still, shows that 83.3 % (N=30) of the tutors stated that DVDs, were available in primary teacher colleges, while 16.7% (N=6), stated that DVDs were not available. The researcher that tutors in three colleges had DVDs that contained Kiswahili content that was used in the teaching; this was similar to the findings from interview with three deans of curriculum who stated that there were DVDs that

contained some of Kiswahili content. This implies that DVDs were available in the colleges.

More so, the table shows that 30.6% (N=11) of the tutors stated that e-books were available in primary teacher colleges, while 69.4 % (N=25), stated that e-books were not available. The researcher did not observe the use of e-books; while the deans of curriculum also stated that e-books were not available. This implies that e-books were not available in most of the colleges despite having internet. Hakim (2008) asserts that e-books are an important element of teaching collaboration since students can easily highlight, annotate and then share notes with friends, tutors or study group. By so doing there will be mediation in the learning process that is expert, peer, self and artifact mediation where e-books are put on a projector or interactive whiteboard so that students can work through specific concepts or models with their classes.

Table 4.10 shows that 91.7% (N=33) of the tutors stated that smart phones were available in primary teacher colleges while 8.3% (N= 3) stated that smart phones were not available. The researcher observed availability of smart phones, the deans also stated that smart phones were available among student teachers and tutors. This implies that smart phones were available in most of the colleges. Smart phones can be used for various purposes in the process of teaching. It can be used to access internet, downloading various Kiswahili materials such as e-books, storing downloaded materials since it is one of the technology based reading device (Kelly, 2016)

More so, the table shows that 8.3% (N=3) of the tutors stated that hyperlink was available in primary teacher colleges, while 91.7 % (N=33), stated that hyperlink was not available. The researcher did not observe the use of hyperlink in the teaching of

Kiswahili, additionally, interview with the deans of curriculum revealed that hyperlink was not available. This implies that hyperlink was not available in the colleges despite having internet; this is a clear indicator that computer literacy is a major issue since this tool could easily be accessed if there is internet connectivity. Eady and Lockyer (2013) state that internet connects those devices and connects students to each other in the classroom through the school and around the world.

In conclusion the table clearly shows that tools such as smart phones, power point, YouTube, DVDs, internet and LCD projectors were available in most of the colleges while some tools such as weblogs, interactive white board, e-books and hyperlink were not available. This is in line with Hennessy, Harrison and Wamakote (2010), in the study of teacher factors influencing ICT use, the study established that there are many technologies available in the class context today that range from simple tool-based applications such as word processor to online repositories of scientific data. From the findings the few tools that are said not to be available can be accessed due to the presence of internet and computers. Where there is internet connectivity, Computer can be used to download different tools that can be integrated in the process of teaching Kiswahili. Figure 4.2 that clearly show different types of ICT integration tools that were available and the ones that were not.

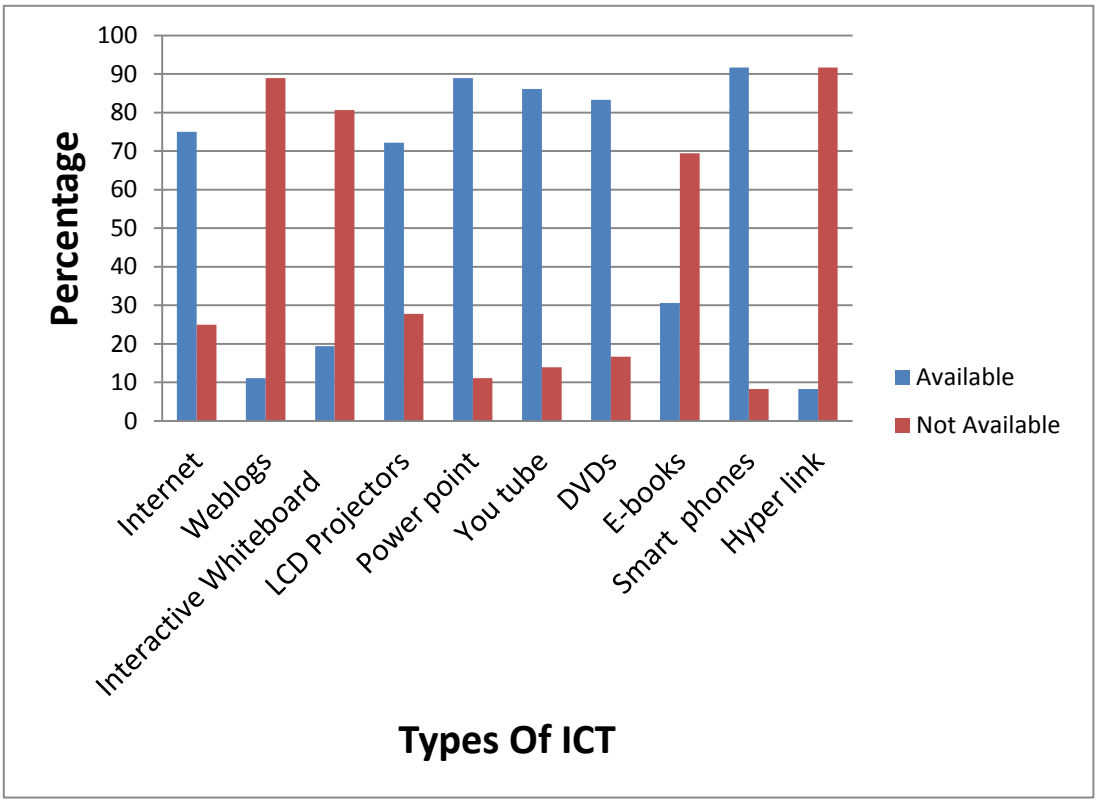

Figure 4.2: Tutors' Responses on Availability of Different Types of ICT

The table 4.11 below shows students teachers responses on the availability of different types of ICT integration tool used in teaching Kiswahili

Table 4.11: Student Teachers' Responses on Availability of Different Types of ICT

Types of ICT	Available Frequency	Percent	Not Available Frequency	Percent	Total Frequency	Percent
Internet	124	53.4	108	46.6	232	100.0
Weblogs	64	27.6	168	72.4	232	100.0
Interactive Whiteboard	99	42.7	133	57.3	232	100.0
LCD Projectors	155	66.8	77	33.2	232	100.0
Power point	204	87.9	28	12.1	232	100.0
YouTube	164	70.7	68	29.3	232	100.0
DVDs	143	61.6	89	38.4	232	100.0
ebooks	86	37.1	146	62.9	232	100.0
Smart phones	162	69.8	70	30.2	232	100.0
Hyperlink	60	25.9	172	74.1	232	100.0

Table 4.11 shows student teachers' response on availability of different types of ICT. 53.4% (N=124) of the student teachers stated that internet was available, 46.6% (N=108) of the student teachers stated that internet was not available. This implies that internet was available in most of the primary teachers' colleges. Internet connectivity contributes much in integration. Khalid (2009) states that internet provides web tools that are reliable and effective technologies useful for increasing students motivation, clear thinking and development of interpretation skills with data.

Table 4.11 also indicates that 27.6% (N=64) of the student teachers stated that blogs was available, while 72.4% (N=168) of the student teachers stated that blogs were not available. This implies that blogs were not available in most of the colleges; these findings were similar to those of the tutors and the interview from the Deans of Curriculum.

The table 4.11 also shows that 42.7% (N=99) of the student teachers stated that interactive whiteboard was available, while 57.3% (N=133) of the student teachers stated that interactive white board were not available. This implies that interactive whiteboards were unavailable in most of the colleges; these findings are similar to those of the tutors and the Deans interviewed. From observations, the researcher established that most of the colleges had white boards which were not interactive. Vita, Verschaffel and Elen (2014) reveals that, interactive white board provides interesting affordances and multimedia presentation and ability for movement and animations. It improves the conceptual understanding in Mathematics. This is applicable to the teaching of Kiswahili since it allows direct input and manipulation through the use of fingers or styli. Items can be dragged and dropped thus allowing classification, processing, comparison and ordering.

Table 4.11 shows that 66.8% (N=155) of the student teachers stated that LCD projectors were available, while 33.2% (N=77) of the student teachers stated that LCD projectors were not available. This implies that LCD projectors were available in most of the colleges; these were similar to what the inquirer observed and the findings of the interview from the deans of curriculum.

The table 4.11 also indicates that 87.9% (N=204) of the student teachers stated that power point was available, while 12.1% (N=28) of the student teachers stated that power point was not available. This implies that power point was available in most of the colleges; these were similar to what the inquirer observed from a printed copy of slides that one of the tutors used in the process of teaching *ngeli za Kiswahili* (noun groups) and the findings from the Deans. .

Table 4.11 shows that 70.7% (N=164) of the student teachers stated that YouTube was available, while 29.3% (N=68) of the student teachers stated that YouTube was not available. This implies that YouTube was available in most of the colleges; similar to those of the tutors. YouTube is easily accessed with the presence of internet connection, computer or even a smart phone. It is one of the sites that contain wealth of great learning materials for classroom.

Table 4.11 shows that 61.6% (N=143) of the student teachers' stated that DVDs were available, while 38.4% (N=89) of the student teachers' stated that DVDs were not available. This implies that DVDs were available in most of the colleges, similar to the findings of the tutors interviews from the deans and observation from the researcher who established the presence of DVDs in three colleges that contained *sarufi ya Kiswahili* and DVD on *uandishi wa insha* though the DVDs were not from KICD. Peeraer and Petegem (2011) state that integration of subject's specific software in the lessons or electronic communication with the students can add value to the teaching and learning process.

Table 4.11 shows that 37.1% (N=86) of the student teachers stated that e-books were available, while 62.9% (N=146) of the student teachers stated that e-books were not available. This implies that e-books were not available in most of the colleges; similar findings were established from the tutors and the interview from the Deans. The researcher links such findings to competency in ICT and lack of technological knowledge so that they can apply in accessing e-books since there is internet though in some colleges WIFI is weak as mentioned by one of the Dean of Curriculum. The findings concur to those of Wanjala, Khaemba and Mukwa (2011) state that one of the reasons for not integrating in the teaching is lack of Knowledge and skills.

Table 4.11 shows that 69.8% (N=162) of the student teachers stated that smart phones were available while, 30.2% (N=70) of the student teachers stated that smart phones were not available. This implies that smart phone were available in most of the colleges. This agrees with the observation report where the researcher established that most of the tutors and the student teachers had smart phones. The Deans stated that smart phones were available and were used in the process of getting information from the internet. Norton (2014) notes that technology has transformed most of the things in the society, for instance how we communicate, socialize, play, shop and conduct business which has put pressure on the traditional models of language learning which thus presents us with opportunities to redesign the way we teach and learn a language.

Smart phones allow a learner to interact in a formal or informal learning context. For instance, in the formal learning context the tutor may want to teach the student teacher *fasihi simulizi* (oral literature) a subsection of *hadithi* (narrative), the tutor may ask the student teachers to take series of snapshots of various activities that one undertakes in the course of the day or in the course of the week. Then use the snapshots to construct sentences and even write a narrative from the snapshots. This would prepare the student teacher in using such a device in her/ his career. Though the pupils may not have the smart phones the teacher can laminate the photos and integrate them in teaching *fasihi simulizi ya Kiswahili*, *insha* and others.

Smart phones in this research have been seen as one of ICT tools that could be integrated in the teaching of Kiswahili, one of the Deans of Curriculum was so particular on the availability of the smart phones as a tool that can be integrated in the process of teaching D1 said:

> Smart phones are there, (*Mmmmmh*). They are not good. They should not be used in the process of teaching Kiswahili. The best ICT tool to be used is only the one that is projected since you have control of the learners.'(*Shakes the head left- right*) Smart phones cannot actually work. Due to the presence of internet, you see student teachers seated somewhere, when you ask them what they are doing, they say they are researching but may be, they are looking at pornography. In class you cannot use them since as you ask them to check on a particular topic they could be busy on pornography. Smart phones have led to the leakage and cheating in examination. Smart phone wastes a lot of time if, it is to be used in the classroom.

Table 4.11 still shows that 25.9 % (N=60) of the student teachers stated that hyperlink was available, while 74.1% (N=172) of the student teachers stated that hyperlink was not available. This implies that hyperlink was not available in most of the colleges; similar to the findings of the tutors and Deans interview.

From the tables 4.10 and 4.11, it is a clear indication that some types mentioned were available in most of the teacher colleges. These were smart phones, internet, LCD projectors, power point, YouTube and DVDs. These tools could be used in the process of teaching Kiswahili as resource material thus adding value to the teaching and learning process, additionally, other tools which were equally good and could enrich teaching were not available, for instance e-books, interactive whiteboard, weblogs and hyperlink. The findings disagree with research by Ogange, 2011; Maruti, 2010 who stated that there is no basic infrastructure to enable the integration of ICTs even to provide basic access to digital information. In this research it is evident that there are basic tools that can allow integration.

Similar finding were established from the Deans of Curriculum interviews. Majority of the deans; three out of five stated that LCD projectors, internet, computers, power point, YouTube, DVDs, smart phones were available but

> One of the deans stated that, internet connectivity is weak, WIFI is weak, and it is only serving some few student teachers within the college (D3).

The findings of this study concurs with the findings of Mumtaz (2000) in the study factors affecting teacher's use of information communication technologies (ICT) in higher education teaching: a review of the literature that, lack of computers and soft ware can limit teachers' activities of integration of ICT in the classroom. It's worth noting that access to ICT is a first and necessary step in the integration process even though mere access cannot automatically lead to use of ICT for teaching and learning.

This study therefore points out the fact that there are ICT tools that can be applied in the process of teaching Kiswahili. Since more than half of the respondents state that these tools are available, then integration should be there in the process of teaching Kiswahili. The findings agree with those of Miima, Ondigi and Mavisi (2013) that established that there were various forms of ICT integration that teachers can use in the teaching activities.

Peeraer and Petegem (2011) indicate that internet access has a significant positive influence on the use of ICT especially for the teacher educators who have access to internet at home as well as in the educational institutions. However, it is important to note that access to computers is not a barrier to the use of ICT for teaching Kiswahili; this is because sometimes personal access to computer contributes to personal purpose than the purpose of being used in the classroom.

Table 4.12: Tutors' and Student Teachers' Access to ICT Facilities

Access to ICT Facilities	Tutors' response		Student teachers' response	
	Frequency	Percent	Frequency	Percent
Yes	26	72.2	187	80.6
No	10	27.8	45	19.4
Total	**36**	**100.0**	**232**	**100.0**

Table 4.12 shows tutors' and student teachers' access to ICT facilities. 72.2% (N=26) of the tutors state that they access ICT facilities while 27.8% (N=10) of the tutors state that they do not access ICT facilities. However, 80.6% (N=187) of the student teachers state that they access ICT facilities while 19.4% (N=45) of the student teachers state that they do not access ICT facilities. This implies that most of the tutors and student teachers access the ICT facilities while a few do not access the ICT facilities may be because of the few facilities that are available in some colleges.

Table 4.13: How Tutors' Access ICT Facilities in Colleges

How tutors access ICT facilities in Colleges	Frequency	Percent
Through computer lab in the college	11	30.6
Using personal smart phones	4	11.1
Using personal laptops	4	11.1
Through departmental offices	7	19.4
None/No access	10	27.8
Total	**36**	**100.0**

Table 4.13 shows how tutors' access ICT facilities in primary teachers college. 30.6% (N=11), stated that they access ICT facilities through computer lab in college, 11.1% (N=4) access through personal smart phones, 11.1% (N=4) access through personal laptops, another 19.4% (N=7) through departmental offices while 27.8% (N=10)

stated that they had no access to ICT facilities in college. This implies that most tutors accessed ICT facilities through computer lab in the college. The researcher observed that only two colleges had departmental computer, Kiswahili was a subdepartment in the languages department. From the interview with the deans of curriculum, it was revealed that the facilities such as computer and LCD projectors were not enough.

Table 4.14: How Student Teachers Access ICT Facilities in Colleges

How student teachers' access ICT facilities in Colleges	Frequency	Percent
During ICT lessons	136	58.6
Using personal smart phones during preps	41	17.7
During Kiswahili presentation by the tutors	11	4.7
None/No access	44	19.0
Total	**232**	**100.0**

Table 4.14 shows student teachers' access to ICT facilities. 58.6% (N=136) of the students stated that they access ICT facilities during ICT lesson, 17.7% (N=41) of the student teachers access ICT facilities using personal smart phones during preps, 4.7% (N=11) of the student teachers access ICT facilities during Kiswahili lesson presentation by the tutors and 19% (N=44), of the student teachers stated that they do not have access to ICT facilities. This implies that most of the student teachers access ICT facilities during ICT lessons and few student teachers access ICT during Kiswahili presentation by the tutors. From the table, it is clear that only few students access ICT during Kiswahili lesson presentation. This implies that very few tutors apply ICT integration in the process of teaching Kiswahili. This agrees with the findings from observation where only five tutors were found integrating in the process

of teaching Kiswahili. The interview from the deans revealed that most of the Kiswahili tutors do not integrate in the process of teaching Kiswahili. One of the deans was so vivid; he said that he had never seen Kiswahili tutors integrating in the process of teaching Kiswahili. He gave an example of a Mathematics tutor who is so passionate and totally integrates in the teaching of the subject. Peeraer and Petegem (2011) states that, tutors who have better ICT skills tend to use more and diverse ICT applications on regular basis than teacher educator who perceive low ICT skills.

Table 4.15: Tutors' Experience of ICT Integration in Teaching Kiswahili

	Sarufi (Grammar)		**Insha** (essay)		**Fasihi Andishi** (English Literature)		**Fasihi Simulizi** (Oral Literature)		**Ushairi** (Poetry)	
ICT Tools used	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
DVDs	3	8.3	3	8.3	3	8.3	3	8.3	1	2.8
E-books	1	2.8	1	2.8	1	2.8	1	2.8	3	8.3
Power point	8	22.2	10	27.8	10	27.8	3	8.3	9	25.0
Interactive whiteboard	1	2.8	2	5.6	1	2.8	1	2.8	1	2.8
Hyperlink	1	2.8	1	2.8	1	2.8	1	2.8	1	2.8
YouTubes	3	8.3	3	8.3	3	8.3	9	25.0	3	8.3
Weblogs	2	5.6	1	2.8	2	5.6	1	2.8	1	2.8
Internet	9	25	7	19.4	7	19.4	5	13.8	8	22.2
Smart phones	1	2.8	1	2.8	1	2.8	2	5.6	2	5.6
None	7	19.4	7	19.4	7	19.4	10	27.8	7	19.4
Total	**36**	**100.0**	**36**	**100.0**	**36**	**100.0**	**36**	**100.0**	**36**	**100**

Table 4.15 indicates tutors' experience in using different ICT tools in the teaching of *Kiswahili sarufi, insha, fasihi andishi, fasihi simulizi* and *ushairi.* In the teaching of Sarufi 8.3% (N=3) of the tutors stated that they had experience of using DVDs, 2.8% (N=1) of the tutors stated that they had experience of using e-books, 22.2% (N=8) of

the tutors stated that they had experience of using power point, 2.8% (N=1) of the tutors stated that they had experience of using interactive whiteboards, 2.8% (N=1) of the tutors stated that they had experience of using hyperlink and 8.3% (N=3) of the tutors had experience of using YouTube, 5.6% (N=2) of the tutors stated that they had experience of using weblogs, 25% (N=9) of the tutors stated that they had experience of using internet and 2.8% (N=1) of the tutors stated that they had experience of using smart phones in the process of teaching *sarufi*. However, 19.4% (N=7) stated that they had no experience of using all the tools mentioned in the teaching of *Kiswahili sarufi*. This implies that internet was used mostly in the teaching of *sarufi*.

Table 4.15 indicates that 8.3% (N=3) of the tutors have experience of using DVDs in teaching *insha ya Kiswahili*, 2.8% (N=1), of the tutors have experience of using e-books in teaching *insha ya Kiswahili*, 27.8% (N=10) of the tutors have experience of using power point in teaching *insha ya Kiswahili*, 5.6% (N=2), of the tutors have experience of using interactive whiteboards in teaching *insha ya Kiswahili*, 2.8% (N=1) of the tutors have experience of using hyperlink in teaching *insha ya Kiswahili*, 8.3% (N=3), of the tutors have experience of using YouTube in teaching *insha ya Kiswahili*, 2.8% (N=1) of the tutors have experience of using weblogs in teaching *insha ya Kiswahili*, 19.4% (N=7) of the tutors have experience of using internet in teaching *insha ya Kiswahili* and 2.8% (N=1) of the tutors have experience of using smart phones in teaching *insha ya Kiswahili*. However, 19.4% (N=7), stated that they had no experience of using the ICT tools mentioned. This implied that power point was mostly applied in ICT integration in the process of teaching *insha ya Kiswahili* in most of the colleges.

Table 4.15 indicates that 8.3% (N=3) of the tutors have experience of using DVDs, in the process teaching *fasihi andishi ya Kiswahili,* 2.8% (N=1) of the tutors have experience of using e-books in the process teaching *fasihi andishi ya Kiswahili,* 27.8% (N=10) of the tutors have experience of using power point in the process teaching *fasihi andishi ya Kiswahili*, 2.8% (N=1) of the tutors have experience of using interactive whiteboards in the process teaching *fasihi andishi ya Kiswahili,* 2.8% (N=1) of the tutors have experience of using hyperlink in the process teaching *fasihi andishi ya Kiswahili*, 8.3% (N=1) of the tutors have experience of using YouTubes in the process teaching *fasihi andishi ya Kiswahili*, 5.6% (N=2) of the tutors' have experience of using weblogs in the process teaching *fasihi andishi ya Kiswahili,* 13.8% (N=5) of the tutors have experience of using internet in the process teaching *fasihi andishi ya Kiswahili* and 2.8% (N=1) of the tutors have experience of using smart phones in the process teaching *fasihi andishi ya Kiswahili.* However, 25.0% (N=9) stated that they had no experience of using any of the stated ICT tools in the process of teaching *fasihi andishi ya Kiswahili*. The finding implies that power point was mostly used to teach *fasihi andishi ya Kiswahili.*

Table 4.15 shows that 8.3% (N=3) of the tutors have experience of using DVDs in the process of teaching *fasihi simulizi ya Kiswahili*, 2.8% (N=1) of the tutors have experience of using e-books in the process of teaching *fasihi simulizi ya Kiswahili*, 8.3 % (N=3) of the tutors' have experience of using power point in the process of teaching *fasihi simulizi ya Kiswahili,* 2.8% (N=1) of the tutors have experience of using interactive whiteboards in the process of teaching *fasihi simulizi ya Kiswahili,* 2.8% (N=1) of the tutors have experience of using hyperlink in the process of teaching *fasihi simulizi ya Kiswahili,* 25% (N=9) of the tutors have experience of using YouTube in the process of teaching *fasihi simulizi ya Kiswahili*, 2.8% (N=1) of

the tutors have experience of using weblogs in the process of teaching *fasihi simulizi ya Kiswahili*, 19.4% (N=7) of the tutors have experience of using internet in the process of teaching *fasihi simulizi ya Kiswahili*, 5.6% (N=2) of the tutors' have experience of using smart phones in the process of teaching *fasihi simulizi ya Kiswahili.* However, 19.4% (N=7) stated that they had no experience of using any of the stated ICT tools in the process of teaching *fasihi simulizi ya Kiswahili*. This implies that YouTube was used mostly in the process of teaching *fasihi simulizi ya Kiswahili*.

Table 4.15 shows that 2.8% (N=1) of the tutors have experience of using DVDs in the process of teaching *ushairi wa Kiswahili,* 8.3% (N=3) of the tutors have experience of using e-books, in the process of teaching *ushairi wa Kiswahili*, 25.0% (N=9) of the tutors have experience of using power point in the process of teaching *ushairi wa Kiswahili,* 2.8 % (N=1) of the tutors have experience of using interactive whiteboards in the process of teaching *ushairi wa Kiswahili*, 2.8 % (N=1) of the tutors' have experience of using hyperlink in the process of teaching *ushairi wa Kiswahili*, 8.3% (N=3) of the tutors have experience of using YouTube in the process of teaching *ushairi wa Kiswahili*, 2.8% (N=1) of the tutors have experience of using weblogs in the process of teaching *ushairi wa Kiswahili*, 22.2% (N=8) of the tutors' have experience of using internet in the process of teaching *ushairi wa Kiswahili*, 5.6% (N=2) of the tutors have experience of using smart phones in the process of teaching *ushairi wa Kiswahili.* However, 19.4% (N=7) stated that they had no experience of using any of the stated ICT tools in the process of teaching *ushairi wa Kiswahili*. This implies that power point was used mostly in the process of teaching *ushairi wa Kiswahili.*

Table 4.16: Student Teachers' Experience of ICT Integration in Learning Kiswahili

	Sarufi (Grammar)		**Insha** (eassy)		**Fasihi Andishi** (English Literature)		**Fasihi Simulizi** (Oral Literature		**Ushairi** (Poetry)	
ICT tools used	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
DVDs	24	10.3	23	9.9	26	11.2	18	7.8	26	11.2
E-books	12	5.2	15	6.5	9	3.9	18	7.8	23	9.9
Power point	32	13.8	30	12.9	50	21.6	20	8.6	38	16.4
Interactive white board	26	11.2	20	8.6	9	3.9	18	7.8	3	1.3
Hyperlink	4	1.7	7	3.0	4	1.7	1	0.4	1	0.4
YouTubes	10	4.3	8	3.4	8	3.4	39	16.8	10	4.3
Weblogs	6	2.6	12	5.2	6	2.6	4	1.7	7	3.0
Internet	34	14.7	28	12.1	33	14.2	26	11.2	35	15.1
Smart phones	4	1.7	5	2.2	4	1.7	7	3.0	10	4.3
No idea	80	34.5	84	36.2	83	35.8	81	34.9	79	34.1
Total	**232**	**100.0**	**232**	**100.0**	**232**	**100.0**	**232**	**100.0**	**232**	**100.0**

Table 4.16 indicates student teachers experience in using different ICT tools in the learning of *Kiswahili sarufi, insha, fasihi andishi, fasihi simulizi* and *ushairi.* In the learning of Sarufi 10.3% (N=24) of the student teachers stated that they had experienced the use of DVD, 5.2% (N=12) of the student teachers stated that they had experienced the use of e-books, 13.8 % (N=32) of the student teachers stated that they had experienced the use of power point, 11.2% (N=26) of the student teachers stated that they had experienced the use of interactive whiteboards, 1.7% (N=4) of the student teachers stated that they had experienced the use of hyperlink, 4.3% (N=10) of the student teachers stated that they had experienced the use of YouTube, 2.6% (N=6) of the student teachers stated that they had experienced the use of weblogs, 14.7 % (N=34) of the student teachers stated that they had experienced the use of internet and

1.7% (N=4) of the student teachers stated that they had experienced the use of smart phones. However 34.5% (N=80) of the student teachers stated that they had not experienced any form of integration of ICT tools in the process of teaching *sarufi ya Kiswahili* (grammar). This implies that internet was used in the process of teaching *sarufi ya Kiswahili;* the findings are similar to those of the tutors'.

Table 4.16 shows that, 9.9% (N=23) of the student teachers stated that they had experienced the use of DVDs in the teaching of *insha ya Kiswahili,* 6.5% (N=15) of the student teachers stated that they had experienced the use of e-books in learning *insha ya Kiswahili*, 12.9% (N=30) of the student teachers stated that they had experienced the use of power point in learning *insha ya Kiswahili*, 8.6% (N=20) of the student teachers stated that they had experienced the use of interactive whiteboards in learning *insha ya Kiswahili*, 3.0% (N=7) of the student teachers stated that they had experienced the use of hyperlink in learning *insha ya Kiswahili*, 3.4% (N=8) of the student teachers stated that they had experienced the use of YouTube in learning *insha ya Kiswahili*, 5.2% (N=12) of the student teachers stated that they had experienced the use of weblogs in learning *insha ya Kiswahili*, 12.1% (N=28) of the student teachers stated that they had experienced the use of internet in learning *insha ya Kiswahili* and 2.2% (N=5) of the student teachers' stated that they had experienced the use of smart phones in learning *insha ya Kiswahili.* However 36.2% (N=84) of the student teachers stated that they had not experienced any form of integration of ICT tools in the process of teaching *insha za* Kiswahili (composition/essay). This implies that power point was mostly used in the process of teaching *insha za Kiswahili;* the findings are similar to those of the tutors'.

