

**INFLUENCE OF INSTITUTIONAL FACTORS ON INTEGRATION OF
INFORMATION COMMUNICATION TECHNOLOGY IN ENGLISH
CURRICULUM IN PUBLIC SECONDARY SCHOOLS, IGEMBE-NORTH
SUB-COUNTY, KENYA**

Koome Joshua Ncebere

**A Research Project Submitted in Partial Fulfillment of the Requirements for
the Award of a Degree of Master of Education in Curriculum Studies**

University of Nairobi

2017

DECLARATION

This research project is my original work and has not been submitted for any award in any other university.

Koome Joshua Ncebere

E55/73887/2014

This research project has been submitted for examination with our approval as university supervisors.

Dr. Lucy Wangui Njagi

Lecturer

Department of Education Administration and Planning
University of Nairobi

Dr. Mercy Mugambi

Lecturer

Department of Education and Administration Planning
University of Nairobi

DEDICATION

This project is dedicated to my dad Franklin Ncebere and my mum Jacinta Ncororo, my friends Mugambi Shadrck and Josephine Musau.

ACKNOWLEDGEMENTS

The completion of this research project has left me indebted to many parties and well-wishers who have given me significance contribution. Firstly I am grateful to God for good healthy and strength that kept me going during this study. My sincere gratitude goes to my supervisors Dr. Mercy Mugambi and Dr. Lucy Wangui Njagi for their support, patience, untiring guidance, positive criticism, and encouragement. I also thank the entire teaching and non-teaching staff of the Department of Educational Administration and Planning for their selfless contribution and guidance during my study. Special thanks to my family who gave me unsolicited support during the entire period of my study. I appreciate my staff-mate at Ambaru mixed day secondary school for according me a conducive learning environment during my study times. I also pass special thanks to Igembe-North Education officer, all the principals, teachers, and students who participated in the study. Finally I sincerely thank Mugambi Shadrack Meeme for the support he accorded me during my study. Thank you all.

TABLE OF CONTENTS

| Contents | Page |
|---------------------------------|-------------|
| Title page | i |
| Declaration | ii |
| Dedication | iii |
| Acknowledgements | iv |
| Table of Contents | v |
| List of Tables | viii |
| List of Figures | xi |
| Abbreviation and Acronyms | xii |
| Abstract | xiii |

CHAPTER ONE

INTRODUCTION

| | |
|--|----|
| 1.1 Background to the Study | 1 |
| 1.2 Statement of the Problem | 6 |
| 1.3 Purpose of the Study | 7 |
| 1.4 Objectives of the Study | 7 |
| 1.5 Research Questions | 7 |
| 1.6 Significance of the Study | 8 |
| 1.7 Limitations of the Study | 9 |
| 1.8 Delimitations of the Study | 9 |
| 1.9 Basic Assumptions of the Study | 10 |
| 1.10 Definition of Significant Terms | 10 |
| 1.11 Organization of the Study | 11 |

CHAPTER TWO

LITERATURE REVIEW

| | |
|---|----|
| 2.1 Introduction | 13 |
| 2.2 An overview on Integration of ICT in Teaching Process | 13 |

| | |
|--|----|
| 2.3 ICT Resources and Integration of ICT in English Curriculum..... | 15 |
| 2.4 School Administration Support and ICT integration in English Curriculum .. | 17 |
| 2.5 Teachers’ Collegiality and Integration of ICT in English Curriculum | 22 |
| 2.6 Time Allocation and Integration of ICT in English Curriculum | 24 |
| 2.7 Summary of Literature Review..... | 26 |
| 2.8 Theoretical Framework..... | 28 |
| 2.9 Conceptual Framework..... | 28 |

CHAPTER THREE

RESEARCH METHODOLOGY

| | |
|--|----|
| 3.1 Introduction..... | 30 |
| 3.2 Research Design..... | 30 |
| 3.3 Target Population..... | 31 |
| 3.4 Sample Size and Sampling Procedure | 31 |
| 3.5 Research Instruments | 32 |
| 3.6 Instrument Validity | 32 |
| 3.7 Instrument Reliability | 33 |
| 3.8 Data Collection Procedures..... | 34 |
| 3.9 Data Analysis Techniques..... | 34 |
| 3.10 Ethical Considerations | 35 |

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

| | |
|--|----|
| 4.1 Introduction..... | 36 |
| 4.2 Questionnaire Return Rate | 36 |
| 4.3 Demographic Information on the Respondents | 37 |
| 4.4 ICT Resources and Integration ICT in English Curriculum | 44 |
| 4.5 School Administration Support and Integration ICT in English Curriculum .. | 50 |
| 4.6 Teachers’ Collegiality and Integration ICT in English Curriculum | 58 |
| 4.7 Time Allocation and Integration of ICT in English Curriculum | 64 |

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

| | |
|---|-----------|
| 5.1 Introduction..... | 75 |
| 5.2 Summary of Findings of the Study | 75 |
| 5.3 Conclusions..... | 82 |
| 5.4 Recommendations..... | 83 |
| 5.5 Suggestions for Further Studies | 85 |
| REFERENCES..... | 86 |
| APPENDICES | 94 |
| Appendix I: Letter of Introduction..... | 94 |
| Appendix II: Questionnaire for Teacher of English | 95 |
| Appendix III: Questionnaire for Principals..... | 98 |
| Appendix IV: Questionnaire for Learners | 101 |
| Appendix V: Observation Schedule..... | 103 |
| Appendix VI: Authorization Letter..... | 104 |
| Appendix VII: Research Permit..... | 105 |

