

**TEACHER FACTORS INFLUENCING INTEGRATION OF
INFORMATION COMMUNICATION TECHNOLOGY IN TEACHING
OF ENGLISH IN PUBLIC SECONDARY SCHOOLS IN MUMIAS SUB-
COUNTY, KENYA**

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the Award of a Degree in Master of Education in Curriculum Studies,**

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DECLARATION

This research project is my original work and has not been submitted for the award of a degree or any other award in any other university.

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DEDICATION

I dedicate this work to my beloved husband, Joram Temesi Mukani and daughters Tate Allen and Ginna Aimee. My family was my inspiration throughout my postgraduate studies and for them I continuously thank God.

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LIST OF ABBREVIATIONS AND ACRONYMS

| | |
|----------------|---|
| CFSK | Computer for Schools Kenya |
| ERSWEC | Economic Recovery Strategy for Wealth and Employment Creation |
| EU | European Union |
| ICT | Information Communication Technology |
| INSET | In service Training |
| KESSP | Kenya Sector Support Programme |
| KICD | Kenya Institute of Curriculum Studies |
| MOE | Ministry of Education |
| NACOSTI | National Council of Science and Technology |
| NEPAD | New Partnership for Africa's Development |
| NI3C | National ICT Innovation and Integration Centre |
| SPSS | Statistical Package for Social Sciences |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |

ABSTRACT

The purpose of this study was to investigate teachers' factors influencing integration of Information Communication Technology in teaching of English in public secondary schools. The study sought to address the following objectives: To examine the extent to which the teachers' demographics influenced integration of ICT in teaching of English, to determine the extent to which the teachers' attitudes influenced integration of ICT, to establish the extent to which teacher training influenced integration of ICT and to assess the extent to which the teachers' lesson workload influenced integration of ICT in the teaching of English in public secondary schools. The study adopted a descriptive survey design making use of both quantitative and qualitative approaches. The target population for this study was 3320 participants involving head teachers, teachers of English and students. A sample size of 1660 participants comprising of 20 head teachers, 80 teachers of English and 1560 students was used for the study. The data for this study was collected using two types of instruments, that is, questionnaires for the teachers of English and students and interview schedules for head teachers. The researcher used the test retest method to estimate the degree to which the same results could be obtained within a repeated measure of the same concept. Correlations of 0.76 for teachers of English and 0.72 for students were obtained. Data analysis was performed using descriptive statistics such as frequencies and percentages were used to analyze quantitative data. From the study it was established teacher demographics (age, gender, academic qualifications and years of experience) are not the only factors that determine the use of ICT. It was further established that majority of the teachers of English,, head teachers and even students all have a positive attitude towards the use of ICT. It was established that majority of the teachers did not receive adequate training on ICT. It was also established that many teachers had many lessons to teach in a week thus had inadequate time to prepare for ICT related lessons. From the findings, it was concluded that integration will only be successful if all teachers are taken through ICT training as this will shape their attitudes, equip them with the relevant skills and be able to plan properly for ICT related lessons. It was recommended that the MOE should ensure that all secondary schools are provided with ICT infrastructure of high quality. Teachers should be given basic ICT training conducted through in service courses and seminars. In addition, teacher with proficiency knowledge in computers should be employed to reduce lesson workload. The study also recommended that further research be carried out in other parts of the country as the study was limited to Mumias Sub County.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Information Communication and Technology (ICT), is becoming increasingly important in our daily lives and in our educational systems. There is a growing demand on educational institutions to use ICT to teach the skills and knowledge students need for the 21st century. Realizing the effect of ICT at the workplace and everyday life, today's educational institutions try to restructure their educational curricula and classroom facilities so that the existing gap between teaching and learning can be bridged (Pierson, 2001).

Papaioannon and Charalambous (2011) stress that ICT in school can motivate students, stimulate their interest, increase their self confidence and self esteem, increase their creativity, allow greater interactivity, enhance their critical thinking and increase their attainments among other benefits. Laaria (2013) notes that ICT can enhance teacher's efficiency and enthusiasm encourage their planning and cooperation, help them adopt student-centered teaching strategies, reduce their workload, and improve the relationship between teachers and students.

According to Olson and Gustavsson (2011), many Swedish pupils already have access to laptops and in the summer of 2011 there were approximately 150 schools that had provided computers for all their pupils. Most of these schools were secondary or upper secondary schools.

According to a study by Estling Vannestal and Maricic (2008), English teachers in Sweden have not changed much of their teaching since ICT entered the stage. The computer is used to find electronic dictionaries, find facts and use word processing programs (Granath et al, 2008). The study also shows that few teachers use the computers to communicate with other parts of the world in the target language.

The governments in sub-Saharan Africa, as elsewhere emphasize on teacher development as the key to effectively implementing policy and curricular, to using ICT to enhance teaching and raising educational standards. ICT integration is primarily an individualized approach to teaching which allows students to work independently developing self-independence which encourages mastery of learning English (Bell, 1986).

Nigeria recognizes the pivotal roles of ICT in the revitalization and development of the country's education system. Teachers perceive ICT as very useful and using computers makes teaching and learning easier. ICT integration in the Nigerian School system came with the 2001 National Policy on Information Technology tagged "Use IT."

In 2011, Kenya launched a National ICT Innovation and Integration Centre (NI3C) at the Nairobi University's Kenya Science campus. The centre is expected to enable developers demonstrate the application of ICT technologies and new pedagogic aspects of ICT in teaching and learning. The centre is also expected to provide guidance to education managers on ICT innovations and integration aspects.

The government of Kenya plans to increase human resource capacity in ICT through improved ICT in education in schools and training of teachers; and to expand the fiber optic network to cover schools. The government of Kenya also plans to progressively roll out free WI-FI in major towns within the next five years; develop human resource capacity through education to improve the ability to perform tasks effectively in digital environment and to evaluate and apply new knowledge gained from digital environments (Working Draft- Information and Communication Technology Sector Policy guidelines, 2013).

Teacher characteristics such as age and gender influence integration of ICT in teaching. Ruthven (2004) found that young teachers use ICTs more compared to the older teachers who are afraid to use computers as they feel intimidated by the new technologies.

According to Farrel (2007), proper training of teachers on how to implement ICT offers crucial advice on selection, integration and evaluation of computer tools to support teaching and learning. Attitude of teachers such as computer avoidance, anxiety, self-efficacy, enthusiasm and confidence hinders the process of integration of ICT in teaching (Ertmer, 1999). If teachers have positive attitudes towards the use of technology then they can easily provide useful insight about integration of ICT in teaching and learning process. The teachers' workload also influences integration of ICT in teaching of English in the sense that when a teacher has many lessons per week, there will be no free lessons to prepare for ICT related content (Abuhmaid, 2011).

Efforts have been made in order to facilitate ICT integration in teaching and learning and as a result, development of the e-learning content in English has been completed and considerable progress made in the other subjects. There however, exists a knowledge gap on the teacher factors influencing integration of ICT in teaching of English. The researcher will therefore seek to establish the teacher factors influencing integration of ICT in teaching of English in public secondary schools in Mumias sub-county.

1.2 Statement of the problem

Many schools have access to computers courtesy of the various government spear-headed initiatives, development partners and individual schools. However, the pace of ICT integration in Kenyan secondary schools has not been fast enough. Secondary school teachers particularly those in Mumias sub-county are still rooted in the traditional instructional forms and as a result they are not making the necessary efforts to integrate ICT in teaching of English (Jones, 2001).

There are many efforts that have been made by the government of Kenya to improve integration of ICT in various subjects. This includes initiatives such as in-servicing of teachers through workshops organized by various stakeholders in the Ministry of Education. Besides, the government through the Ministry of Education has put in place initiatives to facilitate integration of ICT in teaching and learning. For instance, the Intel-Teach Getting Started Course, which aims at

developing teachers' basic computer skills, integration of ICT in teaching and the 21st Century approaches into teaching.

There is also support from Computer for Schools Kenya (CFSK) project which commenced in 2002 aimed at equipping students and staff with modern ICT skills required for competing in today's global economy (GoK, 2008). The Computer for schools Kenya project encourages all schools to integrate ICT in teaching and learning to attain its full potential. Initially, the CFSK project targeted 4000 secondary schools in Kenya and out of this, 93 public secondary schools have been supplied with 1860 computers (GoK, 2005).

Although many public schools, among them schools in Mumias have received computers, their use in the classroom level is limited due to issues affecting integration (Yusuf & Yusuf, 2009) hence the need for the study to look into the teacher factors influencing integration of ICT in teaching of English in public secondary schools in Mumias sub-county, Kenya.

1.3 Purpose of the study

The purpose of the study was to investigate teacher factors influencing integration of ICT in teaching of English in public secondary schools in Mumias sub-county.

1.4 Objectives of the study

The study was guided by the following objectives:

1. To examine the extent to which the teachers' demographics influenced integration of ICT in teaching of English.

2. To determine the extent to which the teachers' attitudes influenced integration of ICT in teaching of English in schools.
3. To establish the extent to which teacher training influences integration of ICT teaching of English.
4. To assess the extent to which the teachers' lesson workload influenced integration of ICT in teaching of English.

1.5 Research questions

The study was guided by the following questions

1. To what extent did teachers' demographics influence integration of ICT in teaching of English?
2. To what extent did the teachers' attitudes influence integration of ICT in teaching of English in schools?
3. To what extent did teacher training influence integration of ICT in teaching of English?
4. To what extent did the teachers' lesson workload influence integration of ICT in teaching of English?

1.6 Significance of the study

This study generated information on the teacher factors influencing integration of ICT in teaching of English in secondary schools. Information Communication Technology (ICT) is recognized as one of the key pillars of education and training in the Sessional Paper No. 12 of 2012 (Reforming Education and Training Sectors

in Kenya), and this information would assist the Ministry of Education (MOE) to understand why there is need to develop appropriate ICT strategies for secondary institutions in Kenya. The findings of this study was useful to the teachers of English to assist them in re-evaluating their styles of teaching and therefore make necessary adjustments as they are the key implementers of the curriculum. The findings of this study was also useful to curriculum planners and developers at the Kenya Institute of Curriculum Developers (KICD) to sensitize them on the need to in-service courses for teachers of English in line with the revised curriculum.

The information for this study was useful to the Ministry of Education (MoE) officers when planning for INSET programmes for secondary teachers of English. The suggested solutions assisted both the head teachers and teachers of English to foster integration of ICT in teaching. This had an impact on curriculum development and teacher training colleges to offer ICT courses to the teachers that aim at addressing the need to respond to the ever-changing digital world.