Table 4.16 shows that, 11.2% (N=26) of the student teachers stated that they had experienced the use of DVDs, 3.9% (N=9) of the student teachers stated that they had experienced the use of e-books, 21.6% (N=50) of the student teachers stated that they had experienced the use of power point, 3.9% (N=9) of the student teachers stated that they had experienced the use of interactive whiteboards in the learning of *fasihi andishi ya Kiswahili*, 1.7% (N=4) of the student teachers stated that they had experienced the use of hyperlink in the learning of *fasihi andishi ya Kiswahili*, 3.4% (N=8) of the student teachers stated that they had experienced the use of YouTube in the learning of *fasihi andishi ya Kiswahili*, 2.6% (N=6) of the student teachers stated that they had experienced the use of weblogs in the learning of *fasihi andishi ya Kiswahili*, 14.2% (N=33) of the student teachers stated that they had experienced the use of internet in the learning of *fasihi andishi ya Kiswahili*, and 1.7% (N=4) of the student teachers stated that they had experienced the use of smart phones in the learning of *fasihi andishi ya Kiswahili* in the learning of *fasihi andishi ya Kiswahili.* However, 35.8% (N=83), stated that they had not experienced any form of integration of ICT tools in the process of teaching *fasihi andishi ya Kiswahili*. This implies that power point was mostly used in the teaching of *fasihi andishi ya Kiswahili*, this is similar to the findings of the tutors'.

Table 4.16 shows that 7.8% (N=18) of the student teachers stated that they had experienced the use of DVDs, 7.8% (N=18) of the student teachers stated that they had experienced the use of e-books in the process of teaching and learning *fasihi simulizi ya Kiswahili*, 8.6% (N=20) of the student teachers stated that they had experienced the use of power point in the process of teaching and learning *fasihi simulizi ya Kiswahili*, 7.8% (N=18) of the student teachers stated that they had experienced the use of interactive whiteboards in the process of teaching and learning

fasihi simulizi ya Kiswahili, 0.4% (N=1) of the student teachers stated that they had experienced the use of hyperlink in the process of teaching and learning *fasihi simulizi ya Kiswahili*, 16.8% (N=39) of the student teachers stated that they had experienced the use of YouTube in the process of teaching and learning *fasihi simulizi ya Kiswahili*. 1.7% (N=4) of the student teachers stated that they had experienced the use of weblogs in the process of teaching and learning of *fasihi simulizi ya Kiswahili*, 11.2% (N=26) of the student teachers stated that they had experienced the use of internet in the process of teaching and learning *fasihi simulizi ya Kiswahili* 3.0% (N=7) of the student teachers stated that they had experienced the use of smart phones in the process of learning *fasihi simulizi ya Kiswahili*. However 34.9% (N=81) of the student teachers' stated that they had not experienced any form of integration of ICT tools in the process of teaching and learning *fasihi simulizi ya Kiswahili*. This implies that YouTube was mostly used in the process of teaching *fasihi simulizi ya Kiswahili*. The findings are similar to those of the tutors which established that YouTube was mostly in the process of teaching *fasihi simulizi ya Kiswahili.*

Table 4.16 shows that, 11.2% (N=26) of the student teachers stated that they had experienced the use of DVDs in the process of learning *ushairi wa Kiswahili*, 9.9% (N=23) of the student teachers stated that they had experienced the use of e-books in the process of learning *ushairi wa Kiswahili*, 16.4% (N=38) of the student teachers stated that they had experienced the use of power point in the process of learning *ushairi wa Kiswahili*, 1.3% (N=3) of the student teachers stated that they had experienced the use of interactive whiteboards in the process of learning *ushairi wa Kiswahili*, 0.4% (N=1) of the student teachers' stated that they had experienced the use of hyperlink in the process of learning *ushairi wa Kiswahili*, 4.3% (N=10) of the student teachers' stated that they had experienced the use of YouTube in the process

of learning *ushairi wa Kiswahili*, 3.0% (N=7) of the student teachers stated that they had experienced the use of weblogs in the process of learning *ushairi wa Kiswahili*, 15.1% (N=35) of the student teachers stated that they had experienced the use of internet in the process of learning *ushairi wa Kiswahili*, and 4.3% (N=10) of the student teachers stated that they had experienced the use of smart phones in the process of learning *ushairi wa Kiswahili*. However, 34.1% (N=79), stated that they had not experienced any form of integration of ICT tools in the process learning *ushairi wa Kiswahili*. This implies that power point was used mostly in the process of teaching *ushairi wa Kiswahili*, the findings were similar to those of the tutors'.

The findings of table 4.15 and table 4.16, clearly shows that despite having many ICT tools that could be applied in the teaching of Kiswahili. Only a few were integrated, these are internet, power point and YouTube. Additionally majority of the student teachers' pointed out clearly that most of them did not experience any of the mentioned ICT tools in the process of teaching Kiswahili. This implies that application of ICT integration was not a practice among tutors' in public PTCs in the process of teaching Kiswahili.

Table 4.17: Tutors' Responses on Tools Used to Teach Sarufi hasa Matamshi ya Kiswahili na Maneno ya Kiswahili

	Matamshi (Pronounciation)		**Maneno** (Words)	
Tools	**Frequency**	**Percent**	**Frequency**	**Percent**
DVDs	2	5.6	3	8.3
EBooks	0	0.0	3	8.3
PowerPoint	7	19.4	6	16.7
Interactive whiteboard	2	5.6	1	2.8
Hyperlink	0	0.0	1	2.8
YouTube	1	2.8	3	8.3
Weblogs	3	8.3	1	2.8
Internet	8	22.2	8	22.2
Mobile phones	3	8.3	1	2.8
None	10	27.8	9	25.0
Total	**36**	**100.0**	**36**	**100.0**

Table 4.17 indicates the tools used to teach *sarufi, hasa matamshi na maneno ya Kiswahili,* none of the tutors stated using e-books and hyperlink in the process of teaching *matamshi* in *sarufi.* 5.6% (N=2) stated that they used DVDs to teach *matamshi,* 19.4% (N=4) stated that they used power point to teach *matamshi*. 5.6% (N=2) stated that they used interactive whiteboards, 2.8% (N=1) stated that they used YouTube, 8.3% (N=3), stated that they used weblogs, 22.2% (N=8), stated that they used internet, 8.3% (N=3), stated that they used mobile phones while 27.8% (N=10), stated that they did not use any ICT tool in the process of teaching *matamshi katika Kiswahili*. From the table it is a clear information that internet was used more than other tools in the process of teaching *matamshi ya Kiswahili*. The findings concur with the findings of Kiptalam and Rodrigues (2010) in the research on utilization of internet among teachers and students. They established that internet and its integration in teaching and learning was increasing among students and teachers as a means of communication and for information searching.

More so, the table also indicates the tools used by the tutors to teach *maneno ya Kiswahili.* 8.3% (N=3) of the tutors stated that DVDs were used to teach *maneno ya Kiswahili,* 8.3% (N=3) of the tutors stated that e-books were used to teach *maneno ya Kiswahili,* 16.7% (N=6) of the tutors stated that power point presentation was used, 2.8% (N=1) of the tutors stated that interactive white boards were used, 2.8% (N=1) of the tutors stated that they used hyperlink to teach *maneno ya Kiswahili,* 8.3% (N=3) of the tutors stated using YouTube in the teaching of *maneno ya Kiswahili,* 2.8% (N=1) of the tutors stated that blogs were used, 22.2% (N=8) of the tutors stated that internet was used, 2.8% (N=1) of the tutors stated that smart phones were used. However, 25.0% (N=9) of the tutors stated that none of the tools mentioned above were used to teach *maneno ya Kiswahili*. The findings imply that a quarter of the tutors' used internet mostly to teach *aina za maneno katika Kiswahili*. Additionally, it's worth noting that many tutors stated using none of the mentioned tools in the process of teaching *matamshi* and *maneno katika Kiswahili*.

Table 4.18: Tutors' Response on Tools Used to Teach Sarufi hasa Sentensi za Kiswahili na Msamiati

	Sentensi (Sentences)		**Msamiati** (Vocabulary)	
Tools	**Frequency**	**Percent**	**Frequency**	**Percent**
DVDs	3	8.3	2	5.6
Ebooks	1	5.6	3	8.3
PowerPoint	9	25.0	8	22.2
Interactive white board	1	2.8	0	0.0
Hyperlink	1	2.8	0	0.0
YouTube	3	8.3	1	2.8
Weblogs	3	8.3	3	8.3
Internet	8	22.2	7	19.4
Mobile phones	1	2.8	2	5.6
None	6	16.7	10	27.8
Total	**36**	**100.0**	**36**	**100.0**

Table 4.18 indicates that 8.3% (N=3) of the tutors stated that DVDs were used to teach *sentensi za Kiswahili*, 2.8% (N=1) of the tutors stated that e-books were used to teach *sentensi za Kiswahili*, 25.0% (N=9) of the tutors, stated that power point presentation was used to teach *sentensi za Kiswahili*, 2.8% (N=1) of the tutors stated that they used interactive whiteboards, 2.8% (N=1) of the tutors stated that they used hyperlink to teach *sentensi za Kiswahili*, 8.3% (N=3) of the tutors stated that they used YouTube to teach sentensi za Kiswahili, 8.3% (N=3) of the tutors stated that weblogs were used to teach *sentensi za Kiswahili*, 22.2% (N=8) of the tutors stated that internet was used to teach *sentensi za Kiswahili*, 2.8% (N=2) of the tutors stated that mobile phones were used to teach *sentensi za Kiswahili.* However, 16.7% (N=6) stated that none of the tools was used to teach *sentensi za Kiswahili.* The

findings imply that power point was mostly used in the teaching of *sentensi za Kiswahili.*

Table 4.18 shows that, 5.6% (N=2) of the tutors stated that DVDs were used to teach *msamiati*, 8.3% (N=3) of the tutors stated that e-books were used to teach msamiati, 22.2% (N=9) of the tutors stated that power point presentation was used to teach *msamiati*, none of the tutors stated that interactive whiteboards and hyperlink were used to teach *msamiati*. 2.8% (N=1) of the tutors stated that YouTube was used to teach *msamiati*, 8.3% (N=3) of the tutors stated that weblogs were used, 19.4% (N=7), stated that internet was used, 5.6% (N=2) stated that mobile phones were used. However, 27.8% (N=10), of the tutors stated that none of the ICT tools mentioned above were used to teach *msamiati wa Kiswahili.* This implied that power point was used in the process of teaching *msamiati wa Kiswahili.*

In conclusion the findings implied that internet was used by the majority of the tutors to teach *matamshi katika Kiswahili, maneno ya Kiswahili* and *sentensi za Kiswahili,* while power point was mostly used in the teaching of *msamiati wa Kiswahili*. It is important to note that more tutors applied ICT integration in the process of teaching *sentensi za Kiswahili*. This is indicated by the few numbers of tutors who stated that they did not use any of the above mentioned tools. Internet and power point were mostly used by the tutors in the integration process. However, most of the tutors stated that they did not use any of the tools in the teaching of *msamiati wa Kiswahili.*

Table 4.19: Student Teachers' Response on Tools Used to Teach Sarufi ya Kiswahili

	Sarufi							
	Matamshi (Pronounciation)		**Maneno** (Words)		**Sentensi** (Sentence)		**Msamiati** (vocabulary)	
Tools	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
DVDs	17	7.3	21	9.1	8	3.5	13	5.6
Ebooks	13	5.6	13	5.6	16	6.9	21	9.1
Power point	37	15.9	24	10.3	36	15.5	12	5.2
Hyperlink	2	0.9	4	1.7	1	0.4	11	4.7
YouTube	13	5.6	12	5.2	11	4.7	8	3.5
Interactive Whiteboard	11	4.7	21	9.1	20	8.6	23	9.9
Weblogs	3	1.3	7	3.0	6	2.6	4	1.7
Internet	49	21.1	39	16.8	42	18.1	47	20.3
Smart phones	2	0.9	4	1.7	4	1.7	4	1.7
None	85	36.7	87	37.5	88	38.0	89	38.3
Total	**232**	**100.0**	**232**	**100.0**	**232**	**100.0**	**232**	**100.0**

Table 4.19 indicates the tools used to teach *sarufi, hasa matamshi, aina za maneno ya Kiswahili,* aina za sentensi na msamiati. 7.3% (N=17) of the student teachers stated that DVDs were used in the process of teaching *matamshi*, 5.6 % (N=13) of the student teachers stated that e-books were used in the process of teaching *matamshi*, 15.9% (N=37) of the student teachers stated that power point was used in the process of teaching *matamshi*, 0.9% (N=2) of the student teachers stated that hyperlink was used in the process of teaching *matamshi*, 5.6% (N=13) of the student teachers' stated that YouTube was used in the process of teaching *matamshi*, 4.7% (N=11) of the student teachers stated that interactive whiteboard were used in the process of teaching *matamshi*, 1.3% (N=3) of the student teachers stated that weblogs were used

in the process of teaching *matamshi*, 15.9% (N=37) of the student teachers stated that internet was applied in the process of teaching *matamshi*, 21.1%(N=49) of the student teachers stated that smart phones were applied in the process of teaching *matamshi*, However, 36.7% (N=85), stated that none of the tools were used to teach *matamshi*. The findings establish that internet was applied mostly by the tutors in the process of teaching *matamshi ya Kiswahili.* The findings concur with the findings of Kiptalam and Rodrigues (2010) which established that internet and its integration in teaching and learning was increasing among students and teachers as a means of communication and for information searching.

The same table indicates that 9.1% (N=21) of the student teachers stated that DVDs were used in the process of teaching *aina za maneno*, 5.6% (N=13) of the student teachers stated that e-books were used in the process of teaching *aina za maneno*, 10.3% (N=24) of the student teachers stated that power point was used in the process of teaching *aina za maneno*, 1.7% (N=4) of the student teachers stated that hyperlink were used in the process of teaching *aina za maneno*, 5.2% (N=12) of the student teachers stated that YouTube were used in the process of teaching *aina za maneno*, 9.1% (N=21) of the student teachers stated that interactive whiteboards were used in the process of teaching *aina za maneno*, 3.0% (N=7) of the student teachers stated that weblogs were used in the process of teaching *aina za maneno*, 16.8% (N=39) of the student teachers stated that internet were used in the process of teaching *aina za maneno*, and 1.7% (N=4) of the student teachers stated that smart phones were used in the process of teaching *aina za maneno*. However, 37.5% (N=87) stated that none of the tools were used to teach *aina za maneno.*

The findings show that internet was used by many tutors in the process of teaching *aina za maneno ya Kiswahili.*

Table 4.19 reveals that, 3.5% (N=8) of the student teachers stated that DVDs were used in the process of teaching *aina za sentensi.* 6.9% (N=16) of the student teachers stated that e-books were used in the process of teaching *aina za sentensi,* 15.5% (N=36) of the student teachers stated that power point were used in the process of teaching *aina za sentensi,* 0.4% (N=1) of the student teachers stated that hyperlink were used in the process of teaching *aina za sentensi,* 4.7% (N=11) of the student teachers' stated that YouTube were used in the process of teaching *aina za sentensi,* 8.6% (N=20) of the student teachers stated that interactive whiteboard, 2.6% (N=6) of the student teachers stated that weblog were used in the process of teaching *aina za sentensi,* 18.1% (N=42) of the student teachers stated that internet were used in the process of teaching *aina za sentensi* and 1.7% (N=4) of the student teachers stated that smart phones were used in the process of teaching *aina za sentensi*. The findings establish that most of the tutors used internet in the process of teaching *aina za sentensi*. However, 38.0% (N=88), of the student teachers' stated that none of the tools mentioned was used to teach *aina za sentensi.*

Table 4.19 shows that, 5.6% (N=13) of the student teachers stated that DVDs were used in the process of teaching *msamiati wa Kiswahili,* 9.1% (N=21) of the student teachers stated that e-books were used in the process of teaching *msamiati wa Kiswahili,* 5.2% (N=12) of the student teachers stated that power point were used in the process of teaching *msamiati wa Kiswahili,* 4.7% (N=11) of the student teachers stated that hyperlink were used in the process of teaching *msamiati wa Kiswahili,* 3.5% (N=8) of the student teachers' stated that YouTube were used in the process of

teaching *msamiati wa Kiswahili*, 9.9% (N=23) of the student teachers stated that interactive whiteboard was used in the process of teaching *msamiati wa Kiswahili*, 1.7%(N=4) of the student teachers stated that weblogs were used in the process of teaching *msamiati wa Kiswahili*, 20.3% (N=47) of the student teachers stated that internet were used in the process of teaching *msamiati wa Kiswahili*, and 1.7% (N=4) of the student teachers stated that smart phones were used in the process of teaching *msamiati wa Kiswahili*. However, 38.0% (N=88) of the student teachers, stated that none of the tools stated were used to teach *msamiati wa Kiswahili.*

The findings clearly shows that most tutors applied power point in the process of teaching *msamiati wa Kiswahili*, similar findings were established from the tutors that power point was used in the teaching of *msamiati wa Kiswahili*. Additionally, from the table, few tools were applied in the process of teaching *sarufi ya Kiswahili*, these are; internet and power point presentation. It is worth noting that most of the student teachers stated that none of the mentioned tools were used in the process of teaching *sarufi ya Kiswahili*. This implies that application of ICT integration in the teaching of *sarufi ya Kiswahili* was a rare practice in the PTCs classroom.

Table 4.20: Tutors' Response on Tools Used to Teach Insha (essay)

Tools	Barua (letter) F	%	Kumbukumbu (minutes) F	%	Taarifa (Report) F	%	Ratiba (Programme) F	%
DVDs	1	2.8	3	8.3	1	2.8	0	0.0
eBooks	1	2.8	1	2.8	2	5.6	1	2.8
PowerPoint	10	27.8	9	25.0	12	33.3	12	33.3
Hyperlink	0	0.0	0	0.0	0	0.0	0	0.0
YouTube	3	8.3	3	8.3	3	8.3	3	8.3
Interactive White boards	0	0.0	0	0.0	1	2.8	2	5.6
Weblogs	2	5.6	1	2.8	1	2.8	1	2.8
Internet	7	19.4	7	19.4	4	11.1	4	11.1
Smart phones	0	0.00	1	2.8	0	0.0	1	2.8
None	12	33.3	11	30.6	12	33.3	12	33.3
Total	**36**	**100.0**	**36**	**100.0**	**36**	**100.0**	**36**	**100.0**

Table 4.20 indicates ICT tools used by the tutors for teaching *insha za barua, kumbukumbu, taarifa* and *ratiba*. 2.8% (N=1) of the tutors stated that DVDs were used in the process of teaching *insha za barua*, 2.8% (N=1) of the tutors stated that e-books were used in the process of teaching *insha za barua*, 27.8% (N=10) of the tutors stated that power point was used in the process of teaching *insha za barua*, 8.3% (N=3) of the tutors stated that YouTube were used in the process of teaching *insha za barua*, 5.6% (N=2) of the tutors stated that weblogs were used in the process of teaching *insha za barua*, 19.4% (N=7) of the tutors stated that internet was used in the process of teaching *insha za barua*. However, none of the tutors stated using hyperlink, interactive whiteboard and smart phones in the process of teaching *insha za barua*. Moreover, 33.3% (N=12) stated that they did not use any of the above mentioned tools in the process of teaching *insha za barua.* This implies that majority

of the tutors that integrated ICT in the teaching of insha za barua used power point. It is also evident that most of them did not integrate in the teaching of Kiswahili.

Table 4.20 shows the tools used for teaching *insha za kumbukumbu*. None of the tutors indicated using hyperlink and interactive white board in the process of teaching *insha za kumbukumbu*. 8.3% (N=3) of the tutors stated that DVDs were used in the process of teaching *insha za kumbukumbu*, 2.8% (N=1) of the tutors stated that e-books were used in the process of teaching *insha za kumbukumbu,* 25% (N=9) of the tutors stated that power point were used in the process of teaching *insha za kumbukumbu*, 8.3% (N=3) of the tutors stated that YouTube were used in the process of teaching *insha za kumbukumbu*, 2.8% (N=1) of the tutors stated that weblogs were used in the process of teaching *insha za kumbukumbu*, 19.4% (N=7) of the tutors stated that internet were used in the process of teaching *insha za kumbukumbu*, and 2.8% (N=1) of the tutors stated that smart phones were used in the process of teaching *insha za kumbukumbu*. However none of the tutors stated using hyperlink and interactive whiteboard in the process of teaching insha za kumbukumbu. Moreover, 30.6% (N=11) of the tutors stated that they did not use any of the mentioned tools in the process of teaching *insha za kumbukumbu*.

Table 4.20 shows the tools used to teach *insha za taarifa*. None of the tutors stated that they used hyperlink and smart phones in the process of teaching *insha za taarifa*. 2.8% (N=1) of the tutors stated that DVDs were used in the process of teaching *insha za taarifa*, 5.6% (N=2) of the tutors stated that e-books were used in the process of teaching *insha za taarifa*, 33.3% (N=12) of the tutors stated that power point was used in the process of teaching *insha za taarifa*, 8.3% (N=3) of the tutors stated that YouTube were used in the process of teaching *insha za taarifa*, 2.8% (N=1) of the

tutors stated that interactive whiteboard was used in the process of teaching *insha za taarifa*, 2.8% (N=1) of the tutors stated that weblogs were used in the process of teaching *insha za taarifa*, 11.1% (N=4) of the tutors stated that internet was used in the process of teaching *insha za taarifa.* However, 33.3% (N=12) of the tutors stated that they did not use any of the mentioned tools in the process of teaching *insha za taarifa*.

Table 4.20 shows that none of the tutors stated using DVDs and hyperlink in the process of teaching *insha ya ratiba*. 2.8%(N=1) of the tutors stated that e-books were used in the process of teaching *insha ya ratiba*, 33.3%(N=12) of the tutors stated that power point used in the process of teaching *insha ya ratiba*, 8.3%(N=3) of the tutors stated that YouTube was used in the process of teaching *insha ya ratiba,* 5.6% (N=2) of the tutors stated that interactive whiteboard was used in the process of teaching *insha ya ratiba*, 2.8% (N=1) of the tutors stated that weblogs were used in the process of teaching *insha ya ratiba*, 11.1% (N=7) of the tutors stated that internet was used in the process of teaching *insha ya ratiba* and 2.8% (N=1) of the tutors stated that smart phones were used in the process of teaching *insha ya ratiba*. However, 33.3% (N=12) stated that they did not use any of the mentioned tools in the process of teaching *insha ya ratiba*. This is a clear indication that most of the tutors did not integrate in the process of teaching *insha ya ratiba*, for those who did integrate, they used power point to teach *insha ya ratiba.* The findings reveal that few tools were integrated in the teaching of *insha za Kiswahili.* Power point was mostly used; this is illustrated in figure 4.3 below.

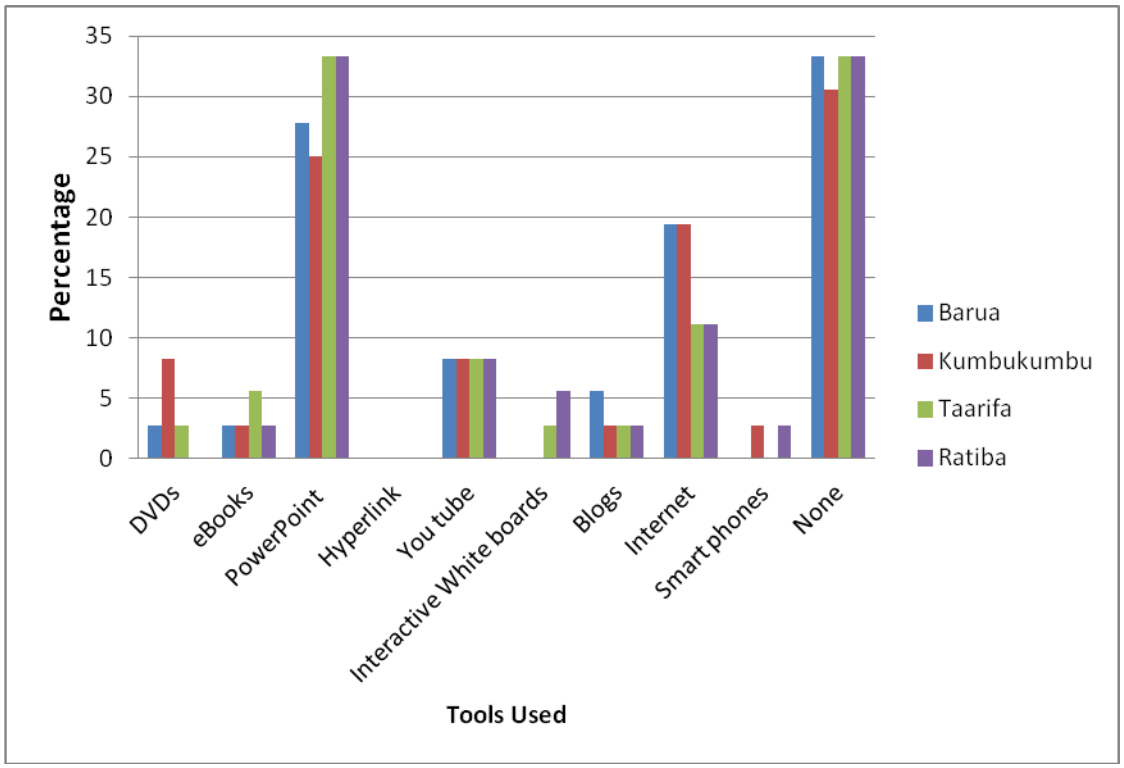

Figure 4.3 Tutors' Responses on Tools Used to Teach Insha

The table 4.21 below shows student teachers' responses on ICT integration tools applied in the teaching of Kiswahili Insha (essay).

Table 4.21: Student Teachers' Responses on Tools Used to Teach Insha (essay)

	Barua (letter)		**Kumbukumbu** (Minutes)		**Taarifa** (Report)		**Ratiba** (Programme)	
Tools	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
DVDs	22	9.5	21	9.1	18	7.8	21	10.1
eBooks	16	6.9	18	7.8	20	8.6	17	7.3
Power point	41	17.7	37	15.0	35	15.1	43	17.5
Hyperlink	3	1.3	7	3.0	1	0.4	5	2.2
YouTube	4	1.7	8	3.4	18	7.8	16	6.9
Interactive whiteboard	11	4.7	12	5.2	14	6.0	11	4.7
weblogs	13	5.6	7	3.0	6	2.6	7	3.0
Internet	36	15.5	34	14.6	30	12.9	23	9.9
Smart phones	0	0.0	2	0.9	0	0.0	1	0.4
None	86	37.1	86	37.1	90	38.8	88	38.0
Total	**232**	**100.0**	**232**	**100.0**	**232**	**100.0**	**232**	**100.0**

Table 4.21 shows student teachers' responses on tools used to teach insha (composition). None of the student teachers stated that smart phones were used to teach *insha za barua*. 9.5% (N=31) of the student teachers stated that DVDs were used in the teaching of *insha za barua*, 6.9% (N=16) of the student teachers stated that e-books were used in the teaching of *insha za barua*, 17.7% (N=41) of the student teachers stated that power point was used in the teaching of *insha za barua*, 1.3% (N=3) of the student teachers stated that hyperlink was used in the teaching of *insha za barua*, 1.7% (N=4) of the student teachers stated that YouTube was used in the teaching of *insha za barua*, 4.7% (N=11) of the student teachers stated that interactive whiteboard were used in the teaching of *insha za barua*, 5.6% (N=13) of the student

teachers stated that weblogs were used in the teaching of *insha za barua* and 15.5% (N=36) of the student teachers stated that internet was used in the teaching of *insha za barua*. However, 37.1% (N=86) stated that none of the mentioned ICT tools were used to teach *insha ya barua*. This implies that tutors' used power point most of the time to teach *insha ya barua,* the findings are similar to those of the tutors'.