LIST OF TABLES

| Table | Page |
|--|-------------|
| Table 1.1 Number of ICT Tools in E-Secondary Schools in Igembe-North Sub-County | 5 |
| Figure 2.1 Relationship Between Institution Factors and Integration of ICT in English Curriculum..... | 29 |
| Table 4.1 Questionnaire Return Rate..... | 37 |
| Table 4.2 Respondents Gender | 38 |
| Table 4.3 Principals and English Teachers' Distribution by Age..... | 39 |
| Table 4.4 Students Distribution by Class..... | 40 |
| Table 4.5 Principals and English Teachers Highest Academic Qualification | 41 |
| Table 4.6 English Teachers' Teaching Experience..... | 42 |
| Table 4.8 Students Enrolment as Perceived by Teachers | 44 |
| Table 4.9 ICT Resources to Students Ratio | 45 |
| Table 4.10 Presence of On-Site Classroom Based Technical Support from Qualified ICT Personnel | 46 |
| Table 4.11 Adequacy of ICT Resources Influence Implementation of English Curriculum..... | 47 |
| Table 4.12 Ways ICT Resources Influence Implementation of English Curriculum | 48 |
| Table 4.13 Respondents' Perception on the Rate ICT Resources Influence Implementation of English Curriculum | 49 |
| Table 4.14 Principals' Response on Support Refresher/ In-Service of Teachers of English on ICT Use on Implementation of English Curriculum | 50 |

| | |
|---|----|
| Table 4.15 Frequency of Refresher/In-Service for English Teachers on Integration of ICT in English Curriculum | 51 |
| Table 4.16 Principals' Reasons for not Supporting English Teachers' Refresher/In-Service Training | 52 |
| Table 4.17 Type of Support to Enable English Teachers Use ICT During Lessons..... | 54 |
| Table 4.18 Software Provided to Integrate ICT In English Curriculum..... | 55 |
| Table 4.19 ICT Resources Provider | 56 |
| Table 4.20 Other Forms of Support Given by School Administration to Integrate ICT in English Curriculum | 57 |
| Table 4.21 Administrators Monitor Progress of Integration of ICT in English Lessons | 58 |
| Table 4.22 Frequency of Using Teaching Methods by English Teachers | 59 |
| Table 4.23 Principals Encourage English Teachers' Collaboration on Integration of ICT in English Curriculum | 60 |
| Table 4.24 Teachers' Collaboration at Local of School Level Influence Integration of ICT in English Curriculum | 61 |
| Table 4.26 Benefits of Teachers' Collaboration on Integration of ICT in English Curriculum..... | 63 |
| Table 4.27 Frequency of Students' Using Computers | 65 |
| Table 4.28 Number of English Lessons Per Week | 66 |
| Table 4.30 English Teachers Have Other Responsibilities Besides Teaching..... | 67 |
| Table 4.31 Enough Time is Allocated For Integration of ICT in English Curriculum | 68 |
| Table 4.32 Students Use of ICT Resources to Do Homework | 69 |
| Table 4.33 Barriers Encountered During Integration of ICT in English Curriculum | 70 |

| | |
|--|----|
| Table 4.34 Availability, Adequacy and Functionality of ICT Tools in Public Secondary Schools..... | 71 |
|--|----|

LIST OF FIGURES

| Figure | Page |
|---|-------------|
| Figure 2.1 Relationship Between Institution Factors and Integration of ICT in English Curriculum..... | 29 |

ABBREVIATION AND ACRONYMS

| | |
|----------------|--|
| CALL | Computer Assisted Language Learning |
| DGBL | Digital Games-Based Learning |
| DQASO | District Quality Assurance and Standards Officer |
| ICT | Information Communication Technology |
| KCSE | Kenya Certificate of Secondary Education |
| NACOSTI | National Council of Science, Technology and Innovation |
| SPSS | Statistics Package for Social Science |
| TEQ | Teacher of English Question |

ABSTRACT

Integration of Information Communication Technology in teaching English language in public secondary schools is dependent on various related factors. The purpose of this study was to establish influence of institutional factors on integration of ICT in English curriculum in public secondary schools in Igembe North sub-county, Kenya. The study was guided by the following objectives: determining influence of ICT resources, administrative support, teacher collegiality and time allocation on integration of ICT in English curriculum. The study was guided by the Model of ICT implementation process. A descriptive survey design was adopted, utilizing both qualitative and quantitative research methods. A sample size of 187 participants was sought using purposive and random sampling technique. Data collected using questionnaire for teachers of English and principals. Data were analyzed using descriptive statistics. The study findings revealed that majority of the secondary schools lacked adequate ICT resources to facilitate integration of ICT in English curriculum. Most of the principals cited lack of funds to support English teachers' refresher or in-service training. Majority of the teachers stated that collegiality with their peers enhance their efficiency in integration of ICT in English curriculum. From the study results ICT integration was not given enough time due to work overload. From the findings, the study concluded that provision of ICT resources influence integration of ICT in teaching of English. On administrative support the study concluded that majority of teachers of English did not receive adequate support for effective integration of ICT in teaching English. Teachers' positive attitude towards collegiality was concluded to be one of the main factor influencing integration of ICT in teaching English. Teachers workload affected integration for the lesser the number of lessons per week the more frequent ICT could be integrated while the higher the number of lessons per week the lesser the integration of ICT in teaching English. The study recommended for equal opportunities and utility of ICT equipment to teachers through regular refresher/in-service training. A recommendation was made for frequent capacity building courses for in-servicing teachers as well as intensifying pre-service training in ICT matters. A recommendation was done for school administrators to create conducive working atmosphere that motivate teachers