1.7 Limitations of the study

The major limitation was the inability to control the respondents' unwillingness to respond to research questions, perhaps due to their negative attitudes towards ICT. To counteract this challenge, the teachers' and students questionnaires and the head teachers' interview were validated by supervisors and other panel experts and a pilot study was conducted.

The respondents tended to give responses that covered up for their weakness in using ICT for the purpose of safeguarding their self-interests. Before

administering of the questionnaires, the respondents were briefed so that they understood the purpose for the study. A rapport was formed to minimize dishonest responses for fear of victimization.

1.8 Delimitations of the study

The study took place within Mumias sub-county, Kakamega County. This is because the performance of English in these institutions was alarming despite the government's effort to incorporate ICT in the curriculum during the promulgation of the ICT policy in 2006 (Farell, 2007).

The study targeted only 40 public secondary schools in Mumias sub-county, which had computers. The study dealt with teachers of English and head teachers because they played a major role in the implementation of the national ICT policy. The respondents were suitable to the study as they were involved in the school matters hence provided first-hand information.

1.9 Basic assumptions of the study

The assumptions underlying the study were:

1. Teachers in all the schools were willing to participate in the study and that it was anticipated that they voluntarily gave the correct information.
2. Mumias sub-county secondary schools had ICT infrastructure that helped in teaching of English.

1.10 Definition of significant terms

The following terms are defined within the context of this study.

Information technology refers to the science of managing and process information using computers.

Information communication technology refers to a wide range of software technology components such as computer, telecommunication, internet, video and digital cameras that can be used by teachers to support their work (Wikipedia).

ICT integration refers to a range of learning environments from a stand-alone computer in a classroom to a situation where the teaching is done by the computer through pre-packaged “teacher-proof courseware” (Laferriere, 1999).

Teacher attitude refers to the teacher’s prevailing tendency to respond favorably or unfavorably to an object (person or group of people, institutions or events). Attitudes can be positive (values) or negative (prejudice).

Teacher demographics refer to qualities of teachers that are viewed as personal such as age, gender or experiential such as previous teaching experience.

Teacher factors refer to the features of the teacher and the teaching profession that affects integration of ICT in teaching of English.

Teacher training refers to the professional preparation of teachers usually through formal course work and practice teacher.

Teacher workload refers to the total amount of time a teacher spends teaching, planning lessons and marking student work.

1.11 Organization of the study

This study is organized into five chapters. Chapter one covers the introduction that comprises of background to the study, statement of the problem, objectives of the study, research questions, purpose of the study, significance of the study, limitations of the study, delimitations of the study, basic assumptions of the study, definition of significant terms and the theoretical framework of the study. Chapter two entails the related literature reviewed discussing the teacher factors influencing integration of ICT in public secondary schools, summary of literature review and the conceptual framework.

Chapter three covers the research methodology which includes research design, target population, sample size and procedure, sampling techniques, data collection instruments, data collection procedures and data analysis. Chapter four comprises of data analysis and interpretation of the data collected from the field both quantitative in the analysis of the collected data.

Chapter five contains a discussion of the research findings, conclusions and recommendations derived from the research findings. Suggestions or further research are made in this chapter.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents an outline of literature review relevant to the proposed study on the teacher factors influencing the integration of ICT in the teaching of English in Mumias sub-county. The chapter focuses on research reports from a number of countries where ICT integration is taking place. The section is divided into subsections which are: information and Communication Technology policy in Kenya, the concept of ICT integration in education, teachers' demographics and ICT integration, attitude of teachers towards use of ICT in classroom teaching, teacher training and ICT integration in teaching, and teachers' lesson workload and integration of ICT in teaching of English. It also discusses a brief summary of related literature review, the theoretical framework on which the study was based and the conceptual framework for the study. This literature review helps in reviewing the gap in the study.

2.2 Information and Communication Technology policy in education

Information and Communication Technology (ICT) policy refers to the rules and regulations set by the organization in regard to ICT. Hawkins (2004), in *Ten Lessons for ICT and Education in the developing world*, notes that while many ministries of education around the world have made the commitment to computerize schools; few have developed coherent strategies to fully integrate the use of computers as pedagogical tools in the classroom. In Africa, only a couple

of countries have established a comprehensive policy for integration of ICT in education.

Kenya promulgated a National ICT policy in January 2006 aimed at improving the livelihoods of Kenyans by ensuring the availability of accessible, efficient, reliable and affordable services. The secondary school policies guide the integration of ICT in and learning by articulating the expected teacher and student characteristics and experiences, and how they will be used to enhance the use of ICT in enhancing teaching and learning.

The Ministry of Education developed a Kenya Sector Support Programme (KESSP) in 2005 that basically featured ICT as one of the priority areas with the aim of mainstreaming ICTs into the teaching and learning process. The National ICT policy embedded this intent as a national priority and provided the impetus for the Ministry to develop its sector policy on ICT in education. In June 2006, the Ministry introduced the National ICT Strategy for Education and Training. The ICT policy for the education sector document consists of the following components, each with its own statement of strategic objectives and expected outcomes: ICT in Education policy, Digital Equipment, Connectivity and network infrastructure, access and equity, technical technologies, digital content, harnessing emerging technologies, integration of ICT in education, training (capacity building and professional development) and research development.

The policy emphasizes integrating ICT in teaching curriculum at all levels of education, establishing educational networks for sharing educational resources and promoting e-learning at all levels. The Ministry of Education, sector partners

and stakeholders have developed the National ICT Strategy aimed at guiding the sector in the adoption of ICT across all levels of education and training. The ICT strategy was adopted and utilized to improve access, quality and equity in the delivery of education services and is based on the fact that ‘ICT is a universal tool in education and training.’ The overall objective of the plan is to ensure that systematic efforts are made towards strengthening adoption and use of ICT in the education sector with appropriate attention given to education development priorities as outlined in the Economic Recovery Strategy for Wealth and Employment Creation (ERSWEC).

The government of Kenya has faced challenges on how to translate ICT programmes that add value to the education system. This has been achieved through the Ministry of Information Communication and Technology being at the fore-front of facilitating this since Kenya’s biggest opportunity comes from developing human resources capacity through proper education (Working Draft-Information and Communication Technology Sector Policy guidelines, 2013).

The ICT policy stipulates that human resource capacity in ICT will be increased through improved ICT in education in schools and training for teachers (Working Draft-Information and Communication Technology Sector Policy guidelines, 2013). The policy also suggests that the fiber optic network will be expanded to cover schools and progressively roll out free WI-FI in major towns within the next five years. This will have a positive impact on integration of ICT in teaching as the secondary teachers will have access to the internet and this will help them with searching of subject content.

2.3 The concept of ICT integration in education

The term “ICT integration” co notates a range of learning environments from a stand-alone computer in a classroom to a situation where the teaching is done by the computer through pre-packaged “teacher-proof courseware” (Laferriere, 1999).

Information and Communication Technology refers to the process of gathering, accessing and disseminating data for an enhanced learning (Miller & Akume, 2009). Education has also been made simple through the application of electronic media, internet among others. According to Nukwe (2006) the production and introduction of calculators and computers in the education system worldwide has helped in simplifying teaching in schools, and as a result, promotion of national stability and economic survival.

The term ICT must be seen as an evolution from the antecedent and more narrowly defined term IT (Information Technology) which maintains its usage in government, business, industry and in relation to tertiary and other academic courses dealing with such areas as programming database design and expert systems. The term ‘computer’ particularly in a school setting is a connotative rather than denotative term because it may refer to anything from high-speed connected state of art machines to something which is dated, stand-alone, or poor maintained (State of Queensland, 2002).

Information Communication Technology integration has several benefits including; increasing access to remote learning resources which would be difficult when solely relying on printed books, promoting collaborative learning,

provoking learners' curiosity by use of videos, television and multimedia computer software that combine the power of text, sound, colorful moving images and ensuring student-centered learning (Mutuma, 2005). He further argues that integration of ICT in teaching and learning results to raising of the quality of education since interactive radio instruction project has been found to be the most comprehensively analyzed, saving on time and money used on excursions and promoting a lifelong learning experience for both the teachers and the learners.

Integration of ICT in education has been a contentious issue. Both developing and developed countries are bringing about education reform with a clear focus on ICT integration in education. Countries have been investing considerably in terms of money, expertise, resources and research to integrate technology in education as smoothly as possible so that the classroom environment is made more conducive for enhanced teaching and learning.

According to Dion (2005), the European Union (EU) promoted a strategic framework to improve the overall quality of life and to meet the challenges of globalization, ageing and ICT revolution. The success of the strategy was made a reality by the integration of ICT in education, since education prepared future citizens to learn and use ICT in their day to day activities of life.

Albirini (2004) investigated the Science teachers' perspective about ICT integration in teaching and learning in Syrian high schools. The results indicated that science teachers had a positive attitude toward integration of ICT in teaching and learning process. Albirini (2004) also found out that majority of teachers in high schools in Syria were interested in developing their ICT skills and

knowledge. Though the study done by Albirini is very important to this work, it was carried out in a developed country and the focus was on the Science based subjects. This research, however, focused on the teacher factors influencing integration of ICT in teaching of English in Secondary Schools in Mumias sub-county.

Information Communication and Technology has become an important component of a school's curriculum, a support tool for providing teachers and students with enhanced teaching opportunities in the whole range of school subjects. In countries like USA, UK and Australia, the content of national curriculum statements provide clear evidence for this shift from the teaching of ICT alone to the infusion of ICT as a significant tool in the school curricular (McDonald and Davis, 1995). Nevertheless, for ICT to be integrated in teaching, it does not have to be put off the curriculum but rather a tool to help in teaching.

Lack of funding and inadequate planning has been postulated as two major obstacles to the implementation of SITP project. In reviving the project, the government will adopt what it calls the phase-implementation approach where 50 computer labs would be set up each year in 50 primary schools instead of equipping all 284 primary schools at one time. About 50 % of the secondary schools in the country are restructuring to accommodate ICT projects as it is of great help in providing multimedia information and allow access to a broader range of both managerial and instructional resources (MoE, 2011b).

Western countries have reported up to 41% of integration of ICT in teaching and learning and this proportion remains substantially low in Africa,

Kenya included. Information Communication Technology (ICT) as an interactive media facilitates students' development of diversified skills for industrialization and a knowledge-based economy. It also allows teachers and learners to proceed at different paces depending on the prevailing circumstances (Ogutu, 2008). The Ministry of Education therefore initiated a major project in secondary schools meant to equip over 200 secondary schools with ICT infrastructure for ICT in the teaching and learning process (KESSP, 2004).