Table 4.21 shows that 9.1%(N=21) of the student teachers stated that DVDs were used in the teaching of *insha ya kumbukumbu,* 7.8%(N=18) of the student teachers stated that e-books were used in the teaching of *insha ya kumbukumbu,* 15.0% (N=37) of the student teachers stated that powerpoint was used in the teaching of *insha ya kumbukumbu,* 3.0% (N=7) of the student teachers stated that hyperlink was used in the teaching of *insha ya kumbukumbu,* 3.4% (N=8) of the student teachers stated that YouTube was used in the teaching of *insha ya kumbukumbu,* 5.2% (N=12) of the student teachers stated that interactive whiteboard was used in the teaching of *insha ya kumbukumbu,* 3.0% (N=7) of the student teachers stated that weblogs were used in the teaching of *insha ya kumbukumbu,* 14.6% (N=34) of the student teachers stated that internet was used in the teaching of *insha ya kumbukumbu* and 0.9% (N=2) of the student teachers stated that smart phone were used in the teaching of *insha ya kumbukumbu*. However 38.0% (N=88) stated that none of the mentioned ICT tools were used to teach *insha ya kumbu kumbu*. This implies that power point was integrated mostly in the teaching of insha *ya kumbukumbu,* similar findings were established from the tutors'.

None of the student teachers stated using smart phones in the teaching and learning of *insha ya taarifa,* 7.8% (N=18) of the student teachers stated that DVDs were used in the teaching of *insha ya taarifa,* 8.6% (N=20) of the student teachers stated that e-

books were used in the teaching of *insha ya taarifa,* 15.1% (N=35) of the student teachers stated that power point were used in the teaching of *insha ya taarifa,* 0.4% (N=1) of the student teachers stated that hyperlink was used in the teaching of *insha ya taarifa,* 7.8%(N=18) of the student teachers stated that YouTube was used in the teaching of *insha ya taarifa,* 6.0% (N=14) of the student teachers stated that interactive whiteboard was used in the teaching of *insha ya taarifa,* 2.6%(N=6) of the student teachers stated that weblogs were used in the teaching of *insha ya taarifa,,* 12.9% (N=30) of the student teachers stated that internet was used in the teaching of *insha ya taarifa*. However, 38.8% (N=90), stated that none of the mentioned ICT tools were used to teach *insha ya taarifa.* The findings clearly indicate that power point was mostly used in the process of teaching Kiswahili by the tutors.

Table 4.21 shows that, 10.1% (N=21) of the student teachers stated that DVDs were used in the teaching of *ratiba,* 7.3% (N=17) of the student teachers stated that e-books were used in the teaching of *ratiba,* 17.5% (N=43) of the student teachers stated that power point was used in the teaching of *ratiba,* 2.2%(N=5) of the student teachers stated that hyperlink was used in the teaching of *ratiba,* 6.9% (N=16) of the student teachers stated that YouTube was used in the teaching of *ratiba,* 4.7% (N=11) of the student teachers stated that interactive whiteboard was used in the teaching of *ratiba,* 3.0% (N=7) of the student teachers stated that weblogs were used in the teaching of *ratiba,* 9.9% (N=23) of the student teachers stated that internet was used in the teaching of *ratiba,* 0.4% (N=1) of the student teachers stated that smart phones were used in the teaching of *ratiba*. However, 38.0% (N=88), stated that none of the mentioned ICT tools were used to teach *insha ya ratiba*. This implies that power point was mostly used in the process of teaching *insha ya ratiba,* the findings were similar to those of the tutors.

Table 4.22: Tutors' Responses on Tools Used to Teach Wahusika wa Riwaya na Tamthilia (Characters in novel and play)

	Riwaya (Novel)		Tamthilia (Play)	
Tools	**Frequency**	**Percent**	**Frequency**	**Percent**
DVDs	4	11.1	3	8.3
E-books	3	8.3	1	2.8
Power point	7	19.4	6	16.7
Hyperlink	0	0.0	1	2.8
YouTube	3	8.3	3	8.3
Interactive white board	0	0.0	0	0.0
Weblogs	2	5.6	1	2.8
Internet	6	16.7	7	19.4
Smart phones	0	0.00	2	5.6
None	11	30.6	12	33.3
Total	**36**	**100.0**	**36**	**100.0**

Table 4.22 shows the tools used by tutors to teach wahusika wa riwaya na tamthilia. None of the tutors' stated using hyperlink, interactive whiteboard and smart phones in the process of teaching *wahusika wa riwaya*. 11.1% (N=4) of the tutors stated that they used DVDs to each *wahusika wa riwaya*, 8.3% (N=3) of the tutors stated that they used e-books to each *wahusika wa riwaya*, 19.4 % (N=7) of the tutors stated that they used power point to each *wahusika wa riwaya*, 8.3% (N=3) of the tutors stated that they used YouTube to each *wahusika wa riwaya*, 5.6% (N=2) of the tutors stated that they used weblogs to each *wahusika wa riwaya* and 16.7 % (N=6) of the tutors stated that they used internet to each *wahusika wa riwaya*. However, 30.6% (N=11) stated that they did not use any of the mentioned tools in the process of teaching *wahusika wa riwaya.* This implies that power point was mostly applied in the process of teaching *wahusika wa riwaya.*

Additionally, table 4.22 shows that none of the tutors mentioned using interactive whiteboard in the process of teaching *wahusika wa tamthilia*. 8.3% (N=3) of the tutors stated that they used DVDs in the process of teaching *wahusika wa tamthilia,*

2.8% (N=1) of the tutors stated that they used e-books in the process of teaching *wahusika wa tamthilia*, 16.7 % (N=6) of the tutors stated that they used power point in the process of teaching *wahusika wa tamthilia*, 2.8% (N=1) of the tutors stated that they used hyperlink in the process of teaching *wahusika wa tamthilia*, 8.3% (N=3) of the tutors stated that they used YouTube in the process of teaching *wahusika wa tamthilia*, 2.8 % (N=1) of the tutors stated that they used weblogs in the process of teaching *wahusika wa tamthilia*, 19.4% (N=7) of the tutors stated that they used internet in the process of teaching *wahusika wa tamthilia* and 5.6% (N=2) of the tutors stated that they used smart phone in the process of teaching *wahusika wa tamthilia*. However, 33.3% (N=12) stated that they did not use any of the mentioned tools in the process of teaching *wahusika wa tamthilia*. This implies that internet was applied in the process of teaching *wahusika wa tamthilia*.

Additionally, it is worth noting that many tutors did not apply ICT integration in the process of teaching *wahusika wa tamthilia* and *wahusika wa riwaya* since the percentage of those who stated using none of the above mentioned tools were more as compared to those who mentioned applying any of the tools.

Table 4.23: Tutors' Responses on Tools Used to Teach Fasihi Andishi Mbinu za Lugha za Riwaya na Tamthilia

	Riwaya (Novel)		Tamthilia (Play)	
Tools	**Frequency**	**Percent**	**Frequency**	**Percent**
DVDs	2	5.6	3	8.3
Ebooks	2	5.6	1	2.8
Power point	8	22.2	10	27.8
Hyperlink	1	2.8	0	0.0
YouTube	3	8.3	3	8.3
Interactive whiteboard	0	0.0	1	2.8
Weblogs	3	8.3	2	5.6
Internet	5	13.9	3	8.3
Mobile phones	0	0.00	1	2.8
None	12	33.3	12	33.3
Total	**36**	**100.0**	**36**	**100.0**

Table 4.23 shows tools used by the tutors in the process of teaching *fasihi andishi hasa mbinu za lugha katika riwaya na tamthilia* (stylistic devices in novel and play). None of the tutors stated using interactive whiteboards and smart phones in the process of teaching *mbinu za lugha za riwaya*. 5.6% (N=2) of the tutors stated using DVDs in the process of teaching *mbinu za lugha za riwaya*, 5.6% (N=2) of the tutors stated using e-books in the process of teaching *mbinu za lugha za riwaya*, 22.2% (N=8) of the tutors stated using power point in the process of teaching *mbinu za lugha za riwaya*, 2.8% (N=1) of the tutors stated using hyperlink in the process of teaching *mbinu za lugha za riwaya*, 8.3% (N=3) of the tutors stated using YouTube in the process of teaching *mbinu za lugha za riwaya*, 8.3% (N=3) of the tutors stated using weblogs in the process of teaching *mbinu za lugha za riwaya* and 13.9% (N=5)

of the tutors stated using internet in the process of teaching of *mbinu za lugha za riwaya.* However, 33.3% (N=12) stated that they did not use any of the mentioned tools in the teaching of *mbinu za lugha za riwaya*. This implies that power point was used to teach *mbinu za lugha za riwaya.*

The same table shows tools used by the tutors' in the process of teaching *fasihi andishi, mbinu za lugha za tamthilia*. None of the tutors stated using hyperlink in the process of teaching *mbinu za lugha za tamthilia*. 8.3% (N=3) of the tutors stated using DVDs in the process of teaching *mbinu za lugha za tamthilia,* 2.8% (N=1) of the tutors stated using e-books in the process of teaching *mbinu za lugha za tamthilia* , 27.8% (N=10) of the tutors stated using power point in the process of teaching *mbinu za lugha za tamthilia* , 8.3% (N=3) of the tutors stated using YouTube in the process of teaching *mbinu za lugha za tamthilia,* 2.8% (N=1) of the tutors stated using interactive whiteboard in the process of teaching *mbinu za lugha za tamthilia* , 5.6% (N=2) of the tutors stated using weblogs in the process of teaching *mbinu za lugha za tamthilia*, 8.3% (N=3) of the tutors stated using internet in the process of teaching *mbinu za lugha za tamthilia* and 2.8% (N=1) of the tutors stated using smart phones in the process of teaching *mbinu za lugha za tamthilia*. However, 33.3% (N=12) stated that they did not use any of the mentioned tools in the teaching of *mbinu za lugha za tamthilia*. This implies that power point was used to teach *mbinu za lugha za tamthilia*.

Table 4.24: Tutors' Responses on Tools Used to Teach Maudhui ya Fasihi Andishi katika Riwaya na Tamthilia

	Riwaya (Novel)		Tamthilia (Play)	
Tools	**Frequency**	**Percent**	**Frequency**	**Percent**
DVDs	3	8.3	3	8.3
EBooks	1	2.8	1	2.8
Power point	7	19.4	8	22.2
Hyperlink	0	0.0	0	0.0
YouTube	3	8.3	3	8.3
Interactive white board	2	5.6	1	2.8
Blogs	2	5.6	2	5.6
Internet	5	13.9	4	11.1
smart phones	0	0.0	2	5.6
None	13	36.1	12	33.3
Total	**36**	**100.0**	**36**	**100.0**

Table 4.24 shows tools used by the tutors in the process of teaching *maudhui ya fasihi andishi katika riwaya na tamthilia* (themes in novel and play). None of the tutors stated using hyperlink and smart phones in the process of teaching *maudhui ya riwaya*. 8.3% (N=3) of the tutors stated using DVDs in the process of teaching *maudhui ya riwaya* , 2.8% (N=1) of the tutors stated using e-books in the process of teaching *maudhui ya riwaya*, 19.4% (N=7) of the tutors stated using power point in the process of teaching *maudhui ya riwaya*, 8.3% (N=3) of the tutors stated using YouTube in the process of teaching *maudhui ya riwaya* , 5.6% (N=2) of the tutors stated using interactive whiteboard in the process of teaching *maudhui ya riwaya*, 5.6% (N=2) of the tutors stated using weblogs in the process of teaching *maudhui ya riwaya* and 13.9% (N=5) stated that they used internet in the process of teaching *maudhui ya riwaya*, in the process of teaching *maudhui ya riwaya*. However, 36.1%

(N=13) stated that they did not use any of the mentioned tools in the teaching of *maudhui ya riwaya*. This implies that power point was used to teach *maudhui ya riwaya*.

Table 4.24 shows tools used by the tutors in the process of teaching *maudhui ya tamthilia*. None of the tutors stated using hyperlink in the process of teaching *maudhui ya tamthilia*. 8.3%(N=3) of the tutors stated using DVDs in the process of teaching *maudhui ya tamthilia*, 2.8% (N=1) of the tutors stated using e-books in the process of teaching *maudhui ya tamthilia* , 22.2% (N=8) of the tutors stated using power point in the process of teaching *maudhui ya tamthilia* , 8.3% (N=3) of the tutors stated using YouTube in the process of teaching *maudhui ya tamthilia*, 2.8% (N=1) of the tutors stated using interactive whiteboard in the process of teaching *maudhui ya tamthilia*, 5.6% (N=2) of the tutors stated using weblogs in the process of teaching *maudhui ya tamthilia*, 11.1% (N=4) of the tutors stated using internet in the process of teaching *maudhui ya tamthilia* and 5.6% (N=2) of the tutors stated that they used smart phones in the process of teaching *maudhui ya tamthilia*. However, 33.3% (N=12) stated that they did not use any of the mentioned tools in the teaching of *maudhui ya tamthilia*. This implies that power point was applied in the process of teaching *maudhui ya tamthilia.*

Table 4.25: Student Teachers' Responses on Tools Used to Teach Fasihi Andishi

Tools	Wahusika wa Riwaya		Wahusika wa Tamthilia		Lugha katika Riwaya		Lugha katika Tamthilia		Maudhui ya Riwaya		Maudhui ya Tamthilia	
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
DVDs	23	9.9	20	8.6	22	10.0	20	8.6	13	5.6	17	7.3
EBooks	20	8.6	18	7.8	14	6.0	23	9.9	16	6.9	17	7.3
Power point	36	15.3	33	14.2	42	18.1	30	12.9	33	14.2	38	16.4
Hyperlink	6	2.6	0	0.0	0	0.0	2	0.9	4	1.7	0	0.0
YouTube	8	3.5	10	4.3	12	5.2	9	3.9	18	7.8	6	2.6
Interactive Whiteboard	9	3.9	15	6.5	16	6.9	21	9.1	20	8.6	13	5.6
Blogs	9	3.9	1	0.4	4	1.7	7	3.0	9	3.9	9	3.9
Internet	30	12.9	43	18.5	27	11.6	25	10.8	28	12.1	32	13.8
Smart phones	1	0.4	2	0.9	3	1.3	1	0.4	0	0.0	4	1.7
None	90	38.8	90	38.8	92	39.7	94	40.5	91	39.2	96	41.4
Totals	**232**	**100**	**232**	**100**	**232**	**100**	**232**	**100**	**232**	**100**	**232**	**100**

Table 4.25 shows student teachers response on tools used to teach *fasihi andishi* (English literature); *wahusika katika riwaya* (character in the novel), *wahusika katika tamthilia* (characters in the play), *lugha katika riwaya* (stylistic devices in novel), *lugha katika tamthilia* (stylistic devices in play), *maudhui katika riwaya* (themes in novel) and *maudhui katika tamthilia* (themes in a play).

Table 4.25 shows that 9.9% (N=23) of the student teachers stated that DVDs were used were used in the process of teaching *wahusika wa riwaya* , 8.6% (N=20) of the student teachers stated that e-books were used in the process of teaching *wahusika wa riwaya*, 15.5% (N=36) of the student teachers stated that power point was used in the process of teaching *wahusika wa riwaya*, 2.6% (N=6) of the student teachers stated that hyperlink were used in the process of teaching *wahusika wa riwaya*, 3.5% (N=8) of the student teachers stated that YouTube were used in the process of teaching *wahusika wa riwaya*, 3.9% (N=9) of the student teachers stated that interactive whiteboard was used in the process of teaching *wahusika wa riwaya*, 3.9% (N=9) of

the student teachers stated that weblogs were used in the process of teaching *wahusika wa riwaya,* 12.9% (N=30) of the student teachers stated that internet was used in the process of teaching *wahusika wa riwaya*, 0.4% (N=1) of the student teachers stated that smart phones were used in the process of teaching *wahusika wa riwaya* (characters in the novel). However, 38.8% (N=90) stated that none of the mentioned tools were used in the process of teaching *wahusika wa riwaya*. This implies that power point was mostly applied in the teaching of *wahusika wa riwaya* this was similar to the findings of the tutors.

More so, 8.6% (N=20) of the student teachers stated that DVDs were used in the process of teaching *wahusika wa tamthilia,* 7.8% (N=18) of the student teachers stated that e-books were used in the process of teaching *wahusika wa tamthilia*, 14.2% (N=33) of the student teachers stated that power point was used were used in the process of teaching *wahusika wa tamthilia*, 4.3% (N=10) of the student teachers stated that YouTube was used in the process of teaching *wahusika wa tamthilia*, 6.5% (N=15) of the student teachers stated that interactive whiteboard was used in the process of teaching *wahusika wa tamthilia*, 0.4% (N=1) of the student teachers stated that weblogs were used in the process of teaching *wahusika wa tamthilia*, 18.5% (N=42) of the student teachers stated that internet was used in the process of teaching *wahusika wa tamthilia* , 0.9% (N=2) of the student teachers stated that smart phones were used in the process of teaching *wahusika wa tamthilia*. However, 38.8% (N=90) stated that none of the mentioned tools were used in the process of teaching *wahusika wa tamthilia*. This implies that internet was applied in the process of teaching *wahusika wa tamthilia,* such findings were similar to those of the tutors'.

Table 4.25, none of the student teachers stated that hyperlink was used in the process of teaching *lugha ya riwaya*. However, 9.5% (N=22) of the student teachers stated that DVDs were used in the process of teaching *lugha ya riwaya*, 6.0% (N=14) of the student teachers stated that e-books were used in the process of teaching *lugha ya riwaya*, 18.1% (N=42) of the student teachers stated that power point was used in the process of teaching *lugha ya riwaya* , 5.2% (N=12) of the student teachers stated that YouTube was used in the process of teaching *lugha ya riwaya*, 6.9%(N=16) of the student teachers stated that interactive whiteboard was used in the process of teaching *lugha ya riwaya*, 1.7% (N=4) of the student teachers stated that weblogs were used in the process of teaching *lugha ya riwaya*, 11.6% (N=27) of the student teachers stated that internet was used in the process of teaching *lugha ya riwaya*, 1.3% (N=3) of the student teachers' stated that smart phones were used in the process of teaching *lugha ya riwaya*. Moreover, 39.7% (N=92), stated that none of the mentioned tools were used in the process of teaching *lugha ya riwaya*. This implies that power point was applied in the process of teaching *lugha ya riwaya*, these findings were similar to those of the tutors.

Table 4.25 shows that 8.6% (N=20) of the student teachers stated that DVDs were used in the process of teaching *lugha ya tamthilia*, 9.9% (N=23) of the student teachers stated that e-books were used in the process of teaching *lugha ya tamthilia*, 12.9% (N=30) of the student teachers stated that power point was used in the process of teaching *lugha ya tamthilia*, 0.9% (N=2) of the student teachers stated that hyperlink was used in the process of teaching *lugha ya tamthilia*, 3.9% (N=9) of the student teachers stated that YouTube was used in the process of teaching *lugha ya tamthilia*, 9.1% (N=21) of the student teachers stated that interactive whiteboard was used in the process of teaching *lugha ya tamthilia*, 3.0% (N=7) of the student

teachers stated that weblogs were used in the process of teaching *lugha ya tamthilia*, 10.8% (N=25) of the student teachers stated that internet was used in the process of teaching *lugha ya tamthilia*, 0.4% (N=1) of the student teachers stated that smart phones were used in the process of teaching *lugha ya tamthilia*. However, 40.5% (N=94) stated that none of the mentioned tools were used in the process of teaching *lugha ya tamthilia.* This implies that power point was applied in the process of teaching *lugha ya tamthilia*, these findings were similar to those of the tutors'.

Table 4.25, none of the student teachers stated that smart phones were used in the process of teaching *maudhui ya riwaya*. 5.6% (N=20) of the student teachers stated that DVDS were used in the process of teaching *maudhui ya riwaya*, 6.9% (N=16) of the student teachers stated that e-books were used in the process of teaching *maudhui ya riwaya*, 14.2% (N=33) of the student teachers stated that power point was used in the process of teaching *maudhui ya riwaya*, 1.7% (N=4) of the student teachers stated that hyperlink was used in the process of teaching *maudhui ya riwaya*, 7.8% (N=18) of the student teachers stated that YouTube was used in the process of teaching *maudhui ya riwaya*, 8.6% (N=20) of the student teachers stated that interactive whiteboard was used in the process of teaching *maudhui ya riwaya*, 3.9% (N=9) of the student teachers stated that weblogs were used in the process of teaching *maudhui ya riwaya* and 12.1% (N=28) of the student teachers stated internet was used in the process of teaching *maudhui ya riwaya*. However, 39.2% (N=91) stated that none of the mentioned tools were used in the process of teaching *maudhui ya riwaya*. This implies that power point was used in the process of teaching *maudhui ya riwaya*. The findings are similar to the findings of the tutors'.

Table 4.25 also indicates that none of the student teachers stated that hyperlink was used in the process of teaching *maudhui ya tamthilia*. 7.3% (N=17) of the student teachers stated that DVDs were used , 7.3% (N=17) of the student teachers stated that e-books were used in the process of teaching *maudhui ya tamthilia*, 16.4% (N=38) of the student teachers stated that power point was used in the process of teaching *maudhui ya tamthilia*, 2.6% (N=6) of the student teachers stated that YouTube was used in the process of teaching *maudhui ya tamthilia*, 5.6% (N=13) of the student teachers stated that interactive whiteboard was used in the process of teaching *maudhui ya tamthilia*, 3.9% (N=9) of the student teachers stated that weblogs were used, 13.8% (N=32) of the student teachers stated that internet was used in the process of teaching *maudhui ya tamthilia*, 1.7% (N=4) of the student teachers stated that smart phones were used in the process of teaching *maudhui ya tamthilia*. However, 41.4% (N=96) stated that none of the mentioned tools were used in the process of teaching *maudhui ya tamthilia*. This implies that power point was used in the process of teaching *maudhui ya tamthilia*. The findings are similar to those of the tutors.

Table 4.26: Tutors' Responses on Tools Used to Teach Fasihi Simulizi (Ushairi Simulizi na Hadithi

Tools	Ushairi Simulizi (Oral Poetry)		Hadithi (Oral Stories)	
	Frequency	**Percent**	**Frequency**	**Percent**
DVDs	3	8.3	3	8.3
Ebooks	1	2.8	0	0.0
Power point	0	0.0	1	2.8
Hyperlink	0	0.0	0	0.0
YouTube	10	27.8	9	25
Interactive whiteboard	0	0.0	0	0.0
Weblogs	1	2.8	1	2.8
Internet	7	19.4	6	16.7
Smart phones	1	2.8	3	8.3
None	13	36.1	13	36.1
Total	**36**	**100.0**	**36**	**100.0**

Table 4.26 shows tools used by the tutors in the process of teaching *fasihi simulizi; ushairi simulizi na hadithi*. None of the tutors stated using power point, hyperlink and interactive in the process of teaching *ushairi simulizi*. 8.3% (N=3) of the tutors stated using DVDs in the process of teaching *ushairi simulizi*, 2.8% (N=1) of the tutors stated using e-books in the process of teaching *ushairi simulizi*, 27.8% (N=10) of the tutors stated using YouTube in the process of teaching *ushairi simulizi*, 2.8% (N=1) of the tutors stated using weblogs in the process of teaching *ushairi simulizi*, 19.4% (N=7) of the tutors stated using internet in the process of teaching *ushairi simulizi* and 2.8% (N=1) of the tutors stated using smart phones in the process of teaching *ushairi simulizi*. However 36.1% (N=13), stated that they did not use any of the mentioned tools in the teaching of *ushairi simulizi*. The findings imply that YouTube was mostly used in the process of teaching *ushairi simulizi*.

Table 4.26 shows, tools used by the tutors in the process of teaching *hadithi*. None of the tutors stated using e-books, hyperlink and interactive white board in the process of teaching *hadithi*. 8.3% (N=3) of the tutors stated using DVDs in the process of teaching *hadithi*, 2.8% (N=1) the tutors stated using powerpoint in the process of teaching *hadithi*, 25% (N=9) the tutors stated using YouTube in the process of teaching hadithi, 2.8% (N=1) the tutors stated using weblogs in the process of teaching *hadithi*, 16.7% (N=6) the tutors stated using internet in the process of teaching *hadithi*, and 8.3% (N=3) the tutors stated using smart phone in the process of teaching *hadithi*. While 36.1 (N=13) stated that they did not use any of the above mentioned tools in the process of teaching *hadithi*. This implies that YouTube was mostly used in the process of teaching *hadithi*.

Table 4.27: Tutors' Responses on Tools Used to Teach Fasihi Simulizi (Maigizo na Semi)

Tools	**Maigizo** (plays in oral literature)		**Semi** (Sayings and Proverbs)	
	Frequency	**Percent**	**Frequency**	**Percent**
DVDs	3	8.3	3	8.3
eBooks	0	0.0	1	2.8
Power point	3	8.3	0	0.0
Hyperlink	1	2.8	1	2.8
YouTube	8	22.2	10	27.8
Interactive whiteboard	2	5.6	0	0.0
Weblogs	1	2.8	1	2.8
Internet	4	11.1	7	19.4
Mobile phones	1	2.8	1	2.8
None	13	36.1	12	33.3
Total	**36**	**100.0**	**36**	**100.0**

Table 4.27 shows tools used by the tutors in the process of teaching *fasihi simulizi, tanzu za maigizo na semi*. None of the tutors stated using e-books in the process of teaching *maigizo*. 8.3%(N=3) of the tutors stated using DVDs in the process of

teaching *maigizo katika fasihi simulizi*, 8.3% (N=3) of the tutors stated using power point in the process of teaching *maigizo katika fasihi simulizi* , 2.8% (N=1) of the tutors stated using hyperlink in the process of teaching *maigizo katika fasihi simulizi*, 22.2% (N=8) of the tutors stated using YouTube in the process of teaching *maigizo katika fasihi simulizi*, 5.6% (N=2) of the tutors stated using interactive whiteboard in the process of teaching *maigizo katika fasihi simulizi*, 2.8 % (N=1) of the tutors stated using weblogs in the process of teaching *maigizo katika fasihi simulizi*, 11.1%(N=4) of the tutors stated using internet in the process of teaching *maigizo katika fasihi simulizi*, and 2.8%(N=1) of the tutors stated using smart phones in the process of teaching *maigizo katika fasihi simulizi*. However 36.1% (N=13) stated that, they did not use any of the mentioned tools in the teaching *maigizo katika fasihi simulizi*. This implies that YouTube was mostly used in the process of ICT integration in the teaching of *maigizo*.

The same table shows tools used by the tutors' in the process of teaching semi za Kiswahili. None of the tutors' stated using power point and interactive whiteboard in the process of teaching *semi*. 8.3% (N=3) of the tutors stated using DVDs in the process of teaching *semi*, 2.8% (N=1) of the tutors stated using e-books in the process of teaching *semi*, 2.8% (N=1) of the tutors stated using hyperlink in the process of teaching *semi*, 27.8% (N=10) of the tutors stated using YouTube in the process of teaching *semi*, 2.8% (N=1) of the tutors stated using weblogs in the process of teaching *semi*, 19.4% (N=7) of the tutors stated using internet in the process of teaching *semi*, and 2.8% (N=1) of the tutors stated using smart phones in the process of teaching *semi*. However, 33.3% (N=12), stated that they did not use any of the mentioned tools in the process of teaching *semi za Kiswahili*. This implies that

YouTube was mostly applied in the process of ICT integration in the teaching of *semi za Kiswahili*.