According to policy makers, Information and Communication Technology (ICT) integration, takes place when teachers know how to incorporate and use ICT to teach in the classroom (Cuban, 2001; Ertmer, 1999). The assumption here is that once the teachers know how to use ICT to teach, the students will become engaged in using ICT as a tool to learn. Other research studies, however, report the contrary.

2.4 Teachers' demographics and integration of ICT

Teacher demographics such as age, gender and teaching experience influence the integration of ICT in teaching of English in secondary schools in Mumias sub-county. Most research outcomes have reported there is more use of ICTs by young people compared to the older people. Ruthven et al. (2004) report that the older fear or lack experience to use ICTs. The older feel intimidated by the new technologies than the younger generation.

Research studies concerning teachers' gender and ICT integration have been cited that female teachers have low levels of computer use due to their

limited technology access, skill, and interest (Volman & Van Eck, 2001). The male teachers on the other hand used more ICT in their teaching and learning processes than their female colleagues (Kay, 2006; Wozney et al., 2006). Markauskaite (2006), investigated gender differences in self-reported ICT experience and ICT literacy among first year graduate trainee teachers. The study revealed significant differences between males and females in technical ICT capabilities, and situational and longitudinal sustainability. Males' scores were higher.

A report by the National Center for Education Statistics (2013) indicates that teachers who have fewer years of experience are more likely to use computers in their classes than teachers with a lot of years of experience. This may be assumed that it is because of the fact that new teachers who have been exposed to computers during their training and therefore have more experience in using the tool. It is not clear whether teachers' demographics such as age, gender and teaching experience influence integration of ICT in teaching of English in Mumias sub-county. This study will identify the gap and fill it.

2.5 Attitude of teachers towards use of ICT in classroom teaching

Research studies have shown that effective use of computers is dependent on the teachers' intentions, personal beliefs and attitudes towards teaching with technology and ICT use (Divaharan & Ping, 2010; Ozden, 2007). Teachers' attitudes towards technology greatly influences their acceptance of the usefulness of technology and its integration in teaching.

According to Buabeng-Andoh (2012), the more experience teachers have with computers, the more likely they will display positive attitudes towards computers. Many teachers have been found to offer stiff resistance to change involving technology intervention, technology integration and technology incorporation (Albirini, 2007).

A number of studies reveal that a considerable number of teachers hold negative attitudes towards implementation hence integration of ICT in schools. These attitudes range from computer avoidance, anxiety, self-efficacy, enthusiasm, confidence, liking and usefulness of computer towards personal and social life (Manduku et al, 2012; Makhanu, 2010; Lau & Sim 2008; Jimoyiannis & Komis 2007). Age, gender, training, access to a computer, years of computer use and ownership of computer are also considered as some of the variables used to evaluate attitudes of teachers towards integration of ICT.

In a study conducted by Bakr (2011) on attitude of high school teachers of English in Syria towards ICT, he investigated the relationship between computer and five independent variables: computer attributes, cultural perceptions, computer competence, computer access and personal; characteristics including computer training background. The findings suggested that the teachers had positive attitude towards ICT in education and their attitudes were predicted by the mentioned five independent variables.

Personal characteristics such as educational level, age, gender, educational experience, experience with computers for educational purpose and attitude towards computers can influence the adoption of a technology Buabeng-Andoh

(2012). The attitudes of teachers towards ICT greatly influences their adoption and integration.

Teachers' attitudes and beliefs toward technology are among the factors that influence successful integration of ICT into teaching (Hew & Brush, 2007; Keengwe & Onchwam, 2008). If teachers' attitudes are positive towards the use of educational technology then they can easily provide useful insight about the adoption and integration of ICT into teaching and learning processes. Negative attitudes towards technology on the other hand among teachers is a key obstacle to successful integration. It has not been established whether attitude of teachers influences integration of ICT in teaching of English in secondary schools in Mumias sub-county. This research study intends to fill this gap.

2.6 Teacher training and integration of ICT in teaching

Teachers' ICT skills and access to professional development is critical to integration of ICT in school. Research shows that when teachers view ICT programs as either satisfying their own needs or their students' needs, it is likely they will integrate it in subjects (Hennessy, 2010). A needs assessment is important to find out what ICT skills and knowledge teachers need at schools. Designers of teacher education programs should know the pre-service teachers' perceptions of ICT and their attitudes towards ICT integration into curriculum (Murphy, 2000).

New ICT tools and teaching approaches call for the training of teachers (Osborne & Hennessy, 2003). When teachers are insufficiently trained they will

not be confident enough to carry out full integration of ICT in the classroom. With proper training on how to implement ICT, teachers can offer crucial advice on how to select, integrate and evaluate computer tools to support teaching and learning as they are the backbone in any curriculum innovation (Clark, 2000).

The success of integrating ICTs into teaching and learning in developed and developing countries like Kenya depends on how teachers have been prepared to use computers. Since teachers are the backbone in curriculum implementation and integrating computers in schools, they should be trained properly in the use and integration of computers in teaching and learning. When properly trained, teachers' ability to select, integrate and evaluate computer tools to support teaching and learning will improve. However, training of teachers on adoption and use of ICT in most of the developing countries has not been appropriate due to some of the challenges faced (Makhanu,2010).

For instance, the curricula used for training in most cases are oriented towards teaching technical aspects of technology ignoring organizational and social aspects of ICT. Training of teachers should therefore, focus on the ICT pedagogical issues of ICT utilization in the classroom situation and not just on ICT skills. Pre- service teacher education can provide teachers with adequate opportunities to experiment with ICT before using it to teach students.

According to Becta (2004), lack of ICT concentration in initial training is a barrier to teachers' use of ICT in integrating it in the subject matter. Therefore, where there is no effective training on ICT, teachers will not be able to use ICT resources for integration purposes. Becta (2004) also stated that many teachers

who do not consider themselves to be well skilled in using ICT feel anxious about using it in front of a class of students who perhaps know more than they do. Effective integration will depend to a larger extent on trained and supported teachers (UNESCO, Bangkok, 2003). The greatest challenge of the schools therefore has been the provision of adequate support to teachers in as far as acquisition of appropriate technical skills important for integrating computers in the classroom instruction is concerned. It has therefore not been established whether teacher training influences integration of ICT in teaching of English in secondary schools in Mumias sub-county and this study intends to fill this gap.

2.7 Teachers' lesson workload and integration of ICT

Many studies have revealed that the lesson workloads of teachers influence their acceptance of technology in teaching. For example, Ely (1999) investigated that ICT integration is likely to fail due to lack of time to prepare ICT teaching materials due to loaded curriculum. Teachers feel that infusing ICT in teaching is an added load and there is no motivation as it is not part of the curriculum. For ICT to be integrated in the teaching process, it does not necessarily have to be part of the curriculum but rather act as a tool to help in the teaching process. Ely (1999) also noted that converting manual teaching notes to ICT requires both time and skill.

According to Guha (2000), teachers' lesson workload and time management was a hindrance to the implementation of ICT in teaching. A research carried out in Malaysian Smart schools in 2010 indicate that many teachers felt time was an important factor in ICT integration. The problem of lack

for time exists for teachers in many aspects of their works as it affects their ability to complete tasks (Becta, 2004). Teachers lack enough time to locate internet advice prepare technological problems and receive adequate training.

According to Ala Iwani (2005), lack of time affects application of ICT in Saudi Arabia because of busy schedules. He indicated that Saudi teachers, work from 7.00am 2.00pm and the average number of class sessions taught by teachers have a limited number of hours during the day to work on integrating ICT into education.

The time factor could be divided into: teachers' free time, time to prepare lesson and time for teaching. Teachers felt that free time is too short to use ICT to integrate it into the lesson, time to prepare for the lesson should be catered for and the teaching time was inadequate if one was to integrate ICT in the lesson. The higher the number of lessons allocated to the teacher per week, the less the number of free lessons resulting into workload. Understaffing in schools leads to high lesson workload for teachers and as a result they will get less free time for lesson preparation.

2.8 Summary of literature review

From the literature review, there are that quite a number of teacher factors that affect the integration of ICT in the teaching of English in secondary school education. Such factors include: teachers' demographics, teacher training, teachers' workload and teachers' attitudes influencing integration of ICT in the classroom. There is a unique difference on the previous studies which were done

on ICT as compared to the present study. Time and place of the study is one of the factors that brings about the difference. ICT is changing very fast and conducting a similar study in the same area after a period of like four years would yield totally different results.

A study by Kariuki (2012) concluded that research has not been conducted to establish factors affecting ICT integration in schools that received funding from the Ministry of Education under economic stimulus programme (ESP) project. Hawkins (2004) observes that many efforts have been made to competence schools, only few have developed coherent strategies to fully integrate the use of computers as instructional tools in the classroom. The study by Makhanu (2010) was a general survey on the challenges faced by teachers in the bid to train them on the adoption and use of ICT in most of the developing countries. The current study on the other hand, will investigate the general teacher factors in ICT integration in public secondary schools in Mumias sub-county.

2.9 Theoretical framework

The study is based on Everett Rogers' Diffusion of Innovations theory (Rogers, 2003). Rogers' Diffusion of Innovation theory is the most appropriate for investigating the adoption of technology in higher education and educational environments (Medlin, 2001; Parisat, 1998). Diffusion of innovation is a theory that seeks to explain how, why, and at what rate new ideas and technology spread through cultures. Rogers argues that diffusion is a process by which an innovation is communicated through certain channels over time among the participants in a

social system. The origins of the diffusion of innovations theory are varied and span multiple. The four elements in the diffusion of innovations theory are: innovation, communication channel, time and social system.

Innovation refers to an idea, practice, or project that is perceived as new by an individual or other unit of adoption. A communication channel is a means by which messages get from one to another; time refers to length of period or duration required to pass through the innovation- decision process and lastly, social system is defined as a set of interrelated units that are engaged in joint problem solving to accomplish a common goal.

According to Rogers (2003), the innovation decision process has five steps which are: knowledge which refers to an individual's awareness of an innovation and having an idea of how it functions. Persuasion is the second stage and it occurs when the individual has a negative or positive attitude toward the innovation. According to Sherry, (1997), teachers usually seek for information about a new innovation that is usually available from outside experts.

The decision stage is the third one whereby an individual chooses to adopt or reject the innovation, that is, by engaging in activities that lead to choice to adopt or reject the innovation. The implementation stage is the fourth where the innovation is put into use by the individual. The implementer may need technical assistance from change agents and others to reduce the degree of uncertainty about the consequences. Finally, the confirmation stage where an individual evaluates the results of an innovation decision already made. This compels the user to continue adopting or later on reject the technology.

Diffusion of Innovations theory takes a different approach compared to other theories of integration. Instead of focusing on persuading individuals to change, it sees integration as primarily being about the evolution or “reinvention” of products and behaviors’ so as to fit better for the individual or as a group. The study therefore employed the Everett Rogers’ Diffusion of Innovations theory to determine the teacher factors influencing integration of Information Communication Technology in teaching of English in secondary schools in Mumias sub-county. The theory is applicable in the study as the theoretical processes have a bearing on the quality of education.

2.10 Conceptual framework

In this study, the researcher identified a number of teacher factors that influence integration of Information and Communication Technology (ICTs) into teaching of English in Public Secondary Schools. In the study, the descriptive survey design was used to explain the relationship between the independent variables and the dependent variables and showed how independent variables influenced the dependent variables (Nachmias & Nachimius, 2008). The independent variables in the study were; teacher demographics, teacher attitudes, teacher training and teachers’ lesson workload. The dependent variable for the study was Information and Communication Technology integration in teaching of English in public secondary schools. Each of these variables had its indicators as shown in Figure 2.1.

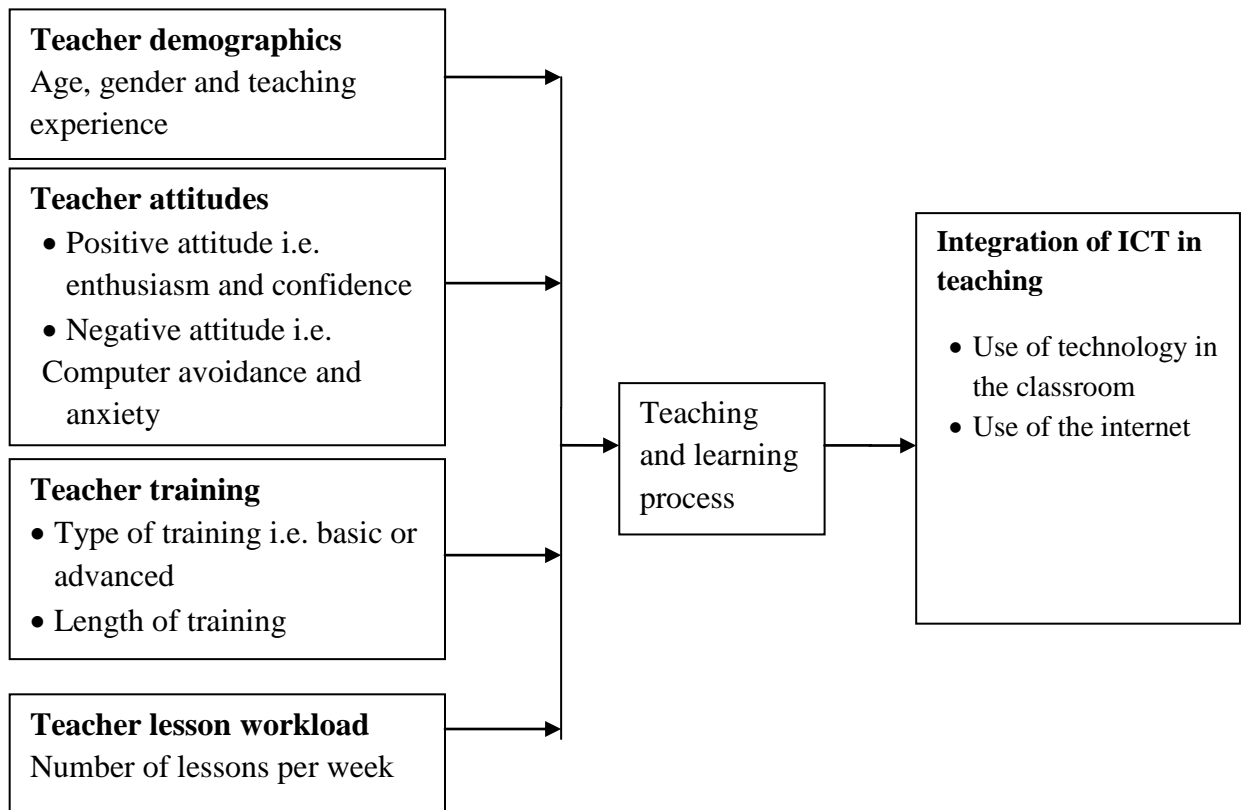


Figure 2.1: Factors influencing integration of ICT in teaching of English

From Figure 2.1, the teachers' demographics have a positive impact on integration of ICT into teaching. Effective integration of ICT is attributed to change in the teachers' attitude which is attributed to being enthusiastic and confidence with technology. This can be improved through teacher training and thus the teachers will be adequately prepared to handle their teaching workloads. The overall result is change in teaching methods as the teacher is able to use technology in the classroom and also internet as a research tool.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research design, target population, sample size and sampling procedures, research instruments, validity of instruments, reliability of instruments, data collection procedures and analysis techniques.

3.2 Research design

A research design is the arrangement of conditions for collection and analysis of data in a way that aims at minimizing expenditure of efforts, time and money (Kombo and Tromp, 2006). Orodho (2005) notes that the research design employed depends on what the researcher is trying to investigate. In the study, descriptive survey will be used. Descriptive survey is a method of collecting information by interviewing or administering a questionnaire to a sample of individual (Orodho, 2003). A descriptive survey design was chosen for this study because it is not possible to manipulate the variables of the study like sex, teaching experience, academic qualification, teaching workload and knowledge in ICT.

In addition, the study attempted to look into those factors that already had an influence on ICT integration in teaching. These factors included teacher demographics, teacher attitudes, teacher training and teaching workload. Descriptive survey research was used in this study to gather data at a particular

point in time with the intention of describing the nature of the existing conditions, identifying the standards against which existing conditions can be compared and determining the relationship that exists between specific events (Orodho, 2005).

3.3 Target population

The target population comprised of 40 secondary schools in Mumias sub-county consisting of 40 head teachers, 160 teachers of English and 3,120 students (Mumias sub-county Education Office, 2015). However, from the targeted sample population, only 1002 students fully completed the questionnaires, which is a good sample size. As for teachers, the actual sample size was 49, while all the 40 head teachers took part in the study.

The study targeted only public secondary schools because of their relative homogeneity in that the government of Kenya has a greater control on their management and the fact that the head teachers and teachers of English are rich with ICT content; oversaw the integration of ICT in the public secondary schools. The form three classes participated in the study because the students are exposed to most English language content/ skills, the teaching/ learning is more advanced as the assumption is that learners have experience with computer technology since its introduction in the schools when they were in form one and likelihood of giving reliable and honest responses.

Table 3.1 Target population

| Division | No. of schools | No. of head teachers | No. of teachers of English | No. of students |
|-----------------|-----------------------|-----------------------------|-----------------------------------|------------------------|
| Mumias East | 17 | 17 | 68 | 1280 |
| Mumias West | 23 | 23 | 92 | 1840 |
| Total | 40 | 40 | 160 | 3120 |

Source: D.E.O's Office Mumias sub-county (2015)

3.4 Sample size and sampling procedures

A sample size is the number of observations used for calculating estimates of a given population. Sampling is the process of selecting a number of individuals for a study in such a way that the selected individual represents the large group from which they were selected. Simple random sampling and purposeful sampling techniques were used in the study to obtain a sample from the target population.

According to Mugenda and Mugenda (2003), a sample size of 30 percent of the respondents represented target population. For this study, the researcher randomly selected 30 percent of public secondary schools and this translated to a sample of 20 schools. The actual schools were picked using simple random sampling which allowed each member of the population an equal and independent chance of being selected. The sample size therefore comprised of 20 schools, 20 head teachers, 80 teachers of English and 1560 students.

Table 3.2 Sample size

| Division | No. of schools | No. of head teachers | No. of teachers of English | No. of students |
|-----------------|-----------------------|-----------------------------|-----------------------------------|------------------------|
| Mumias East | 9 | 9 | 34 | 640 |
| Mumias West | 11 | 11 | 46 | 920 |
| Total | 20 | 20 | 80 | 1560 |

Source: Researcher (2015)

3.5 Research instruments

Questionnaires for teachers of English and students, an interview schedule for the head teachers were developed and used by the researcher. The teachers' questionnaires had six sections A, B, C, D, E and F. Section A obtained data on the teachers background information. Each of the other five sections collected information on the teacher factors influencing integration of ICT in relation to teachers' demographics, teachers' attitudes, teacher training, teaching workload and integration of ICT in teaching. The questionnaire for the students comprised of four sections, the first section was on the students' background information, second section based on the students' knowledge with computers, third section was on the use of ICT in the class by their teachers and finally section four was based on the use of computers by the students.

The interview for the head teachers contained seven questions. It sought information on the level of ICT integration by the teachers of English, kind of

support offered to teachers of English in their respecting schools and the number of teachers in serviced on ICT integration. In addition, the interview schedule sought the teachers' attitudes towards integration of ICT, the number of English lessons allocated in the computer lab and the challenges and suggestions to make a successful integration of ICT in the English curriculum.

3.6 Validity of instruments

According to Mugenda and Mugenda (2003) validity is the degree to which results obtained from the analysis of the data actually represents the phenomenon under study. To ensure instrument validity, content validity was tested. Content validity is a measure of the degree to which data collected using a particular instrument represents a specific domain of indicators or content of a particular concept. Content validity was used to assess whether the content of the questionnaire measured what it was supposed to measure. The instruments were presented to experts in the area of study who helped in improving the instruments. The expert's feedback in form of recommendations to the researcher was incorporated in the final instruments.

3.7 Reliability of instruments

Reliability is a measure of the degree to which a research instrument yields consistent results on data after repeated trials. A pilot study was conducted whereby the researcher tested both the questionnaires and interview guide prior to embarking on data collection. Test-retest method was used to test the reliability

and validity of the instruments. Test-retest technique involved administering the same instrument twice to the same group within two weeks.

The two sets of scores for each group were correlated using Pearson's product co-relation co-efficient to test the reliability of the instruments (Best & Kahn, 2006).

$$r = \frac{\sum xy - \frac{\sum x \sum y}{N}}{\sqrt{(\sum x^2 - \frac{(\sum x)^2}{N}) (\sum y^2 - \frac{(\sum y)^2}{N})}}$$

Where

r = Pearson co-relation co-efficient

x = results from the first test

y = results from the second test

N = number of observation

In order to obtain the reliability of the entire instrument, the Spearman Brown prophecy formulae indicated below was used (Best & Kahn, 2006).

$$re = \frac{2r}{1 + r}$$

The teachers' questionnaires yielded a reliability of 0.76 and the students' questionnaires yielded a reliability of 0.72. A correlation co efficient of above 0.7 was considered appropriate (Mugenda & Mugenda, 2003).