Table 4.28: Student Teachers' Response on Tools Used to Teach Fasihi Simulizi

	Fasihi simulizi							
	Ushairi Simulizi		Hadithi		Semi		Maigizo	
Tools	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
DVDs	14	6.0	22	9.5	21	9.1	17	7.3
Ebooks	6	2.6	13	5.6	13	5.6	8	3.4
Power point	19	8.2	16	6.9	16	6.9	21	9.1
Hyperlink	6	2.6	7	3.0	6	2.6	7	3.0
YouTube	34	14.7	27	11.6	28	12.1	39	16.8
Interactive Whiteboard	11	4.7	7	3.0	11	4.7	9	3.9
Weblogs	4	1.7	10	4.3	4	1.7	3	1.3
Internet	28	12.1	20	8.6	27	11.6	26	11.2
Smart phones	17	7.3	15	6.5	6	2.6	6	2.6
None	93	40.1	95	41.0	100	43.1	96	41.4
Totals	**232**	**100.0**	**232**	**100.0**	**232**	**100.0**	**232**	**100.0**

Table 4.28 shows the tools used in the teaching of *fasihi simulizi ya Kiswahili*, in this study four topics have been considered namely; *ushairi simulizi* (oral poetry), *hadithi* (Oral stories), *semi* (sayings and proverbs) and *maigizo* (Plays in oral literature). 6.0%(N=14) of the student teachers stated that DVDs were used in the process of teaching *ushairi simulizi*, 2.6%(N=6) of the student teachers stated that e-books were used in the process of teaching *ushairi simulizi*, 8.2%(N=19) of the student teachers stated that power point was used in the process of teaching *ushairi simulizi*, 2.6%(N=6) of the student teachers stated that hyperlink was used in the process of teaching *ushairi simulizi*, 14.7%(N=34) of the student teachers stated that YouTube was used in the process of teaching *ushairi simulizi*, 4.7%(N=11) of the student teachers stated that interactive whiteboard was used in the process of teaching *ushairi simulizi*, 1.7%(N=4) of the student teachers stated that weblogs were used in the

process of teaching *ushairi simulizi*, 12.1%(N=28) of the student teachers stated that internet was used in the process of teaching *ushairi simulizi*, 7.3%(N=17) of the student teachers stated that smart phones were used in the process of teaching *ushairi simulizi*. However 40.1% (N=93) stated that none of the mentioned tools were used in the process of teaching *ushairi simulizi*. This implies that YouTube was used mostly in the process of teaching *ushairi simulizi*, the findings were similar to those of the tutors'.

Table 4.28 shows that 9.5% (N=22) of the student teachers stated that DVDs were used in the process of teaching *hadithi*, 5.6% (N=13) of the student teachers stated that e-books were used in the process of teaching *hadithi*, 6.9% (N=16) of the student teachers stated that power point was used in the process of teaching *hadithi*, 3.0% (N=7) of the student teachers stated that hyperlink was used in the process of teaching *hadithi*, 11.6% (N=27) of the student teachers stated that YouTube was used in the process of teaching *hadithi*, 3.0% (N=7) of the student teachers stated that interactive whiteboard was used in the process of teaching *hadithi*, 4.3% (N=10) of the student teachers stated that weblogs were used in the process of teaching *hadithi*, 8.6% (N=20) of the student teachers stated that internet was used in the process of teaching *hadithi*, 6.5% (N=15) of the student teachers stated that smart phones were used in the process of teaching *hadithi*. However 41.0% (N=95) stated that none of the mentioned tools were used in the process of teaching *hadithi*. The findings imply that YouTube was mostly used in the process of teaching *hadithi*; this is similar to the findings of the tutors'.

The researcher observed application of YouTube in the process of teaching hadithi, the tutor asked the student teachers to be in groups of three and use their smart phones

to get to YouTube and type *hadithi tamu za watoto* (interesting oral stories for children). Then the tutor asked them to listen and watch the story by Wambugu Kamau who narrated about nguruwe watatu wachanga (three young pigs). From the story the tutor was able to discuss with the student teachers the qualities of a good oral narrative, the skills that are acquired during an oral narrative lesson and steps in teaching an oral narrative lesson and the mode of assessment of an oral narrative lesson.

Table 4.28 shows that 9.1% (N=21) of the student teachers stated that DVDs were used in the process of teaching *semi,* 5.6% (N=13) of the student teachers stated that e-books were used in the process of teaching *semi,* 6.9% (N=16) of the student teachers stated that power point was used in the process of teaching *semi,* 2.6% (N=6) of the student teachers stated that hyperlink was used in the process of teaching *semi,* 12.1% (N=28) of the student teachers stated that YouTube was used in the process of teaching *semi,* 4.7% (N=11) of the student teachers stated that interactive whiteboard was used in the process of teaching *semi,* 1.7% (N=4.7) of the student teachers stated that weblogs were used in the process of teaching *semi* 11.6% (N=27) of the student teachers stated that internet was used in the process of teaching *semi,* 2.6% (N=6) of the student teachers stated that smart phones were used in the process of teaching *semi*. However 43.1% (N=100) stated that none of the mentioned tools were used in the process of teaching *semi za Kiswahili*. This implies that YouTube was mostly used by the tutors in the process of teaching *semi za Kiswahili,* the findings were similar to those of the tutors'.

Table 4.28 that, 7.3% (N=17) of the student teachers stated that DVDs were used in the process of teaching *maigizo,* 3.4% (N=8) of the student teachers stated that e-

books were used in the process of teaching *maigizo*, 9.1% (N=21) of the student teachers stated that powerpoint was used in the process of teaching *maigizo*, 3.0% (N=7) of the student teachers stated that hyperlink was used in the process of teaching *maigizo*, 16.8% (N=39) of the student teachers stated that YouTube was used in the process of teaching *maigizo*, 3.9% (N=9) of the student teachers stated that interactive whiteboard was used in the process of teaching *maigizo*, 1.3% (N=3) of the student teachers stated that weblogs were used in the process of teaching *maigizo*, 11.2% (N=26) of the student teachers stated that internet was used in the process of teaching *maigizo*, 2.6% (N=6) of the student teachers stated that smart phones were used in the process of teaching *maigizo*. However 41.4% (N=96) stated that none of the mentioned tools were used in the process of teaching *maigizo*. The findings imply that YouTube was mostly used by the tutors in the process of teaching *maigizo*, the findings were similar to those of the tutors'.

Table 4.29: Tutors' Response on Tools Used to Teach Ushairi wa Kiswahili

	Maudhui		**Bahari za Ushairi**		**Mbinu za lugha**		**Idhini ya mwandishi**	
Tools	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
DVDs	3	2.8	3	8.3	1	2.8	1	2.8
eBooks	1	5.6	1	2.8	3	8.3	1	2.8
Power point	6	16.7	9	25.0	8	22.2	8	22.2
Hyperlink	1	5.6	1	2.8	1	2.8	3	8.3
YouTube	3	8.3	3	8.3	4	11.1	3	8.3
Interactive whiteboards	1	2.8	0	0.0	0	0.0	1	2.8
Weblogs	1	2.8	1	2.8	1	2.8	1	2.8
Internet	7	19.4	7	19.4	5	13.9	7	19.4
smart phones	1	2.8	1	2.8	3	8.3	1	2.8
None	12	33.3	10	27.8	10	27.8	10	27.8
Total	**36**	**100.0**	**36**	**100.0**	**36**	**100.0**	**36**	**100.0**

Table 4.29 shows the tools used in the teaching of *ushairi wa Kiswahili* (Kiswahili poetry), in this study four sub topics have been considered namely; *maudhui* (themes

in poetry), *bahari za ushairi* (Classification of poetry), *mbinu za lugha* (stylistic devices in poetry) *na idhini ya mwandishi* (poetic license). 8.3% (N=3) of the tutors stated using DVDs in the process of teaching *maudhui ya ushairi,* 2.8% (N=1) of the tutors stated using e-books in the process of teaching *maudhui ya ushairi*, 16.7% (N=6) of the tutors stated using power point in the process of teaching *maudhui ya ushairi,* 2.8% (N=1) of the tutors stated using hyperlink in the process of teaching *maudhui ya ushairi,* 8.3% (N=1) of the tutors stated using YouTube in the process of teaching *maudhui ya ushairi*, 2.8% (N=1) of the tutors stated using interactive whiteboard in the process of teaching *maudhui ya ushairi,* 2.8% (N=1) of the tutors stated using weblogs in the process of teaching *maudhui ya ushairi,* 19.4% (N=7) of the tutors stated using internet in the process of teaching *maudhui ya ushairi* and 2.8% (N=1) of the tutors stated using smart phones in the process of teaching *maudhui ya ushairi*. However, 33.3% (N=12) stated that they did not use any of the mentioned tools in the process of teaching *maudhui*. The findings implies that internet was mostly used in the process of teaching *maudhui ya ushairi*.

Table 4.29 shows the tools used in the teaching of *bahari za ushairi*. None of the tutors stated using interactive whiteboard, in the process of teaching *bahari za ushairi*. 8.3% (N=3) of the tutors stated using DVDs in the process of teaching *bahari za ushairi*, 2.8% (N=1) of the tutors stated using e-books in the process of teaching *bahari za ushairi*, 25.0% (N=9) of the tutors stated using power point in the process of teaching *bahari za ushairi*,, 2.8% (N=1) of the tutors stated using hyperlink in the process of teaching *bahari za ushairi*, 8.3% (N=3) of the tutors stated using YouTube in the process of teaching *bahari za ushairi*, 2.8%(N=1) of the tutors stated using weblogs in the process of teaching *bahari za ushairi*, 19.4% (N=7) of the tutors stated using internet in the process of teaching *bahari za ushairi,* and 2.8% (N=1) of the

tutors stated using smart phones in the process of teaching *bahari za ushairi*. However, 27.8% (N=10) stated that they did not use any of the mentioned tools in the process of *bahari za ushairi*. The finding implies that most of the tutors used power point in the process of teaching *bahari za ushairi*.

Table 4.29 shows the tools used to teach *mbinu za lugha katika ushairi*. None of the tutors stated using interactive whiteboard in the process of teaching, *mbinu za lugha katika ushairi*. 2.8% (N=1) of the tutors stated using DVDs in the process of teaching *mbinu za lugha katika ushairi*, 8.3% (N=3) of the tutors stated using e-books in the process of teaching *mbinu za lugha katika ushairi*, 22.2% (N=8) of the tutors stated using power point in the process of teaching *mbinu za lugha katika ushairi*, 2.8% (N=1) of the tutors stated using hyperlink in the process of teaching *mbinu za lugha katika ushairi*,, 11.1% (N=4) of the tutors stated using YouTube in the process of teaching *mbinu za lugha katika ushairi*, 2.8% (N=1) of the tutors stated using weblogs in the process of teaching *mbinu za lugha katika ushairi*, 13.9% (N=5) of the tutors stated using internet in the process of teaching *mbinu za lugha katika ushairi*, and 8.3% (N=3) of the tutors stated using smart phones in the process of teaching *mbinu za lugha katika ushairi*. However 27.8% (N=10) stated that they did not use any of the mentioned tools in the process of teaching *mbinu za lugha katika ushairi*. This implies that most of the tutors applied power point in the process of teaching *mbinu za lugha katika ushairi*.

Table 4.29 shows the tools used to teach *idhini ya mwandishi katika ushairi*. 2.8% (N=1) of the tutors stated using DVDs in the process of teaching *idhini ya mwandishi katika ushairi*, 2.8% (N=1) of the tutors stated using e-books in the process of teaching *idhini ya mwandishi katika ushairi*, 22.2% (N=8) of the tutors stated using

power point in the process of teaching *idhini ya mwandishi katika ushairi*, 8.3% (N=3) of the tutors stated using hyperlink in the process of teaching *idhini ya mwandishi katika ushairi*, 8.3% (N=3) of the tutors stated using YouTube in the process of teaching *idhini ya mwandishi katika ushairi*, 2.8% (N=1) of the tutors stated using interactive whiteboard in the process of teaching *idhini ya mwandishi katika ushairi*, 2.8% (N=1) of the tutors stated using weblogs in the process of teaching *idhini ya mwandishi katika ushairi*, 19.4% (N=7) of the tutors stated using internet in the process of teaching *idhini ya mwandishi katika ushairi*, and 2.8% (N=1) of the tutors stated using smart phones in the process of teaching *idhini ya mwandishi katika ushairi*. stated using DVDs, e-books, power point, hyperlink, YouTube, interactive white board, blogs, internet and smart phones respectively in the process of teaching *idhini ya mwandishi katika ushairi* . However 27.8% (N=10) stated that they did not use any of the mentioned tools in the process of teaching *idhini ya mwandishi*. This implies that power point was mostly applied in the teaching of *idhini ya mwandishi katika ushairi.*

The researcher observed a tutor applying power point presentation in the process of teaching *ushairi wa Kiswahili* (poetry). The tutor projected from a laptop various aspects of poetry. Two slides containing the poem were projected and student teachers asked to read the poem silently then the tutor asked a student teacher to read loudly. The more slides were presented on Kiswahili vocabularies that are used to describe different aspects in poetry, themes from the poem and poetic license. The student teachers participated actively and were attentive throughout the lesson. The findings concur with Kidombo, Gakuu and Ndiritu (2013) who established that the use of ICT by the teachers among the teacher trainee teachers leads to improved concentration and retention of content taught.

The research established that power point was mostly integrated, however most of the tutors did not integrate in the teaching of *ushairi wa Kiswahili* as shown in figure 4.4 below.

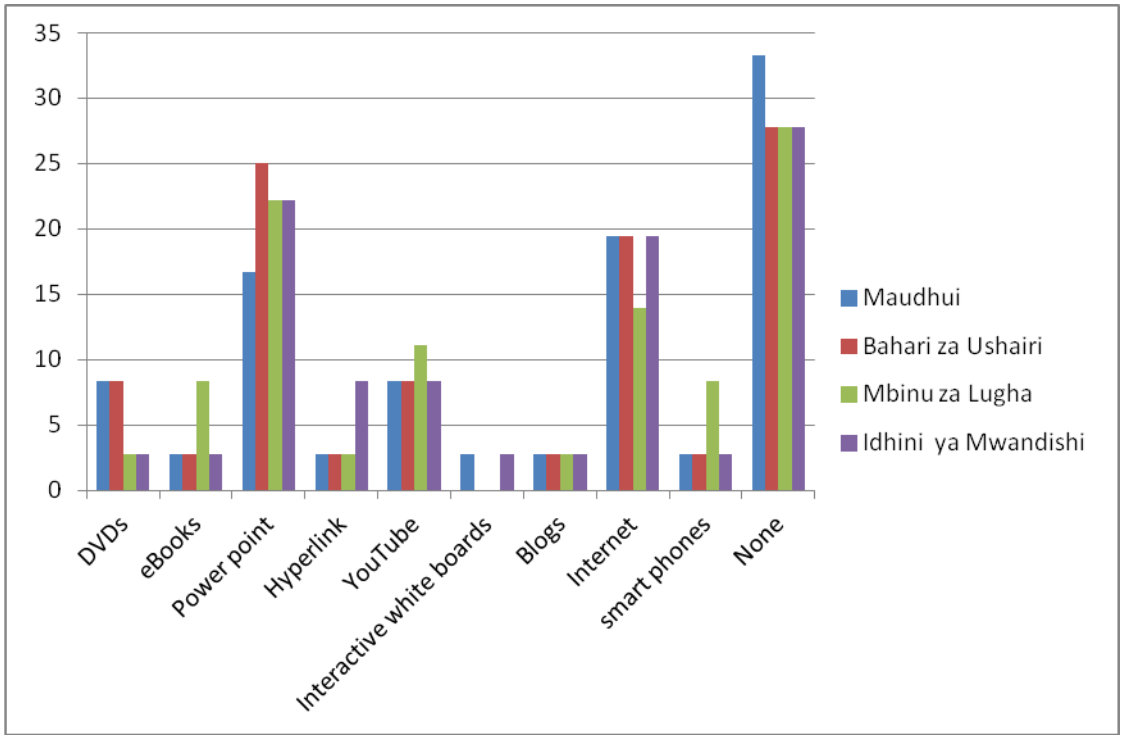

Figure 4.4: Tutors' Response on Tools Used to Teach Ushairi wa Kiswahili

The table 4.30 below shows student teachers' responses on applied in the teaching of Ushairi wa Kiswahili (Poetry)

Table 4.30: Student Teachers' Responses on Tools Used to Teach Ushairi wa Kiswahili

	Ushairi wa Kiswahili							
	Maudhui		Bahari za Ushairi		Mbinu za Lugha		Idhini ya Mwandishi	
Tools	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
DVDs	9	3.9	16	6.9	8	3.5	13	5.6
Ebooks	17	7.3	7	3.0	11	4.7	15	6.5
Power point	23	9.9	37	15.9	40	17.2	37	15.9
Hyperlink	1	0.4	3	1.3	2	0.9	4	1.7
YouTube	20	8.6	22	9.5	19	8.2	16	6.9
Interactive Whiteboard	12	5.2	10	4.3	9	3.9	12	5.2
Blogs	15	6.5	6	2.6	11	4.7	3	1.3
Internet	32	13.8	25	10.8	33	14.2	32	13.8
Smart phones	7	3.0	8	3.5	3	1.3	4	1.7
None	96	41.4	98	42.21	96	41.4	96	41.4
Totals	**232**	**100.0**	**232**	**100.0**	**232**	**100.0**	**232**	**100.0**

Table 4.30 show tools used in the teaching of *ushairi wa Kiswahili* (Kiswahili poetry), in this study four sub topics have been considered namely; *maudhui* (themes in poetry), *bahari za ushairi* (Classification of poetry), *mbinu za lugha* (stylistic devices in poetry) *na idhini ya mwandishi* (poetic license).

Table 4.30 reveals that, 3.9% (N=20) of the student teachers stated that DVDs were used in the process of teaching *maudhui katika ushairi,* 7.3% (N=17) of the student teachers stated that e-books were used in the process of teaching *maudhui katika ushairi,* 23% (N=9.9) of the student teachers stated that power point was used in the process of teaching *maudhui katika ushairi,* 0.4% (N=1) of the student teachers stated that hyperlink was used in the process of teaching *maudhui katika ushairi,* 8.6% (N=9) of the student teachers stated that YouTube was used in the process of teaching

maudhui katika ushairi, 5.2% (N=12) of the student teachers stated that interactive whiteboard was used in the process of teaching *maudhui katika ushairi,* 6.5% (N=15) of the student teachers stated that weblogs were used in the process of teaching *maudhui katika ushairi,* 13.8% (N=32) of the student teachers stated that internet wasused in the process of teaching *maudhui katika ushairi,* 3.0% (N=7) of the student teachers stated that smart phones were used in the process of teaching *maudhui katika ushairi*. However, 41.4% (N=96) stated that none of the mentioned tools were used in the process of teaching *maudhui ya ushairi*. The findings imply that tutors mostly used internet in the process of teaching *maudhui ya ushairi,* the findings are similar to those of the tutors'.

Table 4.30 shows that 6.9% (N=16) of the student teachers stated that DVDs were used in the process of teaching *bahari za ushairi,* 3.0% (N=7) of the student teachers stated that e-books were used in the process of teaching *bahari za ushairi,* 15.9% (N=37) of the student teachers stated that power point was used in the process of teaching *bahari za ushairi,* 1.3% (N=3) of the student teachers stated that hyperlink was used in the process of teaching *bahari za ushairi,* 9.5% (N=22) of the student teachers stated that YouTube was used in the process of teaching *bahari za ushairi,* 4.3% (N=10) of the student teachers stated that interactive whiteboard was used in the process of teaching *bahari za ushairi,* 2.6% (N=6) of the student teachers stated that weblogs were used in the process of teaching *bahari za ushairi,* 10.8% (N=33) of the student teachers stated that internet was used in the process of teaching *bahari za ushairi,* 3.5% (N=8) of the student teachers stated that smart phones were used in the process of teaching *bahari za ushairi*. However, 42.2% (N=98) stated that, none of the mentioned tools were used in the process of teaching *bahari za ushairi*. The

findings clearly indicate that, power point was mostly used by the tutors in the process of teaching *bahari za ushairi,* the findings are similar to those of tutors'.

Table 4.30 shows that, 3.5%(N=8) of the student teachers stated that DVDs were used in the process of teaching *mbinu za lugha katika ushairi,* 4.7%(N=11) of the student teachers stated that e-books were used in the process of teaching *mbinu za lugha katika ushairi,* 17.2%(N=40) of the student teachers stated that power point were used in the process of teaching *mbinu za lugha katika ushairi*, 0.9%(N=2) of the student teachers stated that hyperlink was used in the process of teaching *mbinu za lugha katika ushairi,* 8.2%(N=16) of the student teachers stated that YouTube were used in the process of teaching *mbinu za lugha katika ushairi,* 3.9%(N=9) of the student teachers stated that interactive whiteboard were used in the process of teaching *mbinu za lugha katika ushairi*, 4.7%(N=11) of the student teachers stated that weblogs were used in the process of teaching *mbinu za lugha katika ushairi,* 14.2%(N=33) of the student teachers stated that internet were used in the process of teaching *mbinu za lugha katika ushairi*, 1.3%(N=3) of the student teachers stated that smart phones were used in the process of teaching *mbinu za lugha katika ushairi*. However, 41.4% (N=96) stated that none of the mentioned tools were used in the process of teaching *mbinu za lugha katika ushairi.* This implies that power point was used mostly in the process of teaching *mbinu za lugha katika ushairi,* similar to the findings of the tutors'.

Table 4.30 showed that, 5.6% (N=13) of the student teachers stated that DVDs were used in the process of teaching *idhini ya mwandishi katika ushairi,* 6.5% (N=15) of the student teachers stated that e-books were used in the process of teaching *idhini ya mwandishi katika ushairi,* 15.9% (N=37) of the student teachers stated that power

point were used in the process of teaching *idhini ya mwandishi katika ushairi*, 1.7% (N=4) of the student teachers stated that hyperlink were used in the process of teaching *idhini ya mwandishi katika ushairi*, 6.9% (N=16) of the student teachers stated that YouTube were used in the process of teaching *idhini ya mwandishi katika ushairi*, 5.2% (N=12) of the student teachers stated that interactive whiteboard were used in the process of teaching *idhini ya mwandishi katika ushairi*, 1.3% (N=3) of the student teachers stated that weblogs were used in the process of teaching *idhini ya mwandishi katika ushairi*, 13.8%(N=32) of the student teachers stated that internet were used in the process of teaching *idhini ya mwandishi katika ushairi*, 1.7% (N=4) of the student teachers stated that smart phones were used in the process of teaching *idhini ya mwandishi katika ushairi*. However, 41.4% (N=96) stated that none of the mentioned tools were used in the process of teaching *idhini ya mwandishi.* The findings implies that power point was used mostly by the tutors in the process of teaching *idhini ya mwandishi,* similar to the findings by the tutors.

The findings clearly shows that internet and power point were the tools that were mostly used by the tutors in the process of teaching *ushairi wa Kiswahili*. The findings also indicated that majority of the student teachers stated that there is no application of the mentioned tools in the process of teaching *ushairi wa Kiswahili*. Approximately 40% of the student stated that none of the tools were integrated in the process of teaching *ushairi wa Kiswahili*.

4.5 Benefits of Application of ICT integration in teaching Kiswahili in Public PTCs

The second objective was to determine the benefits of application of ICT integration in the teaching of Kiswahili in Public PTCs. The aspects covered were tutors'

responses on the benefits and the student teachers' responses on the benefits of application of ICT integration in the teaching of Kiswahili.

Table 4.31: Tutors' Responses on Benefits of ICT Integration in Teaching Kiswahili

	Important		Least Important		Not Important		Total	
Statements on Benefits	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
ICT improves communication skills	33	91.7	3	8.3	0	0.00	36	100
ICT improves reading skills.	19	52.8	15	41.7	2	5.6	36	100
ICT improves analysis skills	26	72.2	6	16.7	4	11.1	36	100
ICT improves writing techniques.	19	52.8	17	47.2	0	0.00	36	100
ICT improves peer mediation in teaching Kiswahili	30	83.3	6	16.7	0	0.00	36	100
ICT improves expert mediation.	26	72.2	10	27.8	0	0.00	36	100
ICT improves Kiswahili students motivation and engagement in learning	27	75.0	9	25.0	0	0.00	36	100
ICT engages students in higher order thinking	20	55.6	16	44.4	0	0.00	36	100
ICT allowed students to access Kiswahili through world wide web.	19	52.8	16	44.4	1	2.8	36	100
ICT has reduced digital divide.	19	52.8	14	38.9	3	8.3	36	100
ICT integration provides new instructional stimuli	29	80.5	5	13.9	2	5.6	36	100
ICT integration improves concentration and retention	30	83.3	6	16.7	0	0.00	36	100
ICT integration gives relevance of teacher education in the 21st Century	24	66.7	10	27.8	2	5.6	36	100
ICT integration enables tutors to mentor student teachers in implementing the digital content in their teaching in primary schools	31	86.1	5	13.9	0	0.00	36	100

Table 4.31 shows benefits of ICT integration in the teaching of Kiswahili. 91.7% (N=33), of the tutors stated that ICT integration is important in communication skills 8.3% (N=3), of the tutors indicated that ICT integration was least important in improving communication skills. However none stated that ICT was not important in improving communication skills. The findings imply that ICT improves

communication skills. This agrees with Mcdougald (2009), that ICT is at the forefront of language teaching offering teachers and students a like the opportunities to explore and even exploit language in ways that was not possible before. ICT enables students to use Kiswahili with ICT in a very natural, realistic environment thus enabling them to communicate more effectively. Additionally, Akhlar (2016) argues that ICT has a lot of things to offer to both the teachers and students for the enhancement of their vocabularies and improvement of language skills. Additionally students will be good communicators who can competently discuss topics with others and effectively share their ideas in many forms and for different purposes (Eady and Lockyer, 2013).

Table 4.31 shows 52.8% (N=19), of the tutors stated that ICT integration is important in improving reading skills, 41.7% (N=15), of the tutors indicated that ICT integration was least important in improving reading skills. However, none stated that ICT was not important in improving reading skills. The findings imply that ICT improves reading skills. This skill can be improved due to the presence of various reading material that are portable and easily stored. Akhtar (2016) outlines variety of tools that are available and more attractive such as e-journal, e-magazine, e-books and e-library. The e-materials needs technological based reading device such as PC, laptop, tablet, or smart phone that a student can easily carry and can be referred to any time at their convenience (Kelly, 2016).

Table 4.31 indicates that, 72.2% (N=26) of the tutors stated that ICT integration is important in improving analysis skills, 16.7% (N=6) of the tutors' indicated that ICT integration was least important in improving analysis skills. 11.1% (N=4) of the

tutors stated that, ICT was not important in improving analysis skills. The findings imply that ICT improves analysis skills.

Table 4.31 shows that, 52.8% (N=19) of the tutors stated that ICT integration is important in and improving writing techniques, 47.2% (N=17), of the tutors' indicated that ICT integration was least important in improving writing techniques while none of the tutors stated that ICT integration was not important in improving writing techniques. The finding concurs with Eady and Lockyer (2013), that using technology to create texts provides students with many opportunities since students can gain confidence in witing skills by learning to use tools such as spell check thus increasing their vocabulary by use of a thesaurus tool. In addition students have plenty of opportunity to review each others work and use tools such a as track changes in Microsoft word and edit each others' creative writing (Eady and Lockyer, 2013).

Blogs have also been an effective and engaging way to promote writing skills among primary school students (Richardson, 2006) particularly when student peers provide feedback to the blogs written (Chen, Liu, Shih, Wu, and yuan, 2011)

More so, table 4.31 shows that, 83.3% (N=30), of the tutors stated that ICT was important in improving peer mediation in teaching Kiswahili, 16.7% (N=6), of the tutors stated that integration of ICT in the teaching of Kiswahili was least important in peer mediation. However, none of the tutors stated that application of ICT integration was not important in improving peer mediation in the teaching of Kiswahili. The findings imply that ICT improves peer mediation which involves dialogue among learners. The Socio Cultural Theory states that such dialogue is effective as dialogue between teachers and learners since the learners have different mediation strategies

and they rely on concrete artifacts. In this case the student teachers will rely on artifacts such as internet, computers, e-books, YouTube, weblogs, DVDs, power point, hyperlink in the learning of Kiswahili and assisting each other.