3.8 Data collection procedures

The researcher obtained authority to conduct the research from the National Commission of Science, Technology and Innovation through an introduction letter from the University of Nairobi. Subsequent clearance to carry out the research was obtained from the County Commissioner Education's office in Kakamega County and from the District Education Office in Mumias sub-county. The researcher then sought permission from head teachers of the sampled schools to administer the instruments. The questionnaires were administered to the randomly selected schools by the researcher. The package to each school contained a cover letter explaining the purpose of the study and the questionnaires.

3.9 Data analysis techniques

Qualitative and quantitative data obtained from the field were summarized, coded, edited, and then the information synthesized to reveal the essence of the data. In the study, responses from students, teachers and head teachers on integration of ICT in teaching of English in the secondary schools were categorized into various classes, analyzed thematically and the coded to enable quantitative data analysis.

After field work the researcher edited and counter checked completion of questions in order to identify items which were not appropriately responded to. Quantitative data collected from the questionnaires was coded, organized, and analyzed using descriptive statistics to generate percentages, mean and frequency tables. Qualitative data collected from the interview guide were organized into

themes, categories and patterns pertinent to the study and integrated with quantitative data to facilitate the discussion of key findings. Analysis of data enabled the researcher to interpret, summarize and draw conclusions and recommendation of the study.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter deals with data analysis, presentation and discussions on the research findings which were collected in the 20 public secondary schools. The study investigated the teacher factors influencing integration of ICT in teaching of English in public secondary schools in Mumias sub-county. The teacher factors were: teachers' demographics, attitude of teachers, teacher training and teachers' lesson workload. The findings of this study are based on the responses of the teachers of English, students and head teachers who were sampled out. The chapter is organized into the following sections; questionnaire return rate, demographic information and findings from the research questions based on the study objectives.

4.2 Questionnaire return rate

Two sets of questionnaires were used to collect data for this study, that is, questionnaires for teachers of English and students. A total of 49 teachers' of English (61.3%) and 1002 students' (64.2%) questionnaires were returned dully completed. The response on the interview with the head teachers was 70% that is, a total of 14 out of 20 head teachers were interviewed. The questionnaire return rate is as shown in Table 4.1.

Table 4.1 Questionnaire return rate

| Category | Number of questionnaires administered | Number of questionnaires filled and returned | Percentage(%) |
|---------------------|--|---|----------------------|
| Teachers of English | 80 | 49 | 61.3 |
| Students | 1560 | 1002 | 64.2 |
| Total | 1640 | 1051 | 62.8 |

Table 4.1 indicates that the response rate was satisfactory and data collected can be generalized.

4.3 Demographic information on the respondents

The objective of this section was to get information on a number of variables from the teachers, which included demographic attributes of the teachers. Descriptive statistics from the data collected from the teachers were presented. To understand the background of the respondents participating in the study, the researcher required them to indicate their gender, age, academic qualification, teaching experience, subject workload, among other variables. The information was important in establishing the nature of the participants of the study.

4.3.1 Gender of the teachers

The demographic characteristics of the sample are divided into two basic categories where there is a category for teachers and another for students. The results are presented in Figure 4.1.

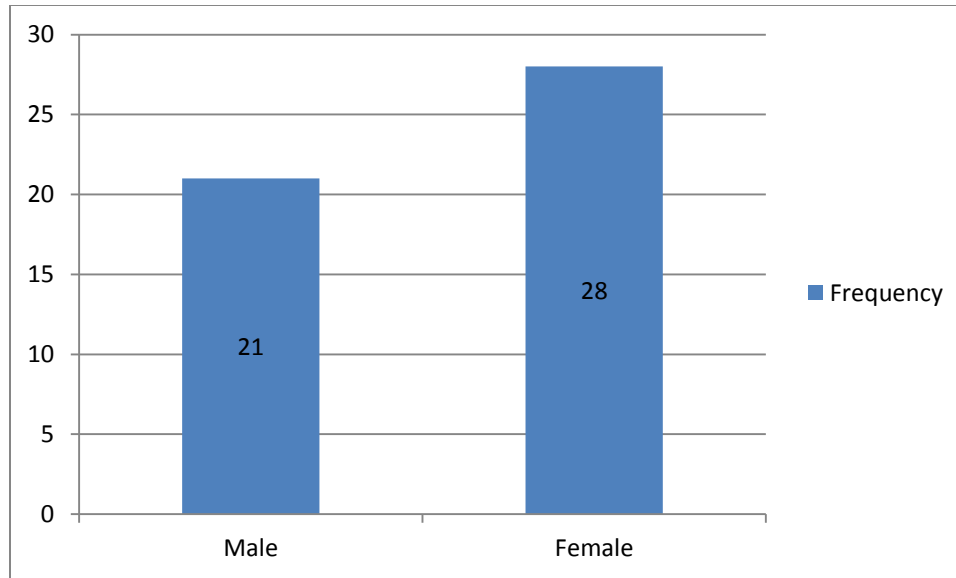


Figure 4.1: Gender of the teachers

The data in Figure 4.1 shows that majority of the respondents were female teachers accounting for 57.1%. This is because it has been a norm over the years for females to pursue Art based programs in the institutions of higher learning.

4.3.2 Age distribution of teachers

The study sought to find out the age of the teachers of English. This information helped to know the ages of the teachers of English in public secondary schools in Mumias sub county. The results are presented in Table 4.2.

Table 4.2 Age distribution of teachers

| Age (Years) | Frequency (f) | Percent (100%) |
|--------------------|----------------------|-----------------------|
| 25 <less | 6 | 12 |
| 26 – 35 | 34 | 70 |
| 36-45 | 9 | 18 |
| >46 | - | - |
| Total | 49 | 100.0 |

Table 4.2 indicates that majority of the teachers were of the age ranging between 26 and 35 years accounting for 70%. This shows that majority of the teachers of English are in their mid-twenties and thirties.

4.3.3 Level of education of the teachers

The level of educational qualification for teachers of English was considered a very integral variable based on the assumption that there is a high correlation between level of education and teachers understanding of the factors influencing integration of ICT in the teaching of English. The results are as presented in Table 4.3.

Table 4.3 Education level of teachers of English

| Qualification | Frequency (f) | Percentage (%) |
|----------------------|----------------------|-----------------------|
| M.Ed | 12 | 24.5 |
| B.Ed | 35 | 71.4 |
| Diploma | 2 | 4.1 |
| Total | 49 | 100.0 |

The data in Table 4.3 indicates that thirty five respondents representing 47.6% had bachelor degree, 12 respondents representing 24.5 % had reached master’s level of education and two teachers (4.1%) had diplomas. The results therefore indicated that a high percentage of the teachers of English attained a bachelor’s degree.

4.3.4 Teachers’ work experience

The teaching of the sampled teachers from each of the schools was considered an important variable as it had an impact on the teachers’ use of ICT in teaching of English. The findings are as shown in Table 4.4.

Table 4.4: Years of teaching experience

| No. of teaching years | Frequency | Percent |
|------------------------------|------------------|----------------|
| 1< | 4 | 8.2 |
| 1-5 | 31 | 63.3 |
| 6-10 | 8 | 16.3 |
| 11-15 | 4 | 8.2 |
| 15> | 2 | 4.1 |
| Total | 49 | 100.0 |

The results on Table 4.4 showed that majority of the teachers of English had a level of experience of between 1 year and 5 years which was 63.3%. This clearly indicated that majority of the teachers in the sub county had been teaching for a reasonable period of time and were better placed in understanding the teacher factors influencing integration of ICT in teaching of English in secondary schools in Mumias sub county.

4.4 Influence of teachers' demographics in integration of ICT in teaching of English

The teachers of English were required to indicate whether their personal characteristics were influencing the integration of ICT in teaching of English. The questions they were asked expected them to indicate by use of a tick the extent to which their gender, age and teaching experience influenced the integration of ICT in teaching of English. This has been summarized in Table 4.5.

Table 4.5 Teacher demographics and ICT integration

| Statement | SA | | A | | D | | SD | |
|------------------------------|-----|------|-----|------|-----|------|-----|------|
| | no. | % | no. | % | no. | % | no. | % |
| Gender as an influence of | 1 | 2.0 | 7 | 14.3 | 34 | 69.4 | 7 | 14.3 |
| ICT integration | | | | | | | | |
| Age and ICT integration | 10 | 20.4 | 33 | 67.3 | 3 | 6.1 | 2 | 4.1 |
| Experience in integration of | 31 | 63.3 | 15 | 30.6 | 1 | 2.0 | 1 | 2.0 |
| ICT | | | | | | | | |

4.5 Influence of teachers' attitude on ICT integration

The teachers' attitudes on ICT integration in teaching of English were measured using 12 items. The items were positive statements which respondents were expected to rate using a rating scale as follows: Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD).

4.5.1 Teachers' attitudes and ICT integration

The study sought to find out from the respondents whether ICT tools were difficult to use, they were comfortable using computers, whether ICT tools made them better teachers and if they used the ICT tools in teaching. The results were as shown in Table 4.6.

Table 4.6 Response on teachers' attitudes and ICT integration

| Statement | SA | | A | | D | | SD | |
|--|-----|------|-----|------|-----|------|-----|------|
| | no. | % | no. | % | no. | % | no. | % |
| ICT tools are difficult to use | 1 | 2.0 | 8 | 16.3 | 28 | 57.1 | 12 | 24.5 |
| I feel comfortable using the computer | 12 | 24.5 | 35 | 71.4 | 1 | 6.1 | 1 | 6.1 |
| ICT tools could make better teachers | 18 | 36.7 | 29 | 59.2 | 1 | 2.0 | 1 | 2.0 |
| I don't think I can use ICT tools in my teaching | - | - | - | - | 14 | 28.6 | 35 | 71.4 |

The results in Table 4.6 indicated that 57.1% disagreed that ICT tools were not difficult to use and a large percentage of 71.4 were comfortable using the computers in teaching. 59.2% of the teachers were in agreement that the use of ICT tools could make them better teachers in the classroom and a large percentage of 71.4% strongly disagreed with the statement that 'I don't think I can use ICT tools in my teaching.' The teachers of English therefore have a different positive view on the use of ICT tools in teaching.

4.5.2 Teachers attitudes on using ICT tools in class

The study sought to find out whether the students' performance improved if ICT tools were used, whether teaching was enjoyable with ICT, whether ICT tools

were relevant in teaching and whether students were encouraged to use ICT tools. The results were as shown in Table 4.7.