For instance weblogs can be used as good artifacts in peer mediation since they have articles on different topics and readers are allowed to post their comments too. Thus the student teachers can effectively mediate learning amongst themselves.

Additionally, table 4.31 shows that, 72.2% (N=26), of the tutors stated that ICT was important in improving expert mediation in teaching Kiswahili, 27.8% (N=10), of the tutors stated that integration of ICT in the teaching of Kiswahili was least important in improving expert mediation. However, none of the tutors stated that application of ICT integration was not important in the teaching of Kiswahili. The findings imply that ICT improves expert mediation. Expert mediation by the tutors comes in when the tutor is directing the student teachers on how to use various ICT tools and when the tutors use the tools during the lesson the student teachers will emulate their tutor. Butucha (2012) notes that technology provides diverse experiences to the learners even when actual classroom is not taking place, students come with a lot of information. Thus it is important that the teachers pay attention to the affective and diverse cognitive learning styles which will provide them autonomy to explore further learning.

Table 4.31 shows that 75.0% (N=27) of the tutors stated that ICT was important in students motivation and engagement in learning activities, 25.0% (N=9) of the tutors stated that integration of ICT in the teaching of Kiswahili was least important in students motivation and engagement in learning. However none of the tutors stated that application of ICT integration was not important in the teaching of Kiswahili. The

findings imply that ICT improves students' motivation and engagement in learning activities.

When the students are motivated, they are able to engage themselves in applying ICT in their learning for instance getting Kiswahili information from the internet. Butucha (2016) describes engagement as intensity of students' participation in the learning process and that engagement is an important condition for teaching learning process that leads them to success.

Table 4.31reveals that, 55.6% (N=20) of the tutors stated that ICT was important in engaging Kiswahili students in higher order thinking, 44.4% (N=16) of the tutors stated that integration of ICT in the teaching of Kiswahili was least important in engaging Kiswahili students in higher order thinking. However, none of the tutors stated that application of ICT integration was not important in the teaching of Kiswahili. The findings imply that ICT engages Kiswahili students in higher order thinking. This concurs with the findings of Pelgrum, Law and Plomp (2007) that established that ICT adoption provides high order skills such as collaboration across time and place and solving complex real world problems. Kiswahili students are able to collaborate with one another, collaborate with others in other nations since Kiswahili is a national and international language.

Table 4.31 shows that 52.8% (N=19), of the tutors stated that ICT integration was important in allowing students access Kiswahili information through World Wide Web. 44.4% (N=16) of the tutors stated that ICT integration was least important in allowing students access Kiswahili through World Wide Web while 2.8% (N=1), stated that ICT integration was not important in allowing students access Kiswahili

through World Wide Web. This implies that ICT integration was important in allowing students access Kiswahili information through World Wide Web.

Table 4.31 shows that 52.8% (N=19), of the tutors stated that ICT integration was important in reducing the digital divide. 38.9% (N=14), of the tutors stated that ICT integration is least important in reducing the digital divide. 8.3% (N=3), of the tutors stated that ICT integration was not important in reducing the digital divide. The findings imply that reduction of the digital divide is a benefit of ICT integration. This concurs with the findings of Pelgrum, Law and Promp (2007) that states that ICT eliminates time and geographical barriers in education since learners and teachers can log in at any place and time and access speedy dissemination of education.

Table 4.31 shows that, 80.5% (N=29) of the tutors stated that ICT integration was important in providing new instructional stimuli. 13.9% (N=5), of the tutors stated that ICT integration is least important in providing new instructional stimuli. 5.6% (N=2) stated that ICT integration was not important in providing new instructional stimuli. The findings imply that ICT integration benefits the process of teaching Kiswahili by providing a new instructional stimulus.

Table 4.31 reveals that 83.3% (N=30) of the tutors stated that ICT integration was important in improving concentration and retention. 16.7% (N=6) of the tutors' stated that ICT integration is least important in improving concentration and retention. None of the tutors stated that ICT integration was not important in improving concentration and retention. The findings imply that one of the benefits of ICT integration is improving concentration and retention of the student teachers. This concurs to Eady and Lockyer (2013), that students engagement with resources help them to process the information into working memory, when students interact with

multimedia information, they encode this information, into their long term memory. This meaningful interaction might involve learning activities within the digital resource itself and /or as a lesson that is created by the teacher.

Additionally table 4.31 shows that, 66.7% (N=24), stated that ICT integration was important since it gives relevance of teacher education in the 21st century. 27.8% (N=10) stated that ICT integration was least important in giving relevance of teacher education in the 21st century. 5.6% (N=2) stated that ICT integration was not important in giving relevance of teacher education in the 21st Century. The findings imply that one of the benefits of ICT integration is giving relevance of teacher education in the 21st Century. The findings concurs with Fallata, (2016) who noted, it seems that almost every aspect of society in the 21st Century revolves around ICT thus it is essential for educators to integrate ICT in the education of students of today who are born in a world rich with technology. Additionally Omariba (2012) outlines that the teacher in the 21st century are faced with the challenge of having to update their knowledge to make appropriate integration of ICT as a tool to be used in the classroom teaching, this is similar to Akhtar (2016) who states that for better teaching a teacher needs to be updated with the changes in education.

Table 4.31 reveals that 86.1% (N=31) of the tutors stated that ICT integration is important since it enables tutors to mentor student teachers in implementing the digital content in their teaching career. Further, 13.9% (N=5) stated that ICT integration is leas important in enabling tutors to mentor student teachers in implementing the digital content in their career. None stated that ICT integration was not important in enabling tutors to mentor student teachers in implementing. The tutor guides the student teachers on language materials that are available and how to

use them for instance in the internet there are e-books, e-jounals, e-magazines and social sites like linked-in which are helpful in better learning of language skills (Akhtar, 2016). Additionally the needs to keep pace with society and prepare students teachers are for their roles in society are reasons for integration of ICT in the teaching of Kiswahili.

Table 4.32: Student teachers' Response on Benefits of ICT Integration in Teaching Kiswahili

	Important		Least Important		Not Important		Total	
Statements on Benefits	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
ICT improves communication skills	182	78.4	21	9.1	29	12.5	232	100
ICT improves reading skills.	174	75.0	22	9.5	36	15.5	232	100
ICT improves analysis skills.	169	72.8	32	13.8	31	13.4	232	100
ICT improves writing techniques.	121	52.1	63	27.2	48	20.7	232	100
ICT improves peer mediation in teaching Kiswahili.	124	53.4	60	25.9	48	20.7	232	100
ICT improves expert mediation.	147	63.4	39	16.8	46	19.8	232	100
ICT improves Kiswahili student's motivation and engagement in learning.	166	71.6	29	12.5	37	15.9	232	100
ICT engages students in higher order thinking.	145	62.5	39	16.8	48	20.7	232	100
ICT allowed students to access Kiswahili through world wide web.	166	71.6	26	11.2	40	17.2	232	100
ICT has reduced digital divide	101	43.5	63	27.2	68	29.3	232	100
ICT integration provides new instructional stimuli	164	70.7	38	16.4	30	12.9	232	100
ICT integration improves concentration and retention	183	78.9	24	10.3	25	10.8	232	100
ICT integration gives relevance of teacher education in the 21st Century	168	72.4	33	14.2	31	13.4	232	100
ICT integration enables tutors to mentor student teachers' in implementing the digital content in their teaching in primary schools	161	69.4	29	12.5	42	18.1	232	100

Table 4.32 shows student teachers responses on the benefits of ICT integration in the teaching of Kiswahili. 78.4% (N=182), of the student teachers stated that ICT integration is important in improving communication skills. 9.1% (N=21), of the student teachers indicated that ICT integration was least important in improving communication skills, while 12.5% (N=29) of the student teachers stated that ICT was

not important in improving communication skills. The findings imply that ICT integration in teaching Kiswahili is important in improving communication skills; the findings are similar to those of the tutors'.

Table 4.32 reveals that 75% (N=174), of the student teachers stated that ICT integration is important in improving reading skills. 9.5% (N=22), of the student teachers indicated that ICT integration was least important in improving reading skills, while 15.5% (N=36) of the student teachers stated that ICT was not important in improving reading skills. The findings imply that ICT integration in teaching Kiswahili is important in improving reading skills; the findings are similar to those of the tutors'.

Table 4.32 shows that, 72.8% (N=169) of the student teachers stated that ICT integration is important in improving analysis skills. 13.8% (N=32) of the student teachers indicated that ICT integration was least important in improving analysis skill, while 13.4% (N=31) of the student teachers stated that ICT was not important in improving analysis skills. The findings imply that ICT integration in teaching Kiswahili is important in improving analysis skills. The findings agree to Mc Farlane and Sakellariou (2002) that established that ICT plays a central role in supporting critical analysis skills development.

Table 4.32 reveals that 52.2% (N=121) of the student teachers stated that ICT integration is important in improving writing techniques. 27.2% (N=63) of the student teachers indicated that ICT integration was least important in improving writing techniques. While 20.7% (N=48) stated that ICT was not important in improving writing techniques. The findings imply that ICT integration in teaching Kiswahili is important in improving writing techniques; similar to the findings of the tutors'.

Moreso, 53.4% (N=124), of the student teachers revealed that ICT was important in improving peer mediation. 25.9% (N=60) of the student teachers stated that ICT was least important in improving peer mediation while 20.7% (N=48) of the student teachers stated that ICT was not important in improving peer mediation. The findings imply that ICT integration in teaching Kiswahili is important in improving peer mediation. Peer teaching is one of the opportunities presented by ICT in the process of learning. Education sector through a statement by the cabinet secretary for Education has acknowledged this opportunity (Vision, 2030).

Table 4.32 reveals that 63.4% (N=147), of the student teachers revealed that ICT was important in improving expert mediation. 16.8% (N=39), of the student teachers stated that ICT was least important in improving expert mediation. 19.8% (N=47) of the student teachers stated that ICT was not important in improving expert mediation. The findings imply that ICT integration in teaching Kiswahili is important in improving expert mediation. This concurs with Anouk, Bart and Nyaga, (2007) who views that students and teachers are able to make decisions in order to master new knowledge and accomplish complex tasks collaboratively by integrating ICT in teaching of Kiswahili. Vygotsky (1978) has it that learning takes place collaboratively thus, tutors and the student teachers will be able to accomplish tasks if they worked together, they will be guided by the expert to a level that they can now be able to accomplish the task on their own.

The same table reveals that 71.6% (N=166) of the student teachers revealed that ICT was important in improving students motivation and engagement in learning activities. 12.5% (N=29) of the student teachers stated that ICT was least important in improving students motivation and engagement in learning. 15.9% (N=37) of the

student teachers stated that ICT was not important in improving students motivation and engagement in learning. The findings imply that ICT integration in teaching Kiswahili is important in improving students' motivation and engagement in learning activities. This concurs with the findings of Swan, Hooft and Kratcoski (2005) that reported improvement of students' motivation to learn and engage in the learning process due to the use of mobile computing. Eady and Lockyer (2013) points to the potential of technology to increase motivation and engagement of learners cater for different learning styles and improving learning out comes.

Table 4.32 reveals that 62.5% (N=145) of the student teachers revealed that ICT was important in engaging Kiswahili students in higher order thinking. 16.8% (N=39) of the student teachers stated that ICT was in least important in engaging Kiswahili students in higher order thinking. 20.7% (N=48) of the student teachers stated that ICT was not important in engaging Kiswahili students in higher order thinking. The findings imply that ICT integration in teaching Kiswahili is important in improving high order thinking among student teachers. This concurs with the findings of Ringstaff and Kelly (2002) that stated that ICT as a resource helps in developing higher order thinking, creativity and research skills. It also agrees with Pelgrum, Law and Plomp (2007) that stated that ICT adoption provides high order skills such as collaboration across time and place.

Table 4.32 revealed that 71.6% (N=166), of the student teachers stated that ICT integration was important in allowing students access Kiswahili information through World Wide Web. Another 11.2% (N= 26) of the student teachers stated that ICT integration was least important in allowing students access Kiswahili through World Wide Web. Further, 17.2% (N=40), of the student teachers stated that ICT integration

was not important in allowing students access Kiswahili through World Wide Web. The findings imply that ICT integration in teaching Kiswahili is important in allowing students to access Kiswahili through World Wide Web.

Table 4.32 reveals that, 43.5% (N=101) of the student teachers stated that ICT is important in reducing the digital divide, 27.2% (N=63) of the student teachers stated that ICT integration was least important in reducing the digital divide, 29.3% (N=68), of the student teachers stated that ICT integration was not important in reducing the digital divide. The findings imply that ICT integration in teaching Kiswahili is important in reducing digital divide. It is through integrating that the discrepancy between countries and people can benefit order to develop their socio-economic structures. This agrees with Omariba (2012) who notes that, African governments, non-governmental and corporate organizations have also started initiating projects dealing with inclusion of ICT in primary and secondary curriculum.

Table 4.32 reveals that 70.7% (N=164) of the student teachers stated that ICT is important in providing new instructional stimuli. 16.4% (N=38) of the student teachers stated that ICT integration was least important in providing new instructional stimuli. 12.9% (N=30) of the student teachers stated that ICT integration was not important in providing new instructional stimuli. The findings imply that ICT integration in teaching Kiswahili is important in providing new instructional stimuli.

Table 4.32 reveals that, 78.9% (N=183) of the student teachers stated that ICT is important in improving concentration and retention. 10.3% (N=24) of the student teachers stated that ICT integration was least important in least important in improving concentration and retention 10.8% (N=25) of the student teachers stated that ICT integration was not important in improving concentration and retention. The

findings imply that ICT integration in teaching Kiswahili is important in improving concentration and retention. The findings concur with those of the tutors. In fact the findings from two of the Deans of Curriculum interviewed established that ICT integration makes the students observe more than listening which thus helps in the retention of Knowledge.

Additionally, 72.4% (N=168) of the student teachers stated that ICT integration was important since it gives relevance of teacher education in the 21st century. Further, 14.2% (N=33) of the student teachers stated that ICT integration was least important in giving relevance of teacher education in the 21st century. 13.4% (N=31) and of the student teachers stated that ICT integration was not important in giving relevance of teacher education in the 21st Century. The findings imply that ICT integration in teaching Kiswahili is important in giving relevance of teacher education in the 21st century. The findings concurs with Hennessy, Harrison and Wamakote (2010) who established that teachers who do not have a chance to develop professionally in the use of emerging technologies and acquire modern computer literacy skills are under threat and the relevance of the 21st century teacher is the will to develop professionally and appropriately.

Table 4.32 reveals that 69.4% (N=161) of the student teachers stated that ICT integration was important since it enables tutors to mentor student teachers' in implementing the digital content in their career. Further, 12.5% (N=29) of the student teachers stated that ICT integration was least important in enabling tutors to mentor student teachers in implementing the digital content in their career. 18.1% (N=42) of the student teachers stated that ICT integration was not important in enabling tutors to mentor student teachers in implementing the digital content in their

career. The findings imply that ICT integration in teaching Kiswahili is important in enabling tutors to mentor student teachers' in implementing the digital content in their career. The findings concur to the benefit stated by one of the Deans interviewed that:

> Student teachers will be motivated to use technology in teaching. They would want to emulate their tutors, they will want to learn how to use ICT and integrate it in the teaching process (D3).

The curriculum is dynamic and keeps on changing, Olibie (2013) states that teaching is the implementation of the curriculum and thus as curriculum changes, teaching also changes. Thus the student teachers' should be equipped with the skills to be able to implement the digital content. Olibie (2013) notes that;

> There is a growing recognition that education and the curriculum should prepare students for workplace, citizenship and daily living. Hence teaching and learning processes are being focused on how to prepare students for learning, living and thriving in the dynamic cluttered, chaotic information environment of these first decades of the 21st century as well as how to prepare students for a changing world.

The findings from the five Deans of curriculum interviewed established more benefits of ICT integration in the teaching of Kiswahili. Three of the Deans stated that ICT integration makes the students understand Kiswahili subject better. In fact one of the Deans stated that:

> ICT can help in better understanding of *fasihi* (literature) and *tamthilia* plays in Kiswahili through actual animations and actual plays via audio or YouTube (D4).

Three Deans also stated that, ICT integration in the process of teaching Kiswahili is a quick way of passing information. A tutor is able to cover more in a short duration of time. One of the Deans said,

> When you use ICT yooooooouuuuu... (*While swinging on his chair*) the pace of coverage is fast. They have the gadgets at that moment they are able to get the concepts immediately. They are able to see, to hear and to touch thus taking care of the three types of learners (D2)

Two of the Deans stated that by integrating ICT in the teaching of Kiswahili, tutors' will be able to get updated knowledge of the language rather than depending on outdated books. More so, the student teachers will also be able to get updated information that they can apply in their teaching career. One of the Deans said,

> Computer literacy is a key component in the new curriculum, when the tutors integrate the student teachers can have a new dimension of doing things instead of using the yellow notes (D2).

4.6 Attitudes of the tutors on ICT Integration in Teaching Kiswahili in Public PTCs

The third objective was on the attitudes of the tutors. So the study sought to determine the attitudes of the tutors on ICT integration in the teaching of Kiswahili in Public PTCs. Tutors responses and the student teachers' response concerning this variable are presented in tables 4.33 and 4.34.

Table 4.33: Attitudes of Tutors on ICT integration

Statements on attitudes	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree		Total	
	F	%	F	%	F	%	F	%	F	%	F	%
Many tutors show interest in ICT integration in PTCs	5	13.9	17	47.2	5	13.9	9	25.0	0	0.0	36	100
Many tutors have failed to utilize ICT integration in teaching Kiswahili	11	30.6	8	22.2	1	2.8	16	44.4	0	0.0	36	100
ICT integration is a practice in classrooms in PTCs	0	0.0	6	16.7	6	16.7	17	47.2	7	19.4	36	100
ICT integration has prompted student teachers' understanding of Kiswahili subject in PTCs.	1	2.8	10	27.8	8	22.2	14	38.9	3	8.3	36	100
ICT integration weakens teachers' authority in teaching Kiswahili	3	8.3	6	16.7	20	55.6	7	19.4	0	0.0	36	100
ICT integration strengthens teacher's authority in teaching Kiswahili.	5	13.9	26	72.2	3	8.3	2	5.6	0	0.0	36	100
Integrating ICT in Kiswahili demonstrates to the student teachers the innovative way of teaching Kiswahili.	10	27.8	19	52.8	4	11.1	3	8.3	0	0.0	36	100
It is difficult to integrate ICT in the teaching of Kiswahili in PTCs.	0	0.0	10	27.8	8	22.2	13	36.1	5	13.9	36	100
Application of ICT integration in classroom instruction is time consuming.	4	11.1	19	52.8	3	8.3	10	27.8	0	0.0	36	100
There is no content matter that can be taught using ICT	0	0.0	1	2.8	2	5.6	17	47.2	16	44.4	36	100
Application of ICT in teaching Kiswahili is a burden to the tutor	0	0.0	7	19.4	3	8.3	20	55.6	6	16.7	36	100
The application of ICT in teaching Kiswahili is for the young tutors in the profession in PTCs	0	0.0	6	16.7	6	16.7	17	47.2	7	19.4	36	100

Table 4.33 indicates the attitudes of tutors on ICT integration in the teaching of Kiswahili, 13.9% (N=5), strongly agreed that many tutors show interest in ICT integration in PTCs, 47.2% (N=17) of the tutors agreed that many tutors show interest in ICT integration in PTCs, 13.9% (N=5) of the tutors were undecided that many tutors show interest in ICT integration in PTCs and 25.0% (N=9) disagreed that many tutors show interest in ICT integration in PTCs, and 0.0% (N=0), none of the tutors strongly disagreed that many tutors show interest in ICT integration in PTCs. The findings establish that more than half of the tutors show interest on application of ICT integration in the process of teaching Kiswahili. The study concurs with the findings of Wanami, Kitainge and Ng'ang'a (2011) that teachers were quite positive about using computers in the classroom, they supported integration. In this research tutors have shown interest in ICT integration but they have failed to utilize it, yet some of these facilities like computers, internet are in the colleges contrary to the research by Wanami et al (2011), where teachers failed to utilize in classroom instruction since the schools did not have facilities such as computers.

Table 4.33 shows that 30.6% (N=11) strongly agreed that many tutors have failed to utilize ICT integration in teaching Kiswahili, 22.2% (N=8) agreed that many tutors have failed to utilize ICT integration in teaching Kiswahili, 2.8% (N=1), were undecided that many tutors have failed to utilize ICT integration in teaching Kiswahili and 44.5% (N=16), disagreed that many tutors have failed to utilize ICT integration in teaching Kiswahili and none of the tutors strongly disagreed that many tutors have failed to utilize ICT integration in teaching Kiswahili. The findings establish that more than half of the respondents state that many tutors have failed to utilize ICT integration in the process of teaching Kiswahili.

Palak and Walls (2009) notes that, teachers' attitudes towards technology significantly predict teachers' ability to use technology and variety of instructional strategies. Though in this research tutors have positive attitude towards integration but other factors have influenced the ability to integrate technology. Some of these factors are tutors limited information on ICT integration and inadequate time.

In addition table 4.33 shows that, none of the tutors strongly agreed that ICT integration is a practice in classroom in PTCs. 16.7% (N=6) of the tutors agreed that ICT integration is a practice in classroom in PTCs. 16.7% (N=6) of the tutors were undecided that ICT integration is a practice in classroom in PTCs, 47.2% (N=17) of the tutors disagreed that ICT integration is a practice in classroom in PTCs and 19.4% (N=7) of the tutors strongly disagreed that ICT integration is a practice in classroom in PTCs. The findings show that 63.9% of the tutors' disagreed that application of ICT integration is a practice in classroom in PTCs. This implies that application of ICT integration in Kiswahili is not practiced in most of the PTCs. This concurs with the findings from the Deans of Curriculum interview that they have not seen the Kiswahili tutors integrate ICT in their teaching. One of the Deans said:

> I have not seen them integrated in the process of teaching Kiswahili but one thing I have come to establish is the passion of using ICT. When one is passionate about ICT then one is able to utilize ICT hence one is able to integrate totally. I have one tutor who teaches mathematics, she is so passionate about ICT and totally integrates ICT in the process of teaching Mathematics (D2).

Also table 4.33 indicates that, 2.8% (N=1) of the tutors strongly agreed that application of ICT integration has prompted students understanding of Kiswahili, 27.8% (N=10) of the tutors agreed that ICT integration has prompted students understanding of Kiswahili, 22.2% (N=8) of the tutors were undecided that ICT integration has prompted students understanding of Kiswahili, 38.9% (N=14) of the

tutors disagreed that ICT integration has prompted students understanding of Kiswahili and 8.3% (N=3) strongly disagreed that application of ICT integration has prompted students understanding of Kiswahili. The findings established that most of the tutors' disagreed that application of ICT integration has prompted students understanding of Kiswahili. This is because most of the tutors' do not integrate ICT in the process of teaching Kiswahili, thus understanding of Kiswahili could have been prompted by other factors.

Table 4.33 indicates that 8.3% (N=3) of the tutors stated that they strongly agreed that ICT integration weakens tutors' authority in teaching Kiswahili, 16.7% (N=6) of the tutors stated agreed that ICT integration weakens teachers' authority in teaching Kiswahili, 55.6% (N=20) of the tutors' were undecided on the statement that ICT integration weakens tutors' authority in teaching Kiswahili, 19.4% (N=7), of the tutors' stated that they disagree that ICT integration weakens tutors' authority in teaching Kiswahili and none of the tutors strongly disagreed that ICT integration weakens tutors' authority in teaching Kiswahili. The findings indicate that most of the tutors were undecided whether application of ICT integration weakens tutors authority.

Table 4.33 shows that, none of the tutors' strongly agreed that ICT integration strengthens tutors' authority in teaching Kiswahili, 72.2% (N=26) agreed that ICT integration strengthens tutors' authority in teaching Kiswahili, 8.3% (N=3) were undecided that ICT integration strengthens tutors' authority in teaching Kiswahili, 5.6% (N=2) disagreed that ICT integration strengthens tutors' authority in teaching Kiswahili, 13.9% (N=5) strongly disagreed that ICT integration strengthens tutors' authority in teaching Kiswahili.

The findings establish that more than half of the tutors agreed that application of ICT integration strengthens tutors' authority in the teaching of Kiswahili.

Table 4.33 shows that, 27.8% (N=6) of the tutors strongly agreed that integrating ICT in Kiswahili demonstrates to the student teachers the innovative way of teaching Kiswahili, 52.8% (N=19) of the tutors agreed that integrating ICT in Kiswahili demonstrates to the student teachers the innovative way of teaching Kiswahili, 11.1% (N=4) of the tutors were undecided that integrating ICT in Kiswahili demonstrates to the student teachers the innovative way of teaching Kiswahili, 8.3% (N=3) of the tutors disagreed that integrating ICT in Kiswahili demonstrates to the student teachers the innovative way of teaching Kiswahili and none strongly disagreed that integrating ICT in Kiswahili demonstrates to the student teachers the innovative way of teaching Kiswahili. The findings establish that the majority of the tutors agreed that application of ICT integration demonstrates to the student teachers the innovative way of teaching Kiswahili. The student teachers exist in the technology saturated environment and they are going to teach in the same environment that has smart phones, computers, laptops and other ICT tools. Thus it is vital for the lecturers to apply ICT in the teaching of Kiswahili so that the student teachers can emulate. Butucha (2012) states that the 21st century classroom teaching requires knowledge of the basic of technological operations such as internet, presentation soft ware, word processors, databases, spreadsheets and others.

Additionally, none of the tutors strongly agreed that it is difficult to integrate ICT in the teaching of Kiswahili in PTC, 27.8% (N=10), agreed that it is difficult to integrate ICT in the teaching of Kiswahili in PTC, and 22.2% (N=8) were undecided that it is difficult to integrate ICT in the teaching of Kiswahili in PTC, 36.1%(N=13) disagreed

that it is difficult to integrate ICT in the teaching of Kiswahili in PTC and 13.9% (N=5) strongly disagreed that it is difficult to integrate ICT in the teaching of Kiswahili in PTC. The finding shows that more than half of the tutors disagreed that application of ICT integration in the teaching of Kiswahili was difficult. This implies that the tutors have a positive attitude and have embraced the fact that integration is possible while teaching though they are not practicing what they believe in.

More so, the table shows that, 11.1% (N=4), of the tutors strongly agreed that using ICT application of ICT integration in classroom instructions is time consuming, 52.8% (N=19), of the tutors agreed that application of ICT integration in classroom instructions is time consuming, 8.3% (N=3), of the tutors were undecided that using ICT application of ICT integration in classroom instructions is time consuming, 27.8% (N=10), of the tutors disagreed that application of ICT integration in classroom instructions is time consuming and 0.0% (N=0), of the tutors strongly disagreed that application of ICT integration in classroom instructions is time consuming. The findings indicate that more than half of the tutors agree that application of ICT integration is time consuming. In fact, through the researchers' observation the PTCs had busy schedules such as teaching practice, co-curriculum activities that affected the teaching time. The challenge concurs with the findings by Gakenga, Gikandi and Kamau (2015) that explained ICT adoption in teaching as time consuming especially in preparation of electronic materials.

In addition the table shows that, none of the tutors strongly agreed that there is no content matter that can be taught using ICT. 2.8% (N=1), of the tutors agreed that there is no content matter that can be taught using ICT, 5.6% (N=2), of the tutors were undecided that there is no content matter that can be taught using ICT, 47.2% (N=17),

of the tutors disagreed that there is no content matter that can be taught using ICT, 44.4% (N= 16), of the tutors strongly disagreed that there is no content matter that can be taught using ICT. The findings indicate that the majority of the tutors disagree that there is no content matter that can be taught using ICT. This implies that there is content matter in Kiswahili that can be taught using ICT. This was observed as the researcher found a tutor teaching *aina za maneno* in *sarufi* using a DVDs in one of the colleges. This shows that some tutors have negative attitude since the content is there that can be taught using ICT yet the tutors are not integrating.

Table 4.33 also shows that none of the tutors strongly agreed that application of ICT is a burden to the tutor, 19.4 % (N=7) of the tutors agreed that application of ICT is a burden to the tutor, 8.3% (N=3) were undecided that application of ICT is a burden to the tutor, 55.6% (N=20) disagreed that application of ICT is a burden to the tutor and 16.7% (N=6), strongly disagreed that application of ICT is a burden to the tutor. The findings clearly indicated that majority of the tutors disagreed that application of ICT integration was a burden to the tutors. Though application of ICT is not a burden and it is not difficult to integrate ICT in the teaching of Kiswahili, many tutors have failed to utilize ICT in the process of teaching Kiswahili.

The attitude towards integration is positive though the tutors are not integrating in the process of teaching Kiswahili. The findings concur with the research by Peeraer and Petegem (2011) who points out that positive attitude towards ICT or constructivists' perspective on learning will not automatically lead to the uptake of ICT or innovative way of teaching.

Additionally, table 4.33 shows that none of the tutors strongly agreed that the application of ICT in teaching Kiswahili is for the young tutors in the profession in

PTCs, 16.7% (N=6) of the tutors agreed that the application of ICT in teaching Kiswahili is for the young tutors in the profession in PTCs, 16.7% (N=6) of the tutors were undecided that the application of ICT in teaching Kiswahili is for the young tutors in the profession in PTCs, 47.2% (N=17) of the tutors disagreed that application of ICT in teaching Kiswahili is for the young tutors in the profession in PTCs and 19.4% (N=7) of the tutors strongly disagreed that the application of ICT in teaching Kiswahili is for the young tutors in the profession in PTCs. The findings established that more than half of the tutors disagreed that the application of ICT in teaching Kiswahili is for the young tutors in the profession in PTCs. This implies that application of ICT in the teaching of Kiswahili is for all the tutors' of all ages; this shows a positive attitude from the tutors.

The rating of the tutors attitudes were done based on therir responses towards the questionnaire variable items asked. Most of the tutors had positive attitude towards application of ICT integration while a few had negative attitude. Mueller, Wood, willoughy, Ross, and Specht (2008) stated that positive attitudes towards ICT on learning will not automatically lead to the uptake of ICT integration in teaching and learning. This is evident from this research that though the tutors had positive attitude, integration was minimal. To confirm what had been established from the tutors the study sought for the deans of curriculum views on tutors attitudes towards application of ICT integration in the teaching of Kiswahili. D2 said that:

> Generally they are enthusiastic. They want to integrate; it is natural that new things are experimented. They wish to embrace ICT but they are incapacitated.

Table 4.34: Student Teachers' Responses on the Attitudes of Tutors on ICT Integration

Statements on attitudes	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree		Total	
	F	%	F	%	F	%	F	%	F	%	F	%
Many tutors' show interest in ICT integration in PTCs.	67	28.9	75	32.3	37	15.9	41	17.7	12	5.2	232	100
Many tutors' have failed to utilize ICT integration in teaching Kiswahili.	59	25.4	74	31.9	36	15.5	55	23.7	8	3.5	232	100
ICT integration is a practice in classrooms in PTCs	10	4.3	34	14.7	54	23.3	61	26.3	73	31.4	232	100
ICT integration student teachers' has prompted understanding of Kiswahili subject in PTCs.	16	6.9	45	19.4	49	21.1	56	24.1	66	28.5	232	100
ICT integration weakens teachers' authority in teaching Kiswahili.	28	12.1	48	20.7	45	19.4	75	32.3	36	15.5	232	100
ICT integration strengthens teacher's authority in teaching Kiswahili.	68	29.3	73	31.4	45	19.4	28	12.1	18	7.8	232	100
Integrating ICT in Kiswahili demonstrates to the student teachers the innovative way of teaching Kiswahili.	85	36.6	68	29.3	40	17.3	23	9.9	16	6.9	232	100
It is difficult to integrate ICT in the teaching of Kiswahili in PTCs.	16	6.9	56	24.1	58	25.0	66	28.5	36	15.5	232	100
Application of ICT integration in classroom instruction is time consuming	72	31.0	53	22.8	34	14.7	28	12.1	45	19.4	232	100
There is no content matter that can be taught using ICT.	69	29.7	64	27.6	39	16.8	29	12.5	31	13.4	232	100
The application of ICT teaching in Kiswahili is for the young tutors in the profession in PTCs	40	17.2	37	16.0	34	14.7	59	25.4	62	26.7	232	100

Table 4.34 indicates the student teachers responses on attitudes of tutors on ICT integration in the teaching of Kiswahili, 28.9% (N=67) of the student teachers strongly agreed that many tutors show interest in ICT integration in PTCs, 32.3% (N=75) of the student teachers agreed that many tutors show interest in ICT integration in PTCs, 15.9% (N=37) of the student teachers were undecided that many

tutors, show interest in ICT integration in PTCs, 17.7% (N=41) of the student teachers disagreed that many tutors show interest in ICT integration in PTCs while 5.2% (N=12) of the student teachers strongly disagreed that many tutors show interest in ICT integration in PTCs. The findings established that more than half of the student teachers agreed that many tutors show interest in ICT integration in PTCs; the findings are similar to those of the tutors'.

Table 4.34 indicates that 25.4% (N=59) of the student teachers strongly agreed that many tutors have failed to utilize ICT integration in teaching Kiswahili, 31.9% (N=74) of the student teachers agreed that many tutors have failed to utilize ICT integration in teaching Kiswahili, 15.5% (N=36) of the student teachers were undecided that many tutors have failed to utilize ICT integration in teaching Kiswahili, 23.7% (N=55) of the student teachers disagreed that many tutors have failed to utilize ICT integration in the teaching of Kiswahili. 3.4% (N=8) of the student teachers strongly disagreed that many tutors have failed to utilize ICT integration in teaching Kiswahili. The findings established that more than half of the student teachers that is 56.4% agreed that many tutors have failed to utilize ICT integration in teaching of Kiswahili. The percentage of the student teachers that agreed to this are more than the tutors, this implies that integration of ICT in the process of teaching Kiswahili is rarely done even though the tutors show interest in ICT integration. This concurs with the researchers observation that very few tutors were found integrating in the process of teaching Kiswahili, in addition, there were very few ICT products from tutors' and the student teachers'.

Additionally none of the student teachers strongly agreed that ICT integration is a practice in classroom in PTCs, 19.0% (N=44), of the student teachers agreed that ICT

integration is a practice in classroom in PTCs, 23.3% (N=54) of the student teachers' were undecided that ICT integration is a practice in classroom in PTCs, 26.3% (N=61) of the student teachers disagreed that ICT integration is a practice in classroom in PTCs and 31.4% (N=73) of the student teachers strongly disagreed that ICT integration is a practice in classroom in PTCs. The research established same findings as those of the tutors' that application of ICT integration in the teaching of Kiswahili was not a practice in classrooms in PTCs. The findings agree to those of the Deans interviewed, all the deans stated that, ICT integration is not there in Kiswahili but it is there in Mathematics and Science. One of the Deans said:

> I have not seen them integrated in the process of teaching Kiswahili but one thing I have come to establish is the passion of using ICT. When one is Passionate about ICT then one is able to utilize ICT hence one is able to integrate totally. I have one tutor who teaches mathematics, she is so passionate about ICT and totally integrates ICT in the process of teaching mathematics (D2).

Table 4.34 shows that 6.9% (N=16) of the student teachers strongly agreed that integration has prompted students understanding of Kiswahili, 19.4% (N=45) of the student teachers agreed that integration has prompted students understanding of Kiswahili, 21.1% (N=49) of the student teachers were undecided that integration has prompted students understanding of Kiswahili, 24.1% (N=56) of the student teachers disagreed that integration has prompted students understanding of Kiswahili and 28.5% (N=66) of the student teachers strongly disagreed that integration has prompted students understanding of Kiswahili. The findings showed that most of the student teachers' that is 52.6% disagreed that integration has prompted students understanding of Kiswahili. This implies that ICT has not played a major role in their learning of Kiswahili since the tutors' do not practice integration in the classrooms. Such findings are similar to those of the tutors' in table 4.33.

More so, 12.1% (N=28), of the student teachers strongly agreed that ICT integration weakens tutors' authority in teaching Kiswahili, 20.7% (N=48) of the student teachers agreed that ICT integration weakens tutors' authority in teaching Kiswahili, 19.4% (N=45) of the student teacher were undecided on the statement that ICT integration weakens tutors' authority in teaching Kiswahili, 32.3% (N=75), of the student teachers stated that they disagree that ICT integration weakens tutors' authority in teaching Kiswahili, 15.5% (N=36), of the student teachers strongly disagreed that ICT integration weakens tutors authority in teaching Kiswahili. The finding shows that most of the student teachers disagreed that application of ICT weakens tutors' authority in the teaching of Kiswahili. The findings are different from those of the tutors who were undecided on whether ICT integration weakens tutors' authority. This implies that the student teachers embraced the tutors' efforts to integrate ICT in their teaching as it shows the innovativeness and strength the tutor has in the delivery of Kiswahili content.

Table 4.34 shows that 29.3% (N=68) of the student teachers strongly agreed that application of ICT integration strengthens tutors' authority in the teaching of Kiswahili, 31.4% (N=73) of the student teachers agreed that application of ICT integration strengthens tutors' authority in the teaching of Kiswahili. 19.4% (N=45) of the student teachers were undecided that ICT integration strengthens tutors' authority in teaching Kiswahili, 12.1% (N=28) of the student teachers disagreed that ICT integration strengthens tutors' authority in teaching Kiswahili, 7.8% (N=18) of the student teachers strongly disagreed that ICT integration strengthens tutors' authority in teaching Kiswahili. The findings indicate that most of the student teachers agreed that application of ICT strengthens tutors' authority in the teaching of Kiswahili.

Additionlly, table 4.34 shows that 36.6% (N=85) of the student teachers strongly agreed that integrating ICT in Kiswahili demonstrates to the student teachers the innovative way of teaching Kiswahili, 29.3% (N=68), of the student teachers agreed that integrating ICT in Kiswahili demonstrates to the student teachers the innovative way of teaching Kiswahili, 17.3% (N=40), were undecided that integrating ICT in Kiswahili demonstrates to the student teachers the innovative way of teaching Kiswahili, 9.9% (N=23), disagreed that integrating ICT in Kiswahili demonstrates to the student teachers the innovative way of teaching Kiswahili, 6.9% (N=16) strongly disagreed that integrating ICT in Kiswahili demonstrates to the student teachers the innovative way of teaching Kiswahili. The findings established that more than half of the student teachers agreed that application of ICT integration in teaching Kiswahili demonstrates to the student teachers the innovative way of teaching Kiswahili. This implies that the attitude tutors have played a major role. Tutors that integrate ICT in in the teaching of Kiswahili play a role in mentoring student teachers to embrace new technology into the teaching of Kiswahili. This can only be done if the attitude of the tutor is positive. Omariba, Ayot and Ondigi (2016) in the study teacher preparedness in integrating information and communications technologies in public primary teachers training colleges in Kenya established that, integration of ICTs brings revolutionary changes in the teaching methodologies. More so, in the role it plays towards student–centered form of teaching and learning (Smaldino, Lowther, and Russel, 2012; Ogange, 2011). Therefore, the teaching and learning demands that a teacher and in this case a tutor integrates so as to empower learners in this digital era.

Table 4.34 still shows that 6.9% (N=16), of the student teachers strongly agreed that it is difficult to integrate ICT in the teaching of Kiswahili in PTC, 24.1% (N=56) of the student teachers agreed that it is difficult to integrate ICT in the teaching of Kiswahili

in PTC, 25.0% (N=58) of the student teachers were undecided that it is difficult to integrate ICT in the teaching of Kiswahili in PTC, 28.5% (N=66) of the student teachers disagreed that it is difficult to integrate ICT in the teaching of Kiswahili in PTC, 15.5% (N=36) of the student teachers strongly disagreed that it is difficult to integrate ICT in the teaching of Kiswahili in PTC. Majority of the student teachers stated that it was not difficult for the tutors to integrate ICT into the teaching of Kiswahili; similar findings were established from the tutors'.

Table 4.34 shows that 31.0% (N=72), of the student teachers strongly agreed that application of ICT integration in classroom instructions is time consuming, 22.8% (N=53), of the student teachers agreed that application of ICT integration in classroom instructions is time consuming, 14.7% (N=34), of the student teachers were undecided that application of ICT integration in classroom instructions is time consuming, 12.1% (N=28), of the student teachers disagreed that application of ICT integration in classroom instructions is time consuming, 19.4% (N=45), of the student teachers strongly disagreed that application of ICT integration in classroom instructions is time consuming. The findings show that most of the student teachers concur to the fact that the tutors find application of ICT into the teaching of Kiswahili time consuming. The findings concur to that of the tutors, implying that they had negative attitude toward ICT integration in the teaching of Kiswahili.

Table 4.34 shows that 29.7% (N=69) of the student teachers' strongly agreed that there is no content matter that can be taught using ICT, 27.6% (N=64), of the student teachers' agreed that there is no content matter that can be taught using ICT, 16.8% (N=39), of the student teachers were undecided that there is no content matter that can be taught using ICT, 12.5% (N=29 of the student teachers disagreed that there is no

content matter that can be taught using ICT and 13.4% (N= 31), of the tutors strongly disagreed that there is no content matter that can be taught using ICT. The findings established that most of the student teachers strongly disagreed and disagreed that there was no content matter that tutors can integrate in the process of teaching Kiswahili. This implies that most of the tutors do not apply ICT integration in the process of teaching Kiswahili; failure to apply clearly indicates a negative attitude towards ICT integration. The findings explain the reason why the student teachers' stated that there is no content that can be integrated. This is because if tutors embraced ICT and created time to integrate the student teachers could experience ICT integration and would encounter Kiswahili content that is being integrated.

Table 4.34 shows that 17.2% (N=40) of the student teachers strongly agreed that the application of ICT in teaching Kiswahili is for the young tutors in the profession in PTCs. 16.0% (N=37) of the student teachers agreed that the application of ICT in teaching Kiswahili is for the young tutors in the profession in PTCs, 14.7% (N=34) of the student teachers were undecided that the application of ICT in teaching Kiswahili is for the young tutors in the profession in PTCs. 25.4% (N=59) of the student teachers disagreed that the application of ICT in teaching Kiswahili is for the young tutors in the profession in PTCs. 26.7% (N=62) of the student teachers strongly disagreed that the application of ICT in teaching Kiswahili is for the young tutors in the profession in PTCs. The findings concurs to those of the tutors in that more than half of the student teachers disagreed that application of ICT integration is for the young tutors in the profession in PTCs. This implies that ICT integration is for all tutors' of different ages, this is positive attitude towards ICT since it has no age boundary.

The findings from the student teachers establish that tutors had positive attitudes to application of ICT integration in the process of teaching Kiswahili though most tutors did not integrate. The findings concur with those of the tutors and the five Deans of curriculum that tutors had positive attitudes though the deans have never seen them integrate in the teaching of Kiswahili. The findings disagree with the findings of Drent and Melissen, 2008; Mueller, Wood, Wiiloughby, Rose and Specht, (2008) that states that previous practice in using computers and positive attitudes towards technology are variables that favour success in teachers' integration of ICT.

4.7 Challenges Facing Tutors in the Application of ICT Integration

The fourth objective was to establish the challenges facing tutors in the application of ICT integration in the teaching of Kiswahili in Public PTCs.

The researcher focused on the following sub-sections: Level of computer literacy, challenges of ICT integration and solution to the challenges of ICT integration.

Table 4.35: Tutors' and Student Teachers' Responses on Level of Computer Literacy

	Tutors'		Student Teachers'	
Level of Computer literacy	**F**	**%**	**F**	**%**
Excellent	0	0.0	26	11.2
Good	1	2.8	74	31.9
Average	15	41.7	15	6.5
below average	17	47.2	94	40.5
None of the above	3	8.3	23	9.9
Total	36	100.0	36	100.0

Table 4.35 indicates that none of the tutors was excellent in computer literacy. 2.8% (N=1) of the tutors stated that they were good. 41.6% (N=15) of the tutors stated that they were average in computer literacy, 47.2% (N=17) stated that they were below

average in computer literacy while 8.3% (N=3) stated that they were not excellent, good, average or below average. This implies that most of the tutors were below average in computer literacy. Findings of interview from all the deans of curriculum raised concerns on the ICT skills of the tutors. The deans stated that most of the tutors were not conversant with technology since it is a new thing in the colleges. Tutors lacked the necessary skill to integrate and ended up shying of from using technology; others were technophobia and feared that they would get embarrassed if ICT broke down in the process of teaching.

This findings account for the reasons why most of the tutors do not integrate ICT in the process of teaching Kiswahili. In fact, more than half 55.5% (N=20) were below average in computer literacy. For integration to take place tutors' computer literacy is vital. Ertmer and Otten breit-Left wich (2010) stated that teachers' beliefs' about their own efficacy play an important role in integrating technology into instructions.

Table 4.35 indicates the student teachers' computer literacy level. 11.2% (N=26) of the student teachers stated that they had excellent computer literacy level, 31.9% (N=74) of the student teachers stated that they had good computer literacy level, 6.5% (N=15) of the student teachers stated that they were average in computer literacy level, 40.5% (N=94) of the student teachers state that they were below average in computer literacy level while 9.9% (N=23) stated that they were not computer literate. This implies that more than half of the student teachers 50.4% (N=117) were below average in computer literacy. Competency in computer skill plays a vital role in the application of ICT integration in the classroom teaching. This is because the tutors and student teachers are able to manipulate the tools that are available so as to achieve the objectives of the lesson.

This research establishes that the percemtage of tutors who were below average in computer literacy is more than the percentage of student teachers' who were below. This accounts for the reasons why there are few tutors applying ICT integration and why there are very few tools that are integrated in the process of teaching Kiswahili. Successful integration of ICT in the teaching process among other things is dependent on the preparation of teachers (Chepkemoi and Wanyonyi, (2017)

Table 4.36: Tutors' Responses on Challenges of ICT Integration in P.T.Cs

	Often a Challenge		Not Often a Challenge		Not a Challenge		Total	
Statement on Challenges	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
Inadequate time for preparation	19	52.8	9	25	8	22.2	36	100
Large number of student teacher	24	66.7	4	11.1	8	22.2	36	100
Inefficient coordination of ICT integration in Kiswahili teaching activities	28	77.8	8	22.2	0	0.0	36	100
Limited information on ICT integration	24	66.7	12	33.3	0	0.0	36	100
Ineffective administrative structures of PTCs	21	58.3	9	25.0	6	16.7	36	100
Lack of incentives and scheme of service for ICT personnel	25	69.4	9	25.0	2	5.6	36	100
Ineffective emphasize on ICT integration policy in teacher education in P.T.Cs	27	75.0	9	25.0	0	0.0	36	100
Ineffective implementation of ICT in PTCs curriculum	30	83.3	6	16.7	0	0.0	36	100

Table 4.36, shows various challenges in the integration of ICT in the teaching of Kiswahili. 52.8% (N=19), of the tutors stated that inadequate time for preparation was often a challenge on integration, 25% (N=9), of the tutors stated that inadequate time for preparation was not often a challenge on integration while 22.2% (N=8), of the tutors stated that inadequate time for preparation was not a challenge on integration. This implies that one of the challenges of integration of ICT in the

teaching of Kiswahili was inadequate time for preparation. The researcher did not observe inadequacy of time since all that was taking place in the colleges was within the PTCs curriculum. However findings from interview with deans established that time constraints was one of the major challenges in the integration ofICT in the teaching of Kiswahili; this was mentioned by three deans.

One of the deans said:

> Time constraint is a major issue, for some, they have to teach many lessons and technology requires a lot of preparation, "you have to create time to Google and get relevant material that is applicable for the lesson and then adapt it for presentation (D3).

Another dean said:

> The P1 course is a short course, every hour is used therefore for a tutor to integrate it means one has to sacrifice and find time outside the working hours for preparation and sometimes for presentation (D2).

The Table 4.36 reveals that 66.7% (N=24) of the tutors stated that large number of student teachers' was often a challenge on ICT integration, 11.1% (N=4) of the tutors stated that large number of student teachers was not often a challenge on ICT integration while 22.2% (N=8) of the tutors stated that large number of student teachers was not a challenge on ICT integration. The findings imply that one of the challenges faced in ICT integration was the large number of student teachers in PTCs.

Table 4.36 reveals that 77.8% (N=8) of the tutors stated that inefficient coordination of ICT integration in Kiswahili teaching activities was often a challenge, 22.2% (N=8) of the tutors stated that inefficient coordination of ICT integration in Kiswahili teaching activities was not often a challenge while none of the tutors stated that inefficient coordination of ICT integration in Kiswahili teaching activities was not a challenge. The findings imply that inefficient coordination of ICT integration was a

challenge that faced ICT integration in the teaching of Kiswahili. Findings from interview with the Director e-learning revealed that little has been done on ICT integration in PTCs.

The director e-learning stated that:

> We did not have much in TTCs on digital but we have done something on content. We have developed the content but not released it to the T.T.Cs because of other programmes that have interfered with it such as the introduction of the digital literacy programme in primary schools and the digital programme in secondary schools from form 1-4.

The Director said:

> To be frank with you, quite little has been done on Primary Teachers colleges in Kenya. Sincerely, there was Tafakari Project that was for Mathematics and science. This was implemented in colleges but there was none for Kiswahili.

This research established that ineffective coordination of ICT integration activites in the teaching of Kiswahili begins right from the Ministry of Education, curriculum developers, and colleges to the tutors'. When the systems at the top do not coordinate the activities properly then all the others under it will not function well. This finding concurs with Muyaka (2012) who stated that, the country's national ICT policy makes it a requirement for institutions to integrate ICT in education even though there are no clear guidelines on integration.

Table 4.36 reveals that 66.7% (N=24) of the tutors stated that limited information on ICT integration was often a challenge, 33.3% (N=12) of the tutors stated that limited information on ICT integration was not often a challenge. While 0% (N=0) of the tutors stated that limited information on ICT integration was not a challenge. The findings imply that limited information on ICT integration in the teaching of Kiswahili was a challenge. The findings from deans of curriculum interview revealed

that there was limited information on application of ICT integration. The deans revealed that for a Kiswahili tutor to integrate one has to google to find relevant materials that is applicable for the lesson and then adapt it for presentation. One of the deans said:

> Tutors need information that is prepared rather than transforming the yellow notes into slides. And for the materials that are there, they need to be informed of what is there and in which area it can be integrated (D2).

In addition table 4.36 reveals that 58.3% (N=21) of the tutors stated that limited support from administrative structures in PTCs was often a challenge that they faced, 25.0% (N=9) of the tutors' stated that limited support from administrative structures in PTCs was not often a challenge that they faced, 16.7% (N=6) of the tutors' stated that limited support from administrative structures in PTCs was not a challenge that they faced. The findings imply that limited support from administrative structures in the PTCs was a challenge on ICT integration in the teaching of Kiswahili. The findings concurs to those from the interview, deans established that administrators had gone through trainings that can help them champion ICT integration in the process of teaching and sensitize the tutors on the same but some don't do it.

More so, table 4.36 reveals that 69.4% (N=25) of the tutors stated that lack of incentives and schemes of service for ICT trained personnel was often a challenge, 25% (N=9) of the tutors stated that lack of incentives and schemes of service for ICT trained personnel was not often a challenge while 5.6% (N=2) of the tutors stated that lack of incentives and schemes of service for ICT trained personnel was not a challenge. The findings imply that lack of incentives and schemes of service for ICT trained personnel was often a challenge on ICT integration in the teaching of

Kiswahili. The findings from interview with the deans of curriculum established that there were no ICT trained personnel who would assist the tutors incase of a problem during presentation. The ICT tutors that were there were not given incentives so as to multi task and facilitate the process. This agrees with the findings of Omariba (2016) that the government should ensure technical support team and should be given better terms of service for they multi task.

Also table 4.36 reveals that 75.0% (N=27) of the tutors stated that ineffective emphasize on ICT integration policy in teacher education in PTCs was often a challenge, 25% (N=9) of the tutors stated that ineffective emphasize on ICT integration policy in teacher education in PTCs was not often a challenge while none of the tutors stated that ineffective emphasize on ICT integration policy in teacher education in PTCs was not a challenge. The findings imply that ineffective emphasize on ICT integration policy in teacher education in PTCs was a challenge in the teaching of Kiswahili. Additionally, interview with two deans of curriculum revealed that there was no ICT policy guiding integration in the process of teaching in PTCs, that emphasise is not explicitly brought out by the ministry of education. The findings concurs with the emphasise outlined by Kenya Institute of Education (2011) where the KICD have developed an online orientation courses using Elimika Learning Management Systems whose main aim is to access to information on issues relating to the curriculum and curriculum delivery. The programmes main aim is to equip teachers with knowledge and skills on how to effectively deliver the primary school programme (www.elimika.ac.ke).

Table 4.36 reveals that 83.3% (N=30) of the tutors stated that ineffective implementation of ICT integration in PTCs curriculum was often a challenge, 16.7%

(N=6) of the tutors stated that ineffective implementation of ICT integration in PTCs curriculum was not often a challenge while none of the tutors stated that ineffective implementation of ICT integration in PTCs curriculum was not a challenge. The findings imply that ineffective implementation of ICT integration in PTCs curriculum was another challenge in teaching of Kiswahili. This was also established from the findings of the researchers' interview with the Director e-learning who stated that:

> There was some equipment that were given to colleges but so far we have not followed to know how the equipments were used or whether there has been integration. What am sure of is, computer being offered as a course in the TTC and in the ICT curriculum there is a topic on Integration.

For any programme to be successful there should be implementation, monitoring and evaluation so as to establish the success or failure of the programme. Thus a lot needs to be done by the ministry of education, KICD, administrators, tutors and all the stake holders.

The interview with the Deans of Curriculum established various challenges of ICT integration in the teaching of Kiswahili which include; insufficient ICT materials to be integrated. Four of the interviewed Deans stated that there was unavailability of necessary devices and soft ware to use in a world of continuous stream of internet services. One of them stated that:

> There is lack of materials prepared in soft copy. Tutors need information that is prepared rather than transforming the yellow notes into slides. And for the materials that are there, they need to be informed of what is there and in which area it can be integrated (D2).

Three of the Deans stated that there were no necessary gadgets for ICT integration in the teaching of Kiswahili. The gadgets were few and were not enough to be used by the tutors in the process of teaching Kiswahili. However, one of the deans raised an issue on the physical facilities and said:

> The main challenge is that the institution was not developed to accommodate ICT facilities there are no spacious rooms that can be used. There is a need for the development of the physical facilities that will accommodate ICT. Secondly, connecting those things like computer room you need enough room. At inception of the college these things were not there as a result small rooms were constructed leaving no space to teach using ICT (D1).

All the five Deans of Curriculum raised concerns on the ICT skills of the tutors. They stated that most of the tutors were not conversant with the technology since it is a new thing in the college. Tutors lacked necessary skills to integrate and ended up shying off from using technology; others had technophobia and feared that they would get embarrassed if ICT technology broke down in the process of teaching. One of the Deans vividly said:

> Professional development is not there in most of the colleges yet it is a docket under the Dean of Curriculums office that should keep the lecturers abreast of in the development of curriculum. We have never had empowerment programme for the tutors of Kiswahili, in Mathematics and Science yes. They attend different programmes such as Centre for Mathematics, Science and Technology Education in Africa (CEMASTEA). In this programmes they are taught on integration in the process of teaching Mathematics and Science (D2).

Another Dean said:

> It is important to note that, "Tutors were encouraged and taken for training on ICT integration but implementation was the problem. Some of the trainings that the tutors went through were; INSET (In service Training), TEPD (Teacher Professional Development Programme, fHi360 which was an organization that took over from Teacher Professional Development Programme and SMASSE. All these programmes made attempt to improve technology integration in teaching all subjects. The programme was for all the colleges in Kenya. Since these INSET were held there were many changes such as transfers, natural attrition and younger people got to colleges thus there should be another set of training on the same (D3).