Table 4.7 Response on teachers’ attitudes on using ICT tools in class

| Statement | SA | | A | | D | | SD | |
|---|-----|------|-----|------|-----|------|-----|------|
| | no. | % | no. | % | no. | % | no. | % |
| Students performance can improve if I use ICT tools | 18 | 36.7 | 20 | 40.8 | 7 | 14.3 | 4 | 8.2 |
| Teaching would be enjoyable with ICT tools | 23 | 46.9 | 18 | 36.7 | 6 | 12.2 | 3 | 6.1 |
| ICT tools are very relevant in teaching | 15 | 30.6 | 32 | 65.3 | 1 | 2.0 | 1 | 2.0 |
| I encourage my students to use ICT tools | 15 | 30.6 | 19 | 38.8 | 10 | 20.4 | 5 | 10.2 |

The findings in Table 4.7 indicated 40.8% agreement that students performance improved with the use of ICT and 40.6% of the teachers agreed that teaching was enjoyable with ICT tools. 65.3% of the teachers agreed that ICT tools were relevant in teaching and 38.8% encouraged their students to use ICT tools. The implications here is therefore, the teachers of English felt the use of ICT tools in the classroom teaching was relevant.

4.5.3 Teachers’ attitudes on upgrading ICT tools

The study sought to find out whether the teachers felt threatened with using ICT tool, if they made an effort to upgrade their ICT skills and whether ICT use in class was frustrating. The results are as shown in Table 4.8.

Table 4.8 Response on teachers' attitudes on upgrading ICT skills

| Statement | SA | | A | | D | | SD | |
|---|-----|------|-----|------|-----|------|-----|------|
| | no. | % | no. | % | no. | % | no. | % |
| I don't feel threatened with the use of ICT tools | - | - | - | - | 16 | 32.6 | 33 | 67.4 |
| I make an effort to upgrade my ICT skills | 23 | 46.9 | 18 | 36.7 | 5 | 10.2 | 3 | 6.1 |
| Use of ICT in the class is very frustrating | 1 | 2.0 | 2 | 4.1 | 29 | 59.2 | 17 | 34.7 |

The results in Table 4.7, showed that 67.4% of the teachers of English did not feel threatened using ICT tools, 46.9% of the teachers made an effort to upgrade their ICT skills and 59.2% disagreed that the use of ICT in class was frustrating.

4.6 Effect of teacher training in ICT skills on integration in teaching of English

The data provided in this section was meant to get information on whether the respondents had received any training in computers and ICT integration skills in teaching of English and the effect the training or lack of training had on ICT integration.

4.6.1 Teachers' response on whether they trained in computers

The research collected data from respondents by asking them to state whether they had received any form of training in computers. The results were as indicated in Table 4.9.

Table 4.9: Training in Computer

| Statement | Frequency | Percent |
|------------------|------------------|----------------|
| Yes | 46 | 93.9 |
| No | 3 | 6.1 |
| Total | 49 | 100.0 |

The results in Table 4.9 indicated that 93.9% of the teachers of English had at least received some training in computers. This was a plus for integration of ICT in teaching of English.

4.6.2 Teachers responses on the areas they trained in ICT

The research collected data from the respondents asking them to indicate the ICT areas they had been trained in. the results are as indicated in figure 4.3.

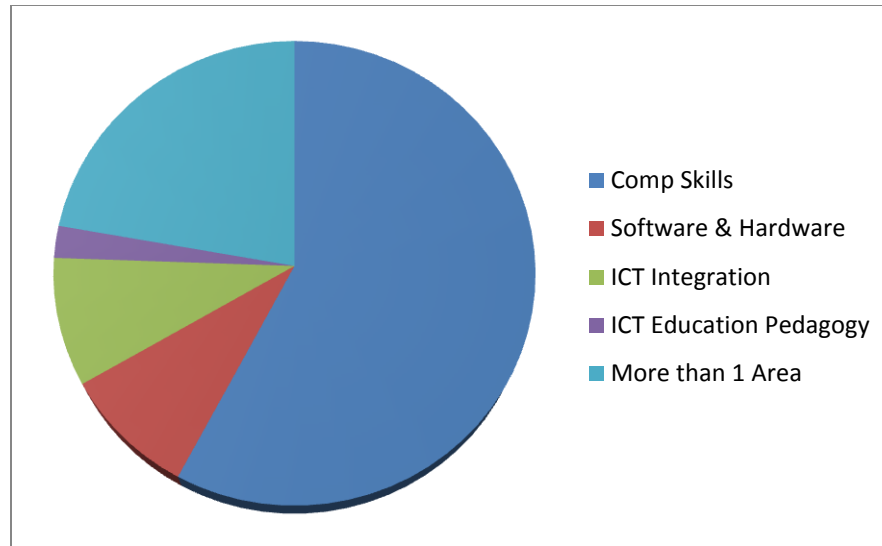


Figure 4.2: Areas of ICT that teachers received training

The data in Figure 4.3, showed that 57.1% of the teachers of English had trained in computer skills, 24.5% had trained in more than one area while 8.2% had training in software and hardware with a similar 8.2% training in ICT integration.

4.6.3 Head teachers' response on teacher training

When the head teachers were asked whether the teachers of English in their schools had been trained in ICT skills, 12 of them representing 60% said they allowed their teachers to attend workshops and seminars on ICT. 40% of the head teachers indicated that funds were inadequate to sponsor their teachers for such trainings.

4.7 Teaching workload of the teachers of English

4.7.1 Preparation and presentation of lessons in class using ICT tools

The study sought to find out how often the respondents prepared and presented lessons in class using ICT tools. The results were as indicated in Table 4.10.

Table 4.10 Teachers' response on preparation and presentation of lessons in class using ICT tools

| Rating of ICT integration | Frequency (f) | Percentage (%) |
|---------------------------|---------------|----------------|
| Very often | 5 | 10.2 |
| Often | 28 | 57.1 |
| Rarely | 11 | 22.5 |
| Never | 4 | 8.2 |
| Total | 49 | 100.0 |

From Table 4.8, 57.1% of the teachers of English often prepared their lessons in class using ICT and 8.2% never used any ICT tools to prepare and present their lessons in class.

4.7.2 Number of teachers of English in the Languages department

The study sought to find out the number of teachers of English in the Language departments. The results are as shown in Table 4.11.

Table 4.11 Number of teachers of English

| Response from teachers | Frequency(f) | Percentage (%) |
|-------------------------------|---------------------|-----------------------|
| 2 | 6 | 12.2 |
| 3 | 11 | 22.4 |
| 4 | 11 | 22.4 |
| 5 | 1 | 2.0 |
| 6 | 5 | 10.2 |
| 7 | 5 | 10.2 |
| 8 | 2 | 4.1 |
| 11 | 1 | 2.0 |
| 12 | 2 | 4.1 |
| 15 | 2 | 4.1 |
| Total | 49 | 100.0 |

In terms of the number of English teachers in the school, those who indicated that there were 3 teachers and those who indicated 4 teachers had a 22.4% each.

4.7.3 Number of lessons of English taught per week

The study sought to find out the number of lessons taught by the teachers of English in a week. This was to determine whether they had a heavy teaching workload or they had adequate time to plan for ICT related content. The results are as shown in Table 4.12.

Table 4.12: Number of Lessons of English

| Number of lessons | Frequency(f) | Percentage (%) |
|--------------------------|---------------------|-----------------------|
| 12 | 6 | 12.2 |
| 16 | 5 | 10.2 |
| 20 | 8 | 16.3 |
| 28 | 20 | 40.8 |
| 30 | 10 | 20.4 |
| Total | 49 | 100.0 |

The results in the above table indicate that 40.8% of the teachers of English had an accumulative of 28 lessons per week and 20.4% had 30 lessons per week. This is generally a heavy lesson workload for the teachers.

4.8 Integration of ICT in teaching of English

This data provided in this section was meant to get information on whether the respondents actually used ICT in teaching of English and the areas they used these ICT resources. The results are as indicated in Table 4.13.

Table 4.13 Teachers response on integration of ICT in teaching of English

| Statement | SA | | A | | D | | SD | |
|---|-----|------|-----|------|-----|------|-----|------|
| | no. | % | no. | % | no. | % | no. | % |
| There is increased use of Microsoft office applications | 20 | 40.8 | 18 | 36.7 | 9 | 18.4 | 2 | 4.1 |
| Instructional materials in the internet are adequate | 10 | 20.4 | 22 | 44.9 | 12 | 24.5 | 5 | 10.2 |
| ICT would improve the presentation of work in class | 21 | 42.9 | 15 | 30.6 | 8 | 16.3 | 4 | 8.2 |
| I incorporate ICT when preparing my lessons | 5 | 10.2 | 8 | 16.3 | 23 | 46.9 | 13 | 26.5 |

From table 4.13, 40.8% of the teachers of English strongly agreed that there is increased use of Microsoft office applications, 44.9% agreed that there are adequate instructional materials in the internet, 42.9% strongly agreed that ICT improved the presentation of work in class. It was however, alarming that 46.9% of the teachers did not incorporate ICT when preparing for their lessons.

4.8.1 Head teachers response on integration of ICT by the teachers of English

When asked to say their views on how integration of ICT by teachers of English was, the head teachers said that the level of ICT integration by teachers of English language was satisfactory. However, many head teachers held a view that the integration was low. When asked about the support they provided to their teachers in order to integrate ICT in their classrooms.

Varying responses were given. However, the overriding response from these head teachers showed that they tried to provide assistance in terms of buying computers for the teachers to use. A number of head teachers, 66.7% reported that they had bought computers for the schools, while 33.3% reported that they borrowed or organized for computers to be brought to the schools to be used by the teachers. Other support that is given includes financial support to buy the needed accessories such educational DVDs.

4.8.2 Teachers’ response on the areas of use of computers

The research collected data from the teachers of English to indicate the areas they used computers as an indication that integration was taking place. The results were as shown in Table 4.14.

Table 4.14 Teachers response on areas of use of ICT resources

| Statement | Frequency(f) | Percentage % |
|---|---------------------|---------------------|
| Access internet for teaching and learning resources | 12 | 24.5 |
| Keep database for my students | 25 | 51.0 |
| Prepare and present power point lessons | 29 | 59.2 |
| Upload and download ICT content | 15 | 30.6 |
| Chatting and discussing with other teachers and friends | 10 | 20.4 |

From Table 4.14, there are more teachers using ICT to prepare and present power point lessons (59.2%) than those using ICT to access internet for teaching and learning resources. 51.0% of the teachers use ICT to keep database of their students and 20.4% use ICT for chatting and discussing with other teachers and friends.

4.8.3 Students' response on knowledge in computer use

The students were expected to rate their own computer knowledge. The results were as indicated in Figure4.4.

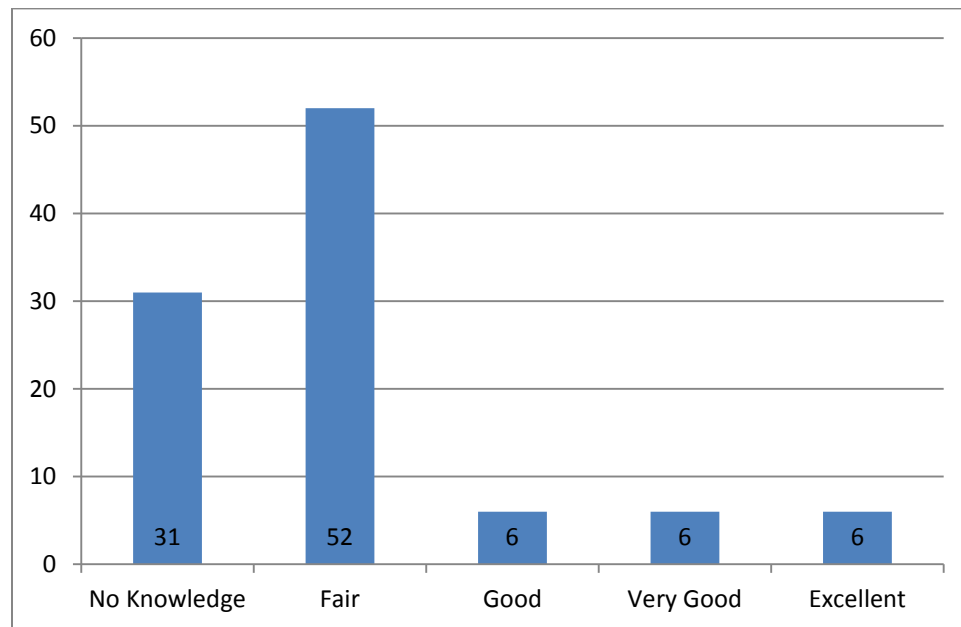


Figure 4.3: Knowledge in computer use of students

The findings in Figure 4.3 indicated that 52% of the students had fair knowledge in computer use, 31% of the students had no knowledge at all in computer use and a small percentage of 6% had relevant knowledge in computer use. The findings indicate a dire need for the students to be exposed to computers for effective integration.

4.8.4 Students' response on general use of computers

The students were asked to indicate the ways in which they used the computers in class. The results were as shown in Table 4.15

Table 4.15 Students response on use of computers

| Statement | Frequency(f) | Percentage(%) |
|--|---------------------|----------------------|
| (I use computers to...) | | |
| Google for information on the internet | 680 | 67.9 |
| Watch performance of set books | 928 | 92.6 |
| Send email to my friends | 187 | 18.7 |
| Do my homework | 120 | 12.0 |
| Download music | 589 | 58.8 |
| Write poems and essays | 480 | 48.0 |

From the results, a large percentage of 92.6 of the students used the computers to watch live performance of set books, 67.9% used computers to google for information on the internet and a very small percentage of 12 used computers to do their homework.

4.9 Response from the head teachers challenges and suggestions in ICT integration

When asked the challenges that they face and the suggestion of improving ICT integration in the English curriculum, nearly all the head teachers reported that the biggest challenge they faced was lack of facilities, in particular computers.

In addition to, the head teachers reported that lack of networking of the computer system was a big challenge they faced. Other challenges that were reported included inadequate teachers with ICT skills, lack of support from the ministry and high maintenance costs. Power blackouts and interruptions were also noted as a major challenge facing the head teachers.

On suggestions to improve the integration of ICT in schools, 30 of the head teachers suggested that the ministry of education should develop an ICT training program for teachers so that they are well equipped in this area. This would as well help in bridging the gap that exists among teachers. Similarly, several head teachers suggested that KICD should broaden the present curriculum to include computer lessons in secondary schools. Another suggestion was that the government ought to offer subsidizes on computer accessories for schools as it was costly buying them. In addition, it was as well suggested that the ministry of education should post computer teachers in secondary schools as presently this is not being done.

4.10 Summary

The results from the two questionnaire survey carried out have helped in answering the research questions. The first survey on teachers underscored how teachers' demographic influence ICT integration in teaching of English. From the results, one can deduce that age has influence on integration of ICT in teaching of English. As seen in the results those teachers aged below 36 years were readily applying ICT in teaching of English.

Indeed, these findings agree with those of Tella et al. (2007) who observed that age has an influence on ICT cognition. They as well pointed out that age is an important factor in adoption of innovations, such as use of ICT in the classroom. The findings are also in consonance with those of Hennessy (2010) who established that age was the most significant demographic variable that affects computer use. Elderly teachers seem to be more resistant to new technology such as the use of ICT.

The level of teachers' training (education) also influences the adoption of computer knowledge. Those teachers who hold masters' level of education are considered to be better equipped in information technology compared to those with diploma or first degree. The present results mirrors those discussed in the literature review of Clark (2000) who found established that the effectiveness in teaching and learning are influenced by teacher's level of academic and professional qualification. In this study, Clark (2000) found a strong relationship between teachers' level of education and their attitude towards adoption of information technology (use of computer). Nonetheless, when examined statistically from the present finding, there is no significant difference between the level of education among teachers and their attitude towards use of computer at schools.

The researcher sought to establish if the teachers had any ICT knowledge, the results indicated that 93% of the teachers had some of ICT knowledge. Meaning that majority of the teachers had some level of understanding of ICT. Accordingly, those teachers with ICT skills or knowledge were more receptive of

computer use compared to those that did not have any skills. The results indicated a mutual supportive relationship between computer literacy level and the academic qualification of the teacher. This implies that teachers with masters or with PhD have better computer knowledge than those with first degree or diploma. The results are compatible with those of Makhanu (2010) who found that there was a relationship between the teachers' computer literacy and academic qualification. He established that teachers with good computer skills readily accepted the use of ICT in the schools.

The ICT leadership of school head teachers has a very significant effect on the decision of secondary school teachers to adopt ICT that is according to a qualitative data. It suggests that those head teachers who took the leading role in the adoption of ICT and made sure that computer sufficiency in their respective schools had teachers who were ICT competent, while on the other hand those who did not support ICT were still behind in pushing for the implementation of ICT. From the study, it could be seen that there was lack of support that is crucial from the head teachers for the teachers, when it comes to the quest of ICT compliancy.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter provides a brief summary of the study, conclusions and recommendations and suggestions for further studies.

5.2 Summary of findings of the study

The present research was set to investigate the Teachers' Factors Influencing Integration of Information Communication Technology in Teaching of English in Public Secondary Schools in Mumias sub-county. The present chapter gives a conclusion of the findings derived from the analysis of data.

As stated before, the main objective of the present study was to investigate the factors that influence integration of ICT in teaching of English in public secondary schools in Mumias sub-county. The secondary objectives were as follows: The study was guided by the following objectives;

- i. To examine the extent to which the teachers' demographics influenced integration of ICT in teaching of English.
- ii. To determine the extent to which the teachers' attitudes influenced integration of ICT in teaching of English in schools.
- iii. To establish the extent to which teacher training influenced integration of ICT teaching of English.

- iv. To assess the extent to which the teachers' lesson workload influenced integration of ICT in teaching of English.

After analyzing and interpreting the quantitative and the qualitative data in relation to the objectives of the study, it was established that many of the teachers in the sampled school did not apply ICT in teaching of English because of various factors. From the results, the study showed that younger teachers were more ready to use ICT as opposed to older teachers, thereby underlining the fact that age influence adoption of ICT among teachers. However on the basis of gender, there was no significant relationship established between gender and ICT adoption. Similar findings were as well established in academic qualification. The number of years in teaching as well did not influence the use of ICT among teachers.

From statistical analysis carried out the results revealed that age, gender, academic qualification, years of experience and number of number of subjects are not the only factors that determine the adoption of ICT for English lessons in Mumias sub-county. There are other factors that include students 'attitudes, support from the head teachers (school) and number of teachers trained in ICT.

In addition, the study found that teachers, students and even the head teachers all have a positive attitude towards use of ICT in their schools. These findings mirror those of Albirini (2004) who established that teachers and head teachers understand the important of ICT in improving teaching and learning at schools. Albirini (2004) as well found that teachers have a positive attitude towards integration of ICT into classroom. Indeed, teacher attitude and support

from head teachers plays a big role towards integration of ICT in classroom. As noted by Jones (2001) the success and integration of ICT into classroom heavily depends on the teachers attitudes towards ICT.

Lastly, the study as well found that the leadership and support of head teachers had a big effect on the implementation and adoption of ICT among school teachers. The study established that head teachers of secondary schools in Mumias sub county had a major role in adoption and use of ICT in their respective schools. Head teachers who provided computers to their schools had higher skilled teachers in computer knowledge, while those who showed little support, their schools lagged behind in adoption of ICT.

5.3 Conclusions

From the findings of the study, several conclusions were arrived at: Integration of ICT in teaching of English in secondary schools would provide the teachers of English with opportunities to improve professionally through in service courses of ICT, given the right conditions. This will give the teachers of English an opportunity to transform education and as a result help students acquire confidence and pleasure in new technologies by being familiar with ICT applications.

The ICT leadership of head teachers had an influence on the prioritization of ICT in the mission and vision of schools, as well as ICT funding; hence the determination of ICT adoption in secondary school teachers. The attitude of head teachers was generally positive. They saw technology as an upgrade to classrooms

which will propel the interest of learners to acquire knowledge. Despite this, their budgets were a limiting factor. If a school's head teacher networked with NGOs as well as other stakeholders, then that school was a step ahead when it comes to ICT equipment's acquisition. In order to champion for the implementation of ICT in their schools, head teachers need to have strategies and skills when it comes to mobilizing resources.