According to two of the interviewed deans, the common challenge observed in the integration of ICT in the teaching of Kiswahili is lack of passion on ICT. When one has passion then one will try to integrate in the process of teaching Kiswahili (D4 and

D5). However D3 had a different perspective on the challenge of integration, the Dean said,

> I think a major challenge is to do with attitude of tutors not training to use ICT. Also it depends on the willingness to learn ICT and integration, and new method of delivery. Any way most of them are not willing (D3).

Finally, two of the deans stated that lack of funds to purchase ICT materials as a challenge to ICT integration. They said that the funding from the ministry is little and the colleges do not have finance to develop these facilities. However, one of the deans revealed that the student teachers' pay for ICT thus the colleges should be able to purchase more tools (D2).

Ineffective trainings by KICD was another challenge. This was noted during an interview in one of the colleges where the Dean raised the issue of some tutors' being trained at the KICD which the Dean termed ineffective. The Dean said that it would be effective if all the tutors' would be trained on integration of ICT in the teaching of Kiswahili from their colleges.

Table 4.37: Tutors' Responses on Solution to the Challenges

Suggested solutions	Frequency	Percent
Provide adequate desktops, laptops, materials, facilities for utilization and funds to support ICT	7	19.4
Curriculum of integration in PTC be put in place and implementation of ICT integration policy to begin with PTCs	11	30.6
Organize ICT training for tutors on ICT integration and in service for teachers teaching Kiswahili	12	33.3
Give policy guidelines and information to tutors on new development as well as embracing ICT integration in colleges starting with the ministry officials to those in the implementation level	6	16.7
Total	**36**	**100.0**

Table 4.38 shows tutors' responses on the challenges facing integration of ICT in the process of teaching Kiswahili. 19.4% (N=7) of the tutors stated that there should be provision of adequate desktops, laptops materials and facilities for utilization. In addition, there should be funds to support Information and Communications technology. 30.6% (N=11) of the tutors stated that the ministry should put curriculum of integration in PTC in place and implementation of ICT integration policy should begin with PTCs.

In the same table 4.38, 33.3% (N=12) stated that ICT training for tutors on ICT integration and in service for tutors teaching Kiswahili should be organized. Finally, 16.7% (N=6) stated that policy guidelines and information to tutors' on new development as well as embracing ICT integration in colleges starting with the ministry officials to those in the implementation level.

The findings from the Deans of Curriculum interview established solutions for the challenges of ICT integration in the teaching of Kiswahili, which included; the government and the other stake holders to put more effort to face lift the colleges for instance the classrooms, the government should also equip the colleges with adequate ICT materials. The government and the stake holders should provide the required devices to enhance the uptake of ICT in Kiswahili.

One of the deans stated that:

> The government should put more efforts in the primary teacher colleges. They should have refresher courses in the college. They should bring refresher courses to the colleges targeting all the tutors not targeting one tutor who is supposed to come and induct others.
>
> She strongly said, 'when people are not brought information, (silence…) they keep on asking, why I should bother using ICT in the process of teaching Kiswahili.' For it to succeed let them have a week

> and take all the lecturers through the process of Integrating ICT in the process of teaching Kiswahili and other subjects.

Additionally, The college should organize resources so as to buy the various ICT tools that are required for integration, for instance each department is supposed to have a computer of its own preferably laptop due to portability and the number of modems should be increased in the colleges so that tutors can access internet easily (D2).

According to two of the interviewed Deans, there was need for professional development centers for the tutors. One of the Deans stated that:

> We need to resuscitate the professional development centre in all the colleges so as to empower the tutors and the student teachers. This will provide the tutors with integration skills required (D2).

Another Dean stated that:

> I am looking forward for the day our college will have a cyber cafe' with a technician so that as a tutor you can go there and practice what you want. Currently the ICT department is used for teaching the students. (D3)

According to one Dean, tutors should integrate using the available tools since the student teachers' are taught on how to operate the computers but they need to learn the skill of integration from their tutors. So if the tutors apply ICT in the process of teaching Kiswahili that is when they can also incorporate it in their career just as their tutors did (D1). Another Dean revealed that the administrators in the colleges have gone through some trainings such a KEMI that would assist them be at the fore front to integrate and sensitize the tutors on the importance of integration (D2).

More so, four deans said that, they needed partnership with other organizations to help the colleges get facilities such as hyperlink that you can give the students assignment through a certain link, internet connectivity and also training on more ICT links that can be integrated in the teaching of Kiswahili.

According to one of the Deans, tutors' should live by the mission of the colleges since it guides on ICT integration not only in Kiswahili but in all the subjects. The dean said,

> We should live by our missions in the colleges for instance the mission of this is to promote and sustain the training of competent, qualified and effective teachers, using modern techniques in order to satisfy dynamic societal needs & expectation of the 21st century. As we live to this mission if a tutor is using yellow notes one should be able to change. (*Looking at the researcher the Dean said,*) The mission captures your need. "This is quite a pregnant mission and if lived by, we will achieve a lot." I constantly inform lecturers on the need to live up to college mission. For me I keep on mentioning this on the use of modern techniques to my tutors'. (D2)

The Director e-Learning called tutors to embrace technology as one of the solutions. The Director said:

> I have been challenging the college tutors to pick up the issue of ICT integration; they should embrace technology since anything that one does is all based on technology. They are the ones to integrate so as to prepare the student teachers'. It is in the colleges and university where we can win since from them the teachers can propagate and practice what they have learnt.

4.8 Summary

The chapter focused on data analysis, presentation, interpretation and discussion of the collected data from the tutors and student teachers by means of questionnaires, and observation schedule and data from Director e-Learning (KICD) and Deans of Curriculum that was collected through interviews.

There are different types of ICT integration tools that can be applied integration in the teaching of Kiswahili but only a few were mostly integrated; these are internet, power point and YouTube. Also most tutors' accessed ICT facilities through computer lab in the college while student teachers accessed ICT facilities during ICT lessons, very few student teachers accessed ICT facilities during Kiswahili lesson presentation.

The investigation further established that very few tutors integrated in the process of teaching Kiswahili in fact; majority of the student teachers had not experienced application of most of the tools.

Application of ICT integration is of benefits to the teaching of Kiswahili since ICT is a key component in the new curriculum, student teachers are able to have a new dimension of doing things, coverage of the course content is fast, and student teachers are able to retain knowledge which will thus lead to good performance in the subject. In addition, tutors are able to get updated knowledge and learning becomes easier and fun. Student teachers' are motivated to apply technology and are able to emulate the tutors'.

The investigation established that the tutors acknowledged the benefits of ICT integration more than the student teachers. The percentage of the tutors' stating that the benefits are important is more than that of the student teachers as shown by table 4.31 and table 4.32, yet the student teachers should be the ones to embrace ICT more than the tutors since they are growing in a digital era, the laptop programme awaits them in the schools they are going to teach and vision 2030 require the teachers since the nation relies on education and training to create a sustainable pool of highly trained human resource and capital that underpins the ambition of the nation to be a knowledge based economy by the year 2030.

The inquiry revealed that tutors' attitudes on application of ICT integration were positive; they were enthusiastic of the new technology. Though the tutors had positive attitude they did not integrate, they failed to utilize ICT integration in the teaching of Kiswahili thus it was not a practice in the PTCs.

Additionally, the research established some challenges to the study which include lack of ICT integration policy in public PTCs, emphasis is not explicitly brought out by the ministry and funding from the ministry is little. Lack of professional development in the colleges to keep the tutors informed of the new developments in the curriculum. Empowerment programmes for the Kiswahili tutors are lacking or lack of INSETs. Lack of materials prepared in soft copy for integration purposes. Insufficient materials and gadgets for instance the ratio of computer to student teachers' is still high that is 1:3. A major challenge is low levels of computer literacy skills among the tutors' mostly and then student teachers'.

The researcher established that there are various solutions to these challenges which include the ministry of education should be explicitly on the policy of ICT integration in the colleges and through the government funds should be provided for sufficient tools and equipments for ICT integration in PTCs. There should be INSETs for all the tutors in PTCs on ICT integration in the teaching of Kiswahili. The KICD should engage Kiswahili experts and more so, tutors to develop ICT integration content that can be disseminated to the PTCs for the tutors to integrate in the teaching of Kiswahili. Tutors to embrace integration of ICT in the teaching of Kiswahili and the colleges should empower the tutors by resuscitating the professional development centers that will provide the tutors and the student teachers with the necessary ICT skills that will allow integration.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the study, conclusions, recommendations, gaps which must be filled through further study and summary of the chapter.

5.2 Summary of the Study

The study sought to establish tutors' application of information and communications technology integration in teaching Kiswahili in public primary teachers' colleges in Kenya: the case of Rift Valley Region. Chapter one presented the background to the study, statement of the problem, the purpose of the study and its objectives which were drawn from the four identified independent variables. The research questions addressing the objectives, justification, significance, assumptions, scope of the study and limitations of the study, theoretical frame work, conceptual frame work and operational definition of terms were presented.

Chapter two reviewed relevant literature related to tutors' application of ICT in teaching of Kiswahili in Public Primary Teachers' Colleges in Kenya. The chapter begins with the introduction then focused on the literature relating to every objective under the following sub-headings; types of ICT integration tools applied in the teaching of Kiswahili, benefits of ICT integration in the teaching of Kiswahili, attitudes of tutors' on ICT integration in the teaching of Kiswahili, and Challenges of facing tutors of application of ICT integration in the teaching of Kiswahili in PTCs.

Chapter three discusses the methodology of the study. The study employed sequential mixed methods design. The chapter described the location of the study, research paradigm, research design, target population, sample size and sampling procedures,

data collection instruments, pilot study, validity and reliability, data collection procedures, data analysis and ethical consideration.

Chapter four focuses on the data analysis, presentation, interpretation and discussion of collected data from the tutors', student teachers', Deans of Curriculum and Director e-Learning (KICD). The results of the study are presented using frequencies, percentages and bar graphs, also in narrative and verbatim.

5.3 Summary of the findings

The study investigated tutors' application of information and communications technology integration in teaching of Kiswahili in public primary teachers' colleges in Kenya: The case of Rift Valley region. The investigation was guided by four objectives which have also guided the presentation of the summary.

5.3.1 Types of ICT Integration Tools Applied in the Teaching of Kiswahili in Public PTCs

The findings of the first objective revealed that there were different types of ICT tools available for integration in the teaching of Kiswahili in the following percentages; smart phones 91.7%, power point 88.9%, DVDs 83.3%, internet 75%, LCD projectors 72.2%, ebooks 30.6%, interactive white board 19.4%, weblogs11.1% and hyperlink 8.3% from the highest to the lowest in availability.

The study found out that most of the tutors accessed ICT facilities through the computer lab in the college while the student teachers accessed the facilities during ICT lesson. A few student teachers accessed ICT facilities during Kiswahili presentation by the tutors. This is a clear indication that very few tutors did integrate ICT in the teaching of Kiswahili.

In the process of teaching *sarufi*, internet was mostly applied, in the teaching of *insha*, power point was mostly applied. In teaching *fasihi andishi*, power point, was applied. In teaching *fasihi simulizi*, YouTube was mostly applied. In teaching *ushairi*, power point was mostly applied. However, the number of tutors' applying each tool was few than the number of tutors' who stated that they did not apply any of the mentioned tools. This is justified by the large number of the student teachers' who stated that they had no idea of the mentioned tools. This implies that they had no experience of such tools being applied in the process of teaching Kiswahili.

In the teaching of different levels of *sarufi* (grammar), different tools were used for instance in teaching *matamshi ya Kiswahili*, internet was mostly applied. In teaching *maneno ya Kiswahili,* internet was frequently applied. In teaching *sentensi za Kiswahili,* internet was frequently used. Finally, in teaching *msamiati wa Kiswahili*, power point was applied most of the times as compared to other ICT tools that were applied in ICT integration in the teaching of Kiswahili. Therefore, in teaching sarufi only two tools were mostly used, these are internet and power point.

The study established that, power point was mostly used to teach *insha ya barua*, *insha ya kumbukumbu, insha ya taarifa* and *insha ya ratiba.* Additionally, the investigation established that both the tutors' and student teachers' indicated that power point, was mostly used in teaching of *wahusika wa riwaya*, *wahusika wa tamthilia*, *mbinu za lugha za tamthilia na riwaya*. Finally, power point was used to teach *maudhui ya riwaya na maudhui ya tamthilia*. Thus the two ICT tools that were mostly integrated in the process of teaching *riwaya na tamthilia* were power point and internet.

The study also established that in the teaching of *fasihi simulizi* that is *ushairi simulizi*, *hadithi*, *maigizo* and *semi*, YouTube was mostly integrated, additionally, in the teaching of *ushairi*, power point was mostly applied in the teaching of *bahari za ushairi, mbinu za lugha, idhini ya mwandishi* while internet was integrated in the teaching of *maudhui ya ushairi*. Thus the two tools that were mostly applied in the teaching of *maudhui ya ushairi* were power point and internet.

The findings reveal that integration was minimal since most of the tutors' indicated not applying any of the mentioned ICT tools; these tutors were more than those who indicated applying any of the tools. However internet, power point and YouTube were mostly applied in the process of teaching Kiswahili.

5.3.2 Benefits of Application of ICT Integration in Teaching Kiswahili in PTCs

The second objective was to determine the benefits of application of ICT integration in teaching of Kiswahili. Application of ICT integration is of benefits to the teaching of Kiswahili since ICT is a key component in the new curriculum, student teachers are able to have a new dimension of doing things, coverage of the course content is fast, and student teachers are able to retain knowledge which will lead to good delivery of the content in the subject. In addition, the student teachers are able to get updated knowledge and learning becomes easier and fun, they are motivated to apply technology and are able to emulate the tutors'.

In addition the investigation established that application of ICT integration had many benefits that would be achieved in the teaching of Kiswahili. These include improving communication skills, improving reading skills, improving analysis skills, and improving writing techniques.

Additionally, application of ICT integration was important in improving peer mediation, improving expert mediation, improving high order thinking among student teachers, allowing students to access Kiswahili through World Wide Web, reducing digital divide, providing new instructional stimuli, improving concentration and retention, giving relevance of teacher education in the 21st century, enabling tutors to mentor student teachers in implementing the digital content in their career.

The investigation established that the tutors acknowledged the benefits of ICT integration more than the student teachers. The percentage of the tutors' stating that the benefits are important is more than that of the student teachers as shown by table 4.21 and table 4.22, yet the student teachers should be the ones to embrace ICT more than the tutors since they are growing in a digital era, the laptop programme awaits them in the schools they are going to teach and vision 2030 require the teachers since the nation relies of the education and training to create a sustainable pool of highly trained human resource and capital that underpins the ambition of the nation to be a knowledge based economy by the year 2030.

5.3.3 Attitudes of the Tutors on ICT Integration in Teaching Kiswahili in Public PTCs

The third objective was to determine the attitudes of the tutors on ICT integration in teaching Kiswahili in Public PTCs. The findings established that tutors' had positive attitude towards application of ICT integration in the teaching of Kiswahili. More than half of the tutors' showed interest on application of ICT integration in the process of teaching Kiswahili, agreed that; ICT strengthens teachers authority, application of ICT demonstrates to the student teachers' the innovative way of teaching Kiswahili, application of ICT integration in the teaching of Kiswahili was

not difficult, there is no content matter that can be taught using ICT meaning that there is content in Kiswahili that can be taught using ICT, ICT integration was a not a burden to the tutors and integration of ICT is not for the young professional in PTCs.

Although the attitudes were positive more than half of the tutors failed to utilize ICT integration in teaching Kiswahili and integration of ICT was not a practice in classrooms in PTCs. Additionally, ICT integration did not prompt student teachers understanding of Kiswahili subject in PTCs, lastly ICT integration was seen to be time consuming. However, the findings indicate that most of the tutors were undecided on whether application of ICT integration weakens tutors' authority in teaching Kiswahili.

The findings established that tutors' had positive attitude towards application of ICT integration in the teaching of Kiswahili, though the attitudes were positive, majority tutors did not apply ICT integration in the process of teaching.

5.3.4 Challenges Facing Tutors in the Application of ICT Integration in Teaching Kiswahili in Public PTCs

The fourth objective was to establish the challenges facing tutors in the application of ICT integration in teaching Kiswahili in Public PTCs. The research established various challenges which include, computer illiteracy; more than half of the tutor 55.5% (N=20) were below average in computer literacy. The percentage of tutors who were below average in computer literacy is more than that of student teachers which was at 50.4% (N=117). This may, account for the reasons why most of the tutors do not integrate ICT in the process of teaching Kiswahili.

The findings established more challenges such as inadequate time for preparation, large number of student teachers in teachers' colleges, inefficient coordination of ICT integration in the teaching of Kiswahili, limited information on ICT integration in the teaching of Kiswahili, limited support from administrative structures, lack of incentives and schemes of service for ICT trained personnel, ineffective emphasize on ICT integration policy in teacher education in PTCs, ineffective implementation of ICT integration in PTCs curriculum was often a challenge on application of ICT integration in the teaching of Kiswahili.

The research also revealed solutions to the challenges on application of ICT integration in the teaching of Kiswahili. These include provide adequate desktops, laptops, materials, facilities for utilization and funds to support ICT, ICT curriculum on integration in PTC be put in place and implementation of ICT integration policy to begin with PTCs, Organize ICT training for tutors on ICT integration and in service for teachers teaching Kiswahili, give policy guidelines and information to tutors on new development as well as embracing ICT integration in colleges starting with the ministry officials to those in the implementation level.

More solutions revealed from the study include sensitization of the tutors on the importance of ICT, sensitizing the tutors' on effective implementation of ICT integration in PTCs curriculum, train more tutors on ICT and allocate more time to ICT lessons so that the student teachers can be able to use different tools to learn Kiswahili, purchase more laptops for every department, also DVDs so that tutors' can easily use them without necessarily going to the computer lab, computer skills training should be part of continuous development programme for the tutors' so that they can integrate in the process of teaching Kiswahili.

Many tutors and student teachers are illiterate in computer skills thus there should be more emphasize on computer learning and, ICT integration in teaching Kiswahili should be made mandatory, Provide more computers to teachers college that can be used to reduce the ration of computer to student teachers.

5.4 Conclusion of the Study

There are different types of ICT tools that can be applied in ICT integration in the teaching of Kiswahili but only a few were mostly integrated; these are internet, power point and YouTube. Also most tutors' accessed ICT facilities through computer lab in the college while student teachers accessed ICT facilities during ICT lessons, very few student teachers accessed ICT facilities during Kiswahili lesson presentation. The investigation further established that very few tutors integrated in the process of teaching Kiswahili in fact; majority of the student teachers had not experienced application of any of the tools.

Application of ICT integration is of benefits to the teaching of Kiswahili since ICT is a key component in the new curriculum, student teachers are able to use ICT tool, they are able to use different senses in learning, coverage of the course content is fast, student teachers are able to retain knowledge, learning becomes interesting and enjoyable and Student teachers' are motivated to apply technology like their the tutors'.

The inquiry established that tutors' attitudes on application of ICT integration were positive; they were enthusiastic of the new technology. Though the tutors had positive attitude they did not integrate, they failed to utilize ICT integration in the teaching of Kiswahili thus it was not a practice in the PTCs.

Additionally, the research established some challenges to the study which include lack of ICT integration policy in public PTCs, emphasis is not explicitly brought out by the ministry and funding from the ministry is little. Lack of professional development in the colleges to keep the tutors informed of the new developments in the curriculum. Lack of empowerment programmes for the Kiswahili tutors or lack of INSETs, Lack of materials prepared in soft copy for integration purposes. Insufficient materials and gadgets for instance the ratio of computer to student teachers' is still high that is 1:3. A major challenge is low levels of computer literacy skills among the tutors' mostly and then student teachers'.

The researcher concludes that there are various solutions to these challenges which include the ministry of education should be explicitly on the policy of ICT integration in the colleges and through the government funds should be provided for sufficient tools and equipments for ICT integration in PTCs. There should be INSETs for all the tutors in PTCs on ICT integration in the teaching of Kiswahili. The KICD should engage Kiswahili experts and more so, tutors to develop ICT integration content that can be disseminated to the PTCs for the tutors to integrate in the teaching of Kiswahili. Tutors to embrace integration of ICT in the teaching of Kiswahili and the colleges should empower the tutors by resuscitating the professional development centers that will provide the tutors and the student teachers with the necessary ICT skills that will allow integration.

5.5 Recommendation of the Study

Based on the findings and the conclusions of the study, the researcher makes the following recommendations;

i. The ministry of education should develop an ICT policy on integration of ICT in the teaching of Kiswahili in PTCs. Funds should be provided for sufficient tools and equipments for ICT integration in PTCs.
ii. The KICD should engage Kiswahili experts and more so tutors to develop ICT Kiswahili content in soft copy; these include the DVDs in all Kiswahili topics, e-books, and hyperlinks on various topics in Kiswahili.
iii. KICD should come up with clear guidelines on application of ICT integration in the teaching of Kiswahili in PTCs with the relevant content so that the output from PTCs can remain relevant in the job market
iv. KICD to organize INSETs for all Kiswahili tutors in PTCs on ICT integration in the teaching of Kiswahili.
v. Colleges to resuscitate the professional development centers that will provide the tutors and the student teachers with the necessary ICT skills that will allow integration.
vi. College administration and the ministry of education should monitor ICT integration in the teaching of Kiswahili and have the process evaluated.
vii. Application of ICT integration in the process of teaching Kiswahili should be made mandatory and tutors who integrate should be rewarded.

5.6 Suggestions for Further Research

The study established gaps that could be filled through further study. These gaps are;

i. A study to investigate the student teachers' attitudes towards application of ICT integration in the teaching of Kiswahili.
ii. A correlational study of Kiswahili performance in colleges that integrate and the ones that do not integrate ICT in the teaching of Kiswahili.

5.7 Summary

This chapter has presented the study summary, conclusion and recommendation of the study. The purpose of this study was to find out how tutors integrate ICT knowledge, skills and tools in the teaching of Kiswahili in public PTCs. The study has highlighted on the various ICT integration tools applied in the process of teaching various aspects of Kiswahili, the benefits of ICT integration in the teaching of Kiswahili, the attitudes of the tutors towards integration, and the challenges of Integration in the teaching of Kiswahili. Various recommendations have been made for possible actions by the concerned stake holders.

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APPENDICES

Appendix I: Introduction Letter

Dear respondent,

I am a Phd student from the University of Eldoret conducting a study on the tutors' application of ICT in teaching Kiswahili in Public Primary Teachers' Colleges in Kenya: the case of Rift Valley Region. The purpose of this questionnaire is to seek information from you by answering all the question items for the purpose of informing the study.

You are kindly requested to give your response with utmost honesty, and you are assured that your responses will be treated with confidentiality. You are also requested not to write your name on the questionnaire.

Kindly note that the information gathered is for academic purposes only, as such it is not intended by the researcher or the University to publish part of the data gathered herein for any economic or otherwise gain.

Your co-operation is highly appreciated.

Yours sincerely,

Rebecca Wanjiku-Omollo
EDU/DPHIL/PGC/1001/13

Appendix II: Questionnaire for Kiswahili Tutors

Place a tick (✓) or explanation where applicable in the following questionnaire

SECTION A: DEMOGRAPHIC DETAILS OF RESPONDENT

1. Gender Female ☐ Male ☐

2. Age bracket

   20-30years……. ☐
   31-40 years …….. ☐
   41-50years……. ☐
   51-60 years……. ☐

3. Highest level of education attained

   Diploma……. ☐
   Bachelor's degree…. ☐
   Masters……. ☐
   Phd……. ☐

4. How many years have you taught Kiswahili PTC?

   1-5 Years…….. ☐
   6-10 Years……. ☐
   11-15 Years…….. ☐
   16-20 Years…….. ☐
   30 Years and above.. ☐

SECTION B: TYPES OF ICT INTEGRATION TOOLS APPLIED APPLIED IN THE TEACHING OF KISWAHILI IN PUBLIC TEACHERS' COLLEGES

5. Do you have a computer lab?

   Yes ☐ No ☐

   If yes what type of computers?

   Laptops……. ☐
   Desktop…….. ☐
   Both laptops and desktop… ☐

6. Indicate the ratio of computer to student teacher in the computer lab

   1:1……. ☐
   1:2…….. ☐
   1:3…….. ☐
   1:5……. ☐
   1 with crowded student teachers……. ☐

7. Put a tick (✓) where applicable if the following types of ICT are available in your college

	TYPES	AVAILABLE	NOT AVAILABLE
1.	Internet access		
2.	Weblogs		
3.	Interactive whiteboards		
4.	LCD projectors		
5.	Power point		
6.	YouTube		
7.	DVDS		
8.	e-books		
9.	Smart Phones		
10.	Hyperlink		

8. Do you have an access to ICT facilities? Yes ☐ No ☐

   If yes explain how you access ICT facilities in your college……

   ……

   …….

9. Indicate your experience of using ICT integration in teaching Kiswahili in the following areas as put in the table below.

KISWAHILI AREA	ICT TOOLS	WRITE ICT TOOL USED
SARUFI	-DVDs -e-books -Power Point -Hyperlink -YouTube -Interactive Whiteboard -Internet -Weblogs	…… …… …… …… ……
INSHA	-DVDs -e-books -Power Point -Hyperlink -YouTube -Interactive Whiteboard -Internet - Weblogs	…… …… …… …… ……
FASIHI ANDISHI	-DVDs -e-books -Power Point	…… …… ……

	-Hyperlink -YouTube -Interactive Whiteboard -Internet - Weblogs	…… ……
FASIHI SIMULIZI	-DVDs -e-books -Power Point -Hyperlink -YouTube -Interactive Whiteboard -Internet - Weblogs	…… …… …… …… ……
USHAIRI	-DVDs -e-books -Power Point -Hyperlink -YouTube -Interactive Whiteboard -Internet - Weblogs	…… …… …… …… ……

10. Indicate what tool you used to teach the following subtopic.

KISWAHILI AREAS	MADA NDOGO (SUB TOPICS)	INDICATE TOOLS USED
SARUFI	-matamshi -aina za maneno -aina za sentensi -misamiati	…… …… …… ……
INSHA	-Barua -Kumbukumbu -Taarifa -Insha za methali	…… …… …… ……
FASIHI ANDISHI	-Wahusika katika riwaya -Wahusika katika tamthilia -Mbinu za lugha katika riwaya -Mbinu za lugha katika tamthilia -Maudhui ya riwaya -Maudhui ya tamthilia	…… …… …… ……
FASIHI SIMULIZI	Ushairi simulizi Hadithi/ simulizi Semi maigizo	…… …… …… ……
USHAIRI	Maudhui Bahari za ushairi Mbinu za lugha Idhini ya mwandishi	…… …… …… ……

SECTION C: BENEFITS OF ICT INTEGRATION IN TEACHING KISWAHILI IN PUBLIC PRIMARY TEACHERS' COLLEGES

11. Use the following scale to indicate your opinion on the benefits of ICT integration in teaching Kiswahili. Place a tick where you think best.

    Key: Important, Least Important, not important

	Statements on benefits of ICT integration	Important (✓)	Least important (✓)	Not important (✓)
1.	ICT improves communication skills			
2.	ICT improves reading skills			
3.	ICT improves analysis skills			
4.	ICT improves writing technique			
5.	ICT improves peer mediation in teaching Kiswahili			
6.	ICT integration improves expert mediation in teaching Kiswahili			
7.	ICT improves Kiswahili students motivation and engagement in learning activities			
8.	ICT engages Kiswahili student in higher order thinking			
9.	ICT allowed students to access Kiswahili information through world wide web.			
10	ICT Integration in Kiswahili has reduced digital divide			
11	ICT Integration provides new instructional stimuli			
12	ICT Integration improves concentration and retention			
13	ICT Integration gives relevance of teacher education in the 21st Century			
14	ICT Integration enables tutors to mentor student teachers in implementing the digital content during Teaching Practice in Primary school			

SECTION D: ATTITUDES OF TUTORS' ON ICT INTEGRATION IN THE TEACHING OF KISWAHILI

12. Please, read the statements below and for each of the statement tick ( ) the one that best describes your views on the statements.