5.4 Recommendations

From the study, the recommendations below help in addressing respective groups to whom may find them relevant:

- i. The people who make policy need to consider putting ICT as a core subject in the curriculum of secondary schools because it is an important factor in vision 2030. The country will be ICT equipped as the schools will be ICT hubs.
- ii. In order for MOE to allocate more finances for computers acquisition in public secondary schools, then ICT needs to become examinable. The access to computers is a prelude for ICTs successful adoption for learning and teaching. All secondary schools should be provided with ICT infrastructure of high quality so that the digital divide can be bridged between those who have and those who don't have the ICT resources.
- iii. A lot of teachers are still uneasy and anxious when it comes to using computers in classrooms caused by them being incompetent in ICT, they therefore, need to be given the basic ICT training. In order to adopt a workable remedy, there is need for an assessment study which will address the inadequacies in ICT

among teachers. The supply of in-service as well as pre-service skills in ICT when it comes to areas like networking, pedagogy, technical matters and social issues is essential for the competence of ICT. This will lead to computers being used effectively. Older and senior teachers need to be trained. MOE needs to ensure there is adequate training of teachers concerning ICT in order to ensure the upholding of equity when it comes to the provision of ICT services in secondary schools.

- iv. Teachers should be provided with computer and broadband internet connection packages at affordable payments and installment conditions. This is because they do not have enough time to prepare for ICT related content while they are at school, provided with such, they can do it when they get to their homes.
- v. There is need for more teachers to be employed especially those with proficiency in computers to reduce lesson workload. Heavy teaching workload influences the integration of ICT into teaching and learning because teachers do not get adequate time to plan for and use the ICT facilities. This can be achieved through allocation of more funds to the Ministry of Education.
- vi. The government and other stakeholders like Computer for Schools Kenya (CFSK), NEPAD and other legalized Development Partners should help in equipping schools with adequate ICT resources and increase the number of the schools benefiting from the grants in the sub counties.
- vii. There needs to be prudent leadership when it comes to ICT implementation from head teachers of secondary schools. They need to be up to date with technology and champion for ICT resources for their schools. If they lead by

example teachers will emulate them. They need to improve their schools ICT resources by harnessing the good will of the parents and other stakeholders.

5.5 Suggestions for further studies

Based on the present study, the researcher has made the following suggestions for consideration of further studies.

- i. Future studies should be done about the adoption of ICT between the principals of high schools and extend to other education levels like pre-school, primary schools, training colleges for teachers, together with other high learning institutions.
- ii. Further studies can as well be carried to determine if the characteristics of teachers like age, gender, academic qualifications and the period they have been teaching are best attitude predictors when it comes to ICT in schools in Kenya.
- iii. This study was only limited to Mumias Sub county, further studies need to be carried out in other parts of the country. However, changes in sampling, data collection methods can be considered when carrying out these studies.

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APPENDICES

APPENDIX I

TRANSMITTAL LETTER

Luhombo C, Shiboko
P.O. Box 58567-00200
Nairobi.
April, 2015

The respondents,

Dear Sir/ Madam,

REF: PARTICIPATION IN RESEARCH

I am a post graduate student at the University of Nairobi pursuing the degree of Master of Education in Curriculum Studies. I am conducting a research on the **“Teacher factors influencing the integration of ICT in teaching of English in secondary schools in Mumias sub-county, Kakamega County.”**

I am kindly asking you to assist me collect data through this questionnaire. Please give your responses as per the questionnaire items and comment in the given spaces where applicable.

Do not write your name or identity on this questionnaire.

Thank you.

Yours faithfully,

Luhombo Christine

APPENDIX II:

QUESTIONNAIRE FOR TEACHERS

This research intends to collect information on the teacher factors influencing integration of ICT in teaching of English. Please respond by ticking in the checkbox against the most appropriate/ applicable response in the questionnaire. To express your opinion, use the provided space.

School:

Section A: Background information

1. What is your gender? Male Female

2. How old are you?
25 years or less 26-35 years 36-45years 46-60 years

3. What is your highest level of education?
PhD Master Degree Bachelor’s Degree Diploma Other

4. What is your teaching experience?
Less than a year 1-5 years 6-10 years
11-15 years More than 15 years

Section B: Teachers’ demographics

Teachers’ reaction towards ICT integration in teaching of English is greatly moderated by the following factors. To what extent do you agree with this? Comment briefly on the same.

Key: Strongly Agree(SA) Agree (A) Disagree(D) Strongly Disagree(SD)

| No. | Statement | SA | A | D | SD |
|-----|------------|----|---|---|----|
| 5 | Gender | | | | |
| 6 | Age | | | | |
| 7 | Experience | | | | |

.....
.....
.....

Section C: Teachers' attitudes

Read carefully each of the statement and rate by ticking (√) where applicable in the table below, your level of agreement or disagreement with the statement. Use the provided key words.

Key: Strongly Agree (SA) Agree (A) Disagree (D) Strongly Disagree (SD)

| No. | Statement | SA | A | D | SD |
|-----|---|----|---|---|----|
| 8 | ICT tools are difficult to use | | | | |
| 9 | I feel comfortable using the computer | | | | |
| 10 | I believe that I could be a better teacher with ICT tools | | | | |
| 11 | I don't think i can use the ICT tools in my teaching | | | | |
| 12 | Students performance can improve if I use ICT tools | | | | |
| 13 | I think that teaching would be enjoyable and stimulating if I use ICT tools | | | | |
| 14 | ICT tools are very relevant in teaching | | | | |
| 15 | I encourage my students to use ICT tools | | | | |
| 16 | I do not feel threatened with the use of ICT tools | | | | |
| 17 | Sometimes when presented with an opportunity, I make an effort to upgrade my ICT skills | | | | |
| 18 | Use of ICT in the class is very frustrating | | | | |

Section D: Teacher training

19. Have you received any form of training on ICTs? Yes No

20. Which areas have you received the training in? (select only two areas)

Computer skills

Software and hardware

ICT integration skills

ICT in education pedagogy

21. In what ways do you think ICT should be used in the teaching and learning of English?

.....
.....
.....

22. What suggestions or possible measures would you like to give for improvement of ICT integration in the teaching of English?

.....
.....

Section E: Teachers workload

23. How many teachers of English are there in the Languages department?

.....

24. How many lessons do you teach per week?

.....

25. How often do you prepare and present lessons in class using ICT tools?

Very often Often Rarely Very rarely

Never

26. Do you get time to prepare ICT teaching materials? Yes No

27. If Yes in 26 above, how do you get to do it?

.....

28. What do you think can be done to address the issue of teachers' lesson workload in integrating ICT in teaching?

.....

.....

.....

Section F: Integration of ICT in teaching of English

Indicate the extent to which you agree with the following on integration of ICT in teaching of English.

Key: Strongly Agree (SA) Agree (A) Disagree (D) Strongly Disagree (SD)

| No. | Statement | SA | A | SD | D |
|-----|---|----|---|----|---|
| 29. | There is increased use of Microsoft office applications | | | | |
| 30. | Instructional materials in the internet are adequate | | | | |
| 31. | ICT would improve the presentation of work in class | | | | |
| 32. | I incorporate ICT when preparing my lessons | | | | |

33. For what purpose do you use computers/ ICTs? (Tick all that applies to you)

- Access internet for teaching and learning resources
- Keep database of my students
- Prepare and present power point lessons
- Upload and download ICT content
- Chatting and discussing with other teachers and friends

Thank you for your time.

APPENDIX III

INTERVIEW FOR HEAD TEACHERS

This research intends to collect information on the teacher factors influencing integration of ICT in teaching of English. Please respond by ticking in the checkbox against the most appropriate/ applicable response in the questionnaire.

To express your opinion, use the provided space.

School:

1. How do you rate the level of ICT integration by teachers of English in your school?

.....

2. What kind of support do you provide for your teachers in your school in order to integrate ICT in the classroom?

.....

3. How many teachers have been in-serviced on ICT integration?

.....

4. In which way has the INSET benefited the teachers of English?

.....

5. What is the teachers' attitude towards integration of ICT in teaching of English?

.....

6. How many lessons are allocated for English lessons in the computer lab?

.....

7. What are your challenges and suggestions in ICT integration in the English curriculum?

.....

Thank you for your time.

APPENDIX IV

QUESTIONNAIRE FOR STUDENTS

This research intends to collect information on the teacher factors influencing integration of ICT in teaching of English. Please respond by ticking in the checkbox against the most appropriate/ applicable response in the questionnaire.

To express your opinion, use the provided space.

PART A: Background information

1. What is your gender? Male Female

2. What is your age bracket?

Below 14 years 15 years 16 years 17 years Above 17 years

PART B: Knowledge in computer use

How would you rate your level of computer knowledge?

| Level of knowledge | Tick the most applicable |
|--|---------------------------------|
| No knowledge at all- cannot use computers | |
| Fair- able to operate basic computer functions and word processing application | |
| Good | |
| Very good | |
| Excellent | |

PART C: Use of ICT in class by the teachers

In which of the area(s) does the teacher of English use computers?

| Subject area | Computer used in the class |
|---------------------|-----------------------------------|
| Grammar | |
| Reading and writing | |
| Oral literature | |
| Literary set books | |

PART D: Use of computers by students

Please indicate using a tick (√) in the various ways you use computers in the school.

| I use computers to.... | Sometimes | Never |
|--|-----------|-------|
| Google for information on the internet | | |
| Watch performance of set books | | |
| Send email to my friends | | |
| Do my homework | | |
| Download music | | |
| Write poems and essays | | |

Thank you for your time.

APPENDIX V: LETTER OF AUTHORIZATION



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No.
NACOSTI/P/15/1726/6095

20th May, 2015
Date:

Christine Shiboko Luhombo
University of Nairobi
P.O Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on "*Teachers factors influencing integration of Information Communication Technology in teaching of English in public secondary schools in Mumias Sub-County, Kenya,*" I am pleased to inform you that you have been authorized to undertake research in **Kakamega County** for a period ending **30th October, 2015.**

You are advised to report to **the County Commissioner and the County Director of Education, Kakamega County** 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.


SAID HUSSEIN
FOR: DIRECTOR GENERAL/CEO

Copy to:

The County Commissioner
Kakamega County.

The County Director of Education
Kakamega County.

APPENDIX VI: RESEARCH PERMIT

THIS IS TO CERTIFY THAT:
MS. CHRISTINE SHIBOKO LUHOMBO
of UNIVERSITY OF NAIROBI, 58567-200
Nairobi, has been permitted to conduct
research in Kakamega County
on the topic: TEACHERS FACTORS
INFLUENCING INTEGRATION OF
INFORMATION COMMUNICATION
TECHNOLOGY IN TEACHING OF ENGLISH
IN PUBLIC SECONDARY SCHOOLS IN
MUMIAS SUB-COUNTY, KENYA

for the period ending:
30th October, 2015



Applicant's
Signature

Permit No : NACOSTI/P/15/1726/6095
Date Of Issue : 20th May, 2015
Fee Received :Ksh. 1000



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 Officers 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



National Commission for Science,
Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No. A 5137

CONDITIONS: see back page