KEY: Strongly agree = SA, Agree =A, Undecided = U, Disagree = D, Strongly Disagree= SA

	STATEMENT	SA	A	U	D	SD
1.	Many tutors show interest in ICT integration in PTCs					
2.	Many tutors' have failed to utilize ICT integration in teaching Kiswahili in PTCs					
3.	ICT integration is a practice in classrooms in PTCs					
4.	ICT integration has prompted student teachers understanding of Kiswahili subject in PTCs					
5.	ICT integration weakens teachers' authority in teaching Kiswahili					
6.	ICT integration strengthens teacher' authority in teaching Kiswahili					
7.	Integrating ICT in Kiswahili demonstrates to the student teachers the innovative way of teaching Kiswahili					
8.	It is difficult to integrate ICT in the teaching of Kiswahili in PTC.					
9.	Application of ICT integration in classroom instruction is time consuming					
10.	There is no Kiswahili content matter that can be taught using ICT					
11.	Application of ICT in teaching Kiswahili is a burden to the tutor					
12.	The application of ICT in teaching Kiswahili is for the young tutors in the]profession in PTCs					

SECTION E : CHALLENGES OF ICT INTEGRATION IN P.T.Cs

13. Indicate your level of computer literacy? Excellent…… ☐
Good……. ☐
Average……. ☐
Below average…… ☐
None of the above……. ☐

14. a) Please, read the following statements and for each place a tick (✓) on the space provided to indicate your experience on the challenges stated.

Challenges facing tutors on ICT integration	Often a challenge	Not often a challenge	Rarely a challenge
Inadequate time for preparation			
Large number of student teachers			
Inefficient coordination of ICT integration in Kiswahili teaching activities			
Limited information on ICT integration			
Limited support from college administrative structures in PTCs			
Lack of incentives and schemes of service for ICT trained personnel			
Ineffective emphasize on ICT integration policy in teacher education in P.T.Cs			
Ineffective implementation of ICT integration in PTCs curriculum			

b) Give your suggestions to as the solutions to the above challenges in 14 (a) above……

……

……

THANK YOU FOR RESPONDING TO ALL QUESTIONS

Appendix III: Questionnaire for Student Teachers

Place a tick (✓) or explanation where applicable in the following questionnaire

SECTION A: DEMOGRAPHIC INFORMATION

1. Indicate your gender
   - Male……. ☐
   - Female……. ☐
2. Indicate your age bracket
   - 18years- 20 years……. ☐
   - 21 years – 24 years……. ☐
   - 25 years – 28 years…….. ☐
   - 29 years – 31 years……. ☐
   - 32 and above……. ☐

SECTION B: TYPES OF ICT INTEGRATION TOOLS APPLIED IN THE TEACHING OF KISWAHILI IN PUBLIC TEACHERS' COLLEGES

3. Do you have a computer lab?

   Yes……. ☐
   No……. ☐

   If yes what type of computers?
   - Laptops…… ☐
   - Desktop…… ☐
   - Both laptops and desktop…… ☐

4. Indicate the ratio of computer to student teacher in the computer lab

   1:1…… ☐
   1:2…… ☐
   1:3…… ☐
   1:5…… ☐
   1 with crowded student teachers …… ☐

5. Put a tick (✓) where applicable if the following types of ICT are available in your college

	TYPES	AVAILABLE	NOT AVAILABLE
1.	Internet access		
2.	Weblogs		
3.	Interactive whiteboards		
4.	LCD projectors		
5.	Power point		
6.	YouTube		
7.	DVDS		
8.	e-books		
9.	Smart Phones		

6. Do you have an access to ICT facilities? Yes ☐ No ☐

If yes explain how you access ICT facilities in your college……...……...

……..……

……..

7. Indicate your experience of using ICT integration in teaching Kiswahili in the following areas as put in the table below.

KISWAHILI AREA	ICT TOOLS	WRITE ICT TOOL USED
SARUFI	-DVDs -e-books -Power Point -Hyperlink -YouTube -Interactive Whiteboard -Internet -Weblogs	…… …… …… …… ……
INSHA	-DVDs -e-books -Power Point -Hyperlink -YouTube -Interactive Whiteboard -Internet - Weblogs	…… …… …… …… ……
FASIHI ANDISHI	-DVDs -e-books -Power Point -Hyperlink -YouTube -Interactive Whiteboard -Internet - Weblogs	…… …… …… …… ……
FASIHI SIMULIZI	-DVDs -e-books -Power Point -Hyperlink -YouTube -Interactive Whiteboard -Internet - Weblogs	…… …… …… …… ……

USHAIRI	-DVDs -e-books -Power Point -Hyperlink -YouTube -Interactive Whiteboard -Internet - Weblogs	…… …… …… …… ……

8. Indicate what tool the tutors used to teach the following subtopic.

KISWAHILI AREAS	**MADA NDOGO (SUB TOPICS)**	**INDICATE TOOLS USED**
SARUFI	-matamshi -aina za maneno -aina za sentensi -misamiati	…… …… …… …… ……
INSHA	-Barua -Kumbukumbu -Taarifa -Insha za methali	…… …… …… …… ……
FASIHI ANDISHI	-Wahusika katika riwaya -Wahusika katika tamthilia -Mbinu za lugha katika riwaya -Mbinu za lugha katika tamthilia -Maudhui ya riwaya -Maudhui ya tamthilia	…… …… …… …… …… ……
FASIHI SIMULIZI	Ushairi simulizi Hadithi/ simulizi Semi Maigizo	…… …… …… …… ……
USHAIRI	Maudhui Bahari za ushairi Mbinu za lugha Idhini ya mwandishi	…… …… …… …… ……

SECTION C: BENEFITS OF ICT INTEGRATION IN TEACHING KISWAHILI IN PUBLIC PRIMARY TEACHERS' COLLEGES

9. Use the following scale to indicate your opinion on the benefits of ICT integration in teaching Kiswahili. Place a tick where you think best.

Key: Important, Least Important, Not important

Statements on benefits of ICT integration	**Important** (✓)	**Least important** (✓)	**Not important** (✓)
ICT improves communication skills			
ICT improves reading skills			
ICT improves analysis skills			
ICT improves writing technique			
ICT improves peer mediation in teaching Kiswahili			
ICT integration improves expert mediation in teaching Kiswahili			
ICT improves Kiswahili students motivation and engagement in learning activities			
ICT engages Kiswahili student in higher order thinking			
ICT allowed students to access Kiswahili information through world wide web.			
ICT Integration in Kiswahili has reduced digital divide			
ICT Integration provides new instructional stimuli			
ICT Integration improves concentration and retention			
ICT Integration gives relevance of teacher education in the 21st Century			
ICT Integration enables tutors to mentor student teachers in implementing the digital content during Teaching Practice in Primary school			

SECTION D: ATTITUDES OF TUTORS' ON ICT INTEGRATION IN THE TEACHING OF KISWAHILI

10. Please, read the statements below and for each of the statement tick (✓) the one that best describes your views on the statements.

KEY: Strongly agree = SA, Agree =A, Undecided = U, Disagree = D, Strongly Disagree= SA

STATEMENT	SA	A	U	D	SD
Many tutors show interest in ICT integration in PTCs					
Many tutors' have failed to utilize ICT integration in teaching Kiswahili in PTCs					
ICT integration is a practice in classrooms in PTCs					
ICT integration has prompted student teachers understanding of Kiswahili subject in PTCs					
ICT integration weakens teachers' authority in teaching Kiswahili					
ICT integration strengthens teacher' authority in teaching Kiswahili					
Integrating ICT in Kiswahili demonstrates to the student teachers the innovative way of teaching Kiswahili					
It is difficult to integrate ICT in the teaching of Kiswahili in PTC.					
Application of ICT integration in classroom instruction is time consuming					
There is no Kiswahili content matter that can be taught using ICT					
The application of ICT in teaching Kiswahili is for the young tutors in the profession in PTCs					

SECTION E: CHALLENGES OF ICT INTEGRATION IN P.T.Cs

11. Are you computer literate?

Yes ☐ No ☐

If yes for how many years have you used a computer?

1-3years……☐
4-6 years……☐
7-9 years……☐
10 years and above…..☐

13. Indicate your level of computer literacy?

Excellent……..☐
Good……☐
Average……☐
Below average…….☐
None of the above……☐

THANK YOU FOR RESPONDING TO ALL QUESTIONS

Appendix IV: Observation Guide

a) Types of ICT in use in teaching Kiswahili

Types of ICT integration available in P.T.Cs	Observed	Not observed
Power Point Presentation		
YouTube		
Interactive white board		
LCD projector		
DVDs		
Smart phones		
e-books		
Weblogs		
Internet		
Hyperlink		

b) Challenges Observed on ICT integration in teaching Kiswahili

Learning resources	Observed	Not observed
Insufficient supply of electric power		
Insufficient computers		
Lack of time to integrate		
Busy schedules in the colleges		
Unavailable internet connections		
Unreliable internet connections		
Large number of student teachers.		
Tutors not conversant with ICT		

Appendix V: Informed Consent

Title of the Study: Tutors' application of Information Communication Technology Integration in Teaching of Kiswahili in Public Primary Teachers Colleges in Kenya: The case of Rift Valley Region.

Researcher: Rebecca Wanjiku-Omollo
School of Education,
University of Eldoret
Mob: 0724944609, **EMail:** becmollo@gmail .com

Dear Sir/Madam,

I am a PHD candidate in the University of Eldoret and am carrying out a research on Tutors' application of Information Communication Technology in the Teaching of Kiswahili in Public Primary Teachers' Colleges in Kenya: The case of Rift Valley Region.

The purpose of this study is to investigate the application of ICT in the teaching of Kiswahili in public primary teachers' colleges in Kenya. I request you to take part in this research study by allowing the researcher to have an interview session with you.

There is no risk foreseen from your participation in this study. You may decline to answer some of the questions, all questions or even terminate your involvement at any time if you wish.

It is anticipated that the findings of the study will shed light on the integration of ICT in the teaching of Kiswahili. The findings will help the ministry of education, the Kenya Institute of Curriculum Development and the tutors' in colleges adapt ICT integration in the teaching of Kiswahili.

CONSENT

By signing this consent form, I confirm that I have read and understood the information and i have had the opportunity to ask and answer questions from the interviewee. I understand that my participation is voluntary and that I am free to withdraw at any given time, without giving any reason and without cost. I understand that I will be given a copy of the deliberations of the interview. I voluntarily accept to take part in this study.

Respondent's
Signature.....Date.....

Researcher's
Signature.....Date.....

Appendix VI: Interview Schedule for Director E-Learning KICD

This interview is meant to collect data for purely academic work**.** The study seeks to **investigate Tutors' Application of ICT in the Teaching of Kiswahili in Public Primary Teachers' Colleges in Kenya: The Case of Rift Valley Region**

1. How old is ICT integration in teachers colleges?
2. How is the concept of ICT integration in teacher colleges evaluated?
3. Why was ICT integration introduced in teacher colleges?
4. How often is ICT integration in teacher colleges evaluated?
5. What are the benefits of ICT integration in the teaching of Kiswahili
6. Through your evaluation, what are the attitudes of tutors' towards ICT integration in the teaching of Kiswahili?
7. Do we have such evaluation reports?
8. Through your ICT curriculum evaluation reports, what are the challenges facing ICT integration in the process of teaching Kiswahili?
9. Through your evaluation, what are the solutions to these challenges?

THANK YOU FOR YOUR TIME

Appendix VII: Interview Schedule for Deans of Curriculum

This interview is meant to collect data for purely academic work**.** The study seeks to **investigate Tutors' Application of ICT in the Teaching of Kiswahili in Public Primary Teachers' Colleges: The Case of Rift Valley Region.**

1. For how long have you been the dean of curriculum in this college?
2. What types of ICT integration facilities are available in this college?
3. Do you think these facilities such as those mentioned are enough for each student teacher?
4. I have a list of some of the required ICT components to be set in colleges. Please mention whether they are there or not there as I read for you.

TYPES	AVAILABLE	NOT AVAILABLE
Internet access		
Weblogs		
Interactivewhite boards		
LCD projectors		
Power point		
DVDs		
eBooks		
Smart phones		
Hyperlink		
YouTube		

5. Are the above mentioned tools integrated in the process of teaching Kiswahili? If not, why?
6. What do you think are the benefits of ICT integration in teaching Kiswahili since it is a core subject in primary teachers' colleges?
7. In your experience as a dean, what are the tutors' attitudes towards ICT integration in the teaching of Kiswahili?
8. As the dean of curriculum, ICT is a curriculum issue in teacher education and training. What are the challenges facing ICT integration in the teaching of Kiswahili?
9. What are the solutions to these challenges that you have mentioned?

THANK YOU FOR YOUR TIME.

Appendix VIII : An Example of a Transcribed Qualitative Data

Researcher: For how long have you been the dean of curriculum in this college?
Dean 3: (*Mmmmh*) 6years
Researcher: What types of ICT integration facilities are available in this college?
Dean3: Computers, 5 projectors, Wifi that is weak; internet connectivity that is serving some students
Researcher: Do you think these facilities such as those mentioned are enough for each student teacher?
Dean 3: No they are not enough
Researcher: I have a list of some of the required ICT components to be set in colleges. Please mention whether they are there available or not available as I read for you.
Dean 3: internet available to all staff and students
Researcher: Weblogs
Dean 3: not available
Researcher: Interactive white boards
Dean 3: available
Researcher: LCD projectors
Dean 3: available
Researcher: Power point
Dean 3: available
Researcher: DVDs
Dean 3: available
Researcher: e-books
Dean 3: not available
Researcher: smart phones
Dean 3: available
Researcher: hyperlink
Dean 3: not available
Researcher: YouTube
Dean 3: available
Researcher: Are the above mentioned tools integrated in the process of teaching Kiswahili?
Dean 3: I don't think they are integrated (silence then the dean mentioned all the tools) internet, interactive white board, projectors, power point, smart phones YouTube (nodding his head right left then said). '*hakuna*' they are not integrated in the teaching of Kiswahili.
Researcher: Why don't they integrate?
Dean 3: I think it is to do with attitude of tutors not training to use ICT. Also it depends on the willingness to learn ICT and integration, and new method of delivery. Any way most of them are not willing.

Secondly Time constraint is a major issue, to some they have to teach many lessons and technology requires a lot of preparation, "you have to create time to google and get relevant material that is applicable for the lesson, then adapt it for presentation."

Researcher: What do you think are the benefits of ICT integration in teaching Kiswahili since it is a core subject in primary teachers' colleges?

The tutors will be able to get updated knowledge of the language rather than depending on outdated books.

It makes teaching more easier and fun to the learners.

Student teachers will be motivated to use technology in teaching. They would want to emulate their tutors, the will want to learn how to use ICT and integrate it in the teaching process.

Researcher: In your experience as a dean, what are the tutors' attitudes towards ICT integration in the teaching of Kiswahili?

Dean 3: They are enthusiastic

Researcher: As the dean of curriculum, ICT is a curriculum issue in teacher education and training. What are the challenges facing ICT integration in the teaching of Kiswahili?

Dean 3: Insufficient ICT materials such as computers, laptops, weak internet connectivity. Lack of ICT integration policy in Primary Teacher Colleges. It is important to note that, "tutors were encouraged and taken for training on ICT integration but implementation was the problem. Some of the trainings that the tutors went through were; INSET (In service Training), TEPD (Teacher Professional Development Programme, fHi360 this was an organization that took over from Teacher Professional Development Programme and SMASSE. All these programmes made attempt to improve technology integration in teaching all subjects. The programme was for all the colleges in Kenya. Since these INSET were held there were many changes such as transfers, natural attrition and younger people got to colleges thus there should be another set of training for the same.

Researcher: What are the solutions to these challenges that you have mentioned?

Dean 3: Equipping of the colleges with adequate ICT materials

Conducting INSETS (in service trainings)

The ministry of education has technology integration policy. Therefore the ministry and the Kenya Institute of Curriculum Development should ensure that the policy is rolled down to the colleges and have it adapted in various teacher training institutions.

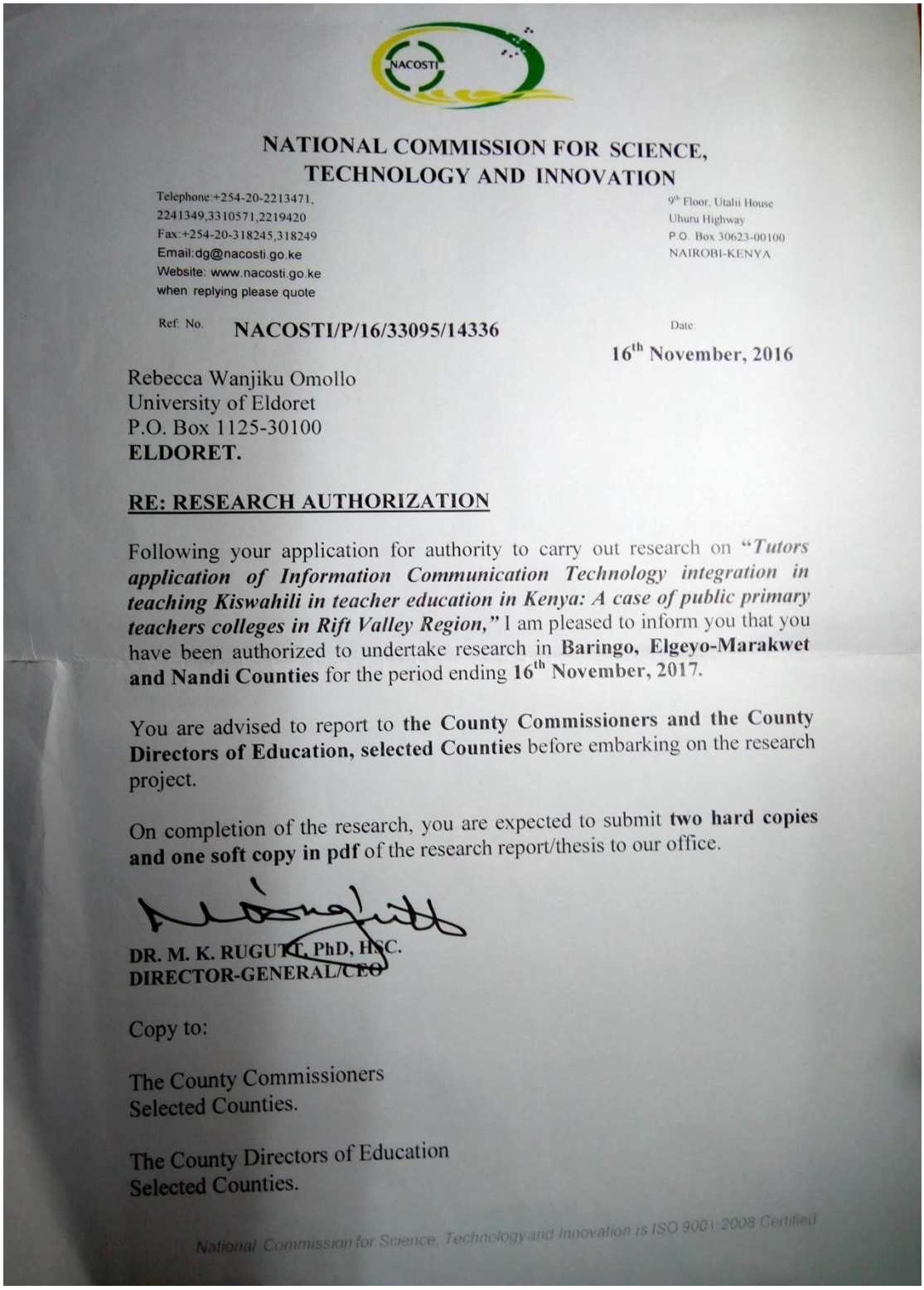
Any curriculum change should involve the PTCs first before implementing it in Primary schools. Although the colleges have not been left behind since there is ICT department that trains the student teachers on how to use the computers.

I am looking forward for the day our college will have a cyber cafe' with a technician so that as a tutor you can go there and practice what you want. Currently the ICT department is used for teaching the students.

Appendix IX: Time Frame /Plan

	Dec 2015	Jan 2016	Mar 2016	May 2016	Oct 2016	Nov 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	Aug 2017	Sept 2017
Developing Research Ideas												
Develop Proposal												
Developing Research tools												
Proposal presentation												
Reviewing proposal												
Applying for concent from authorities												
Talking with the representatives at the research site												
Piloting and validating tools												
Reviewing tools												
Training research assistants												
Selecting the sample												
Data collection												
Data verification, coding& entry												
Data analysis												
Thesis presentation												
Review thesis and submission												
Information to the respondents and authorities												

Appendix X: NACOSTI Research Authorization



NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION

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when replying please quote

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P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No. NACOSTI/P/16/33095/14336

Date: 16th November, 2016

Rebecca Wanjiku Omollo
University of Eldoret
P.O. Box 1125-30100
ELDORET.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Tutors application of Information Communication Technology integration in teaching Kiswahili in teacher education in Kenya: A case of public primary teachers colleges in Rift Valley Region,"*** I am pleased to inform you that you have been authorized to undertake research in **Baringo, Elgeyo-Marakwet and Nandi Counties** for the period ending **16th November, 2017.**

You are advised to report to **the County Commissioners and the County Directors of Education, selected Counties** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

DR. M. K. RUGUTT, PhD, HSC.
DIRECTOR-GENERAL/CEO

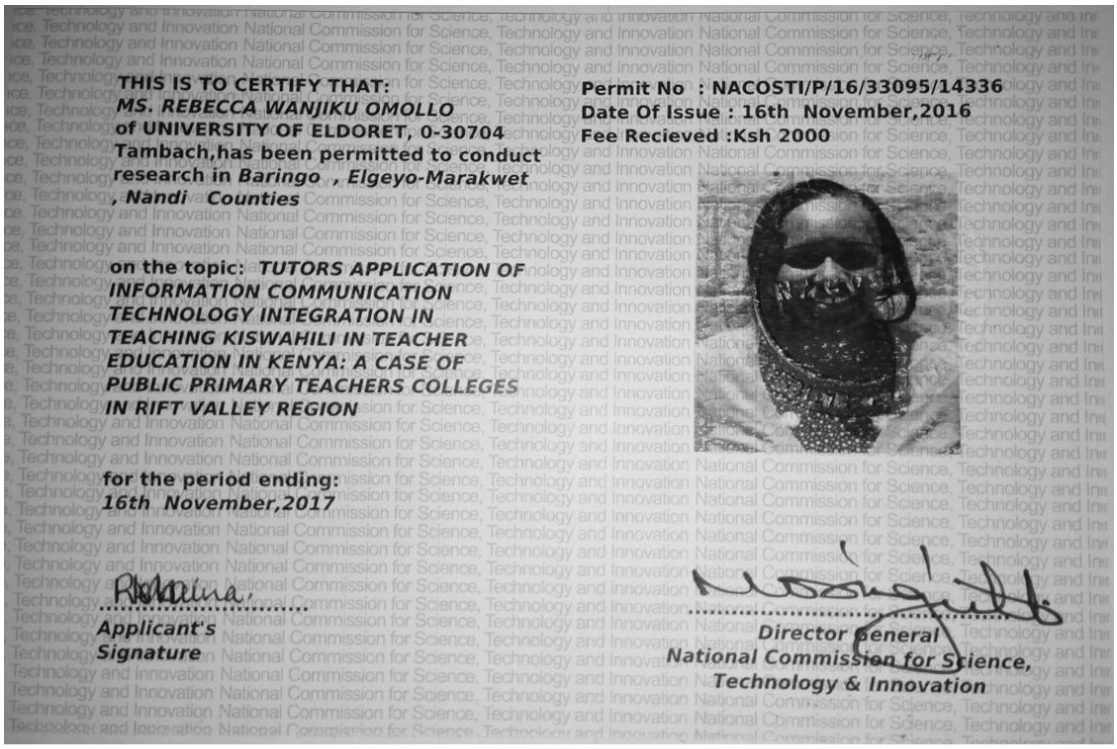
Copy to:

The County Commissioners
Selected Counties.

The County Directors of Education
Selected Counties.

National Commission for Science, Technology and Innovation is ISO 9001:2008 Certified

Appendix XI: Research Permit NACOSTI



THIS IS TO CERTIFY THAT:
MS. REBECCA WANJIKU OMOLLO
of UNIVERSITY OF ELDORET, 0-30704
Tambach,has been permitted to conduct
research in *Baringo , Elgeyo-Marakwet , Nandi Counties*

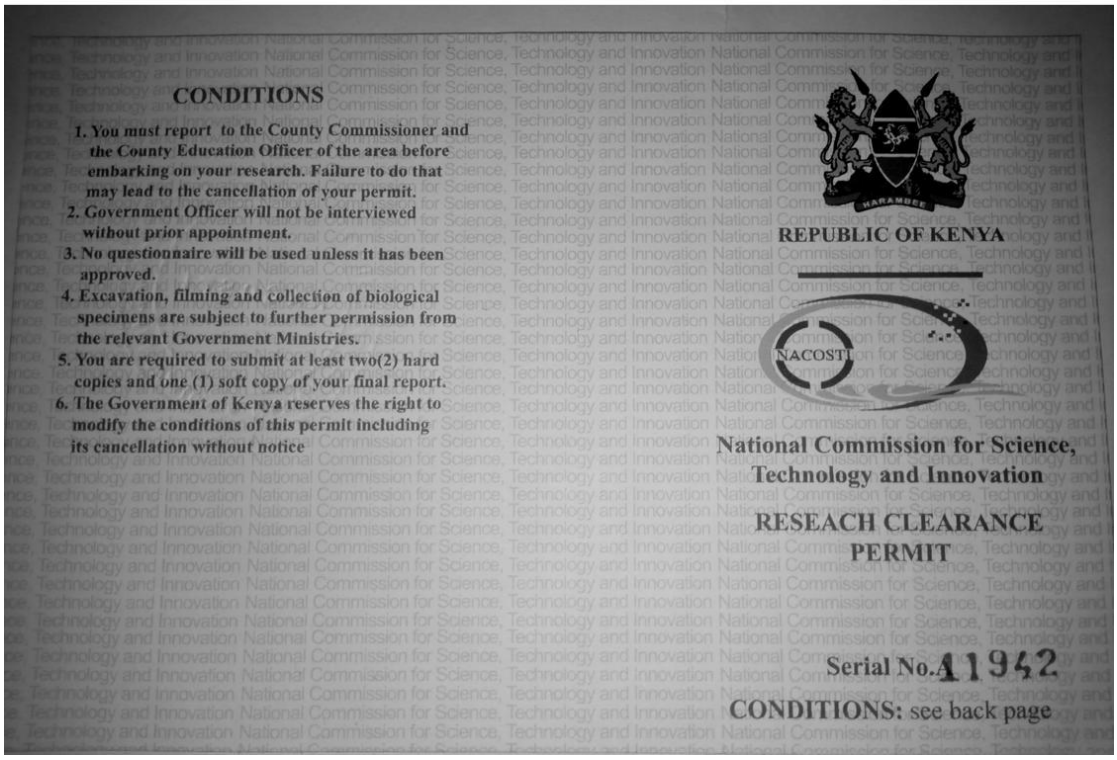
on the topic: *TUTORS APPLICATION OF INFORMATION COMMUNICATION TECHNOLOGY INTEGRATION IN TEACHING KISWAHILI IN TEACHER EDUCATION IN KENYA: A CASE OF PUBLIC PRIMARY TEACHERS COLLEGES IN RIFT VALLEY REGION*

for the period ending:
16th November,2017

Permit No : NACOSTI/P/16/33095/14336
Date Of Issue : 16th November,2016
Fee Recieved :Ksh 2000

.....
Applicant's Signature

.....
Director General
National Commission for Science, Technology & Innovation



CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit.
2. Government Officer will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one (1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice

REPUBLIC OF KENYA

NACOSTI

National Commission for Science, Technology and Innovation

RESEACH CLEARANCE PERMIT

Serial No.A 11942

CONDITIONS: see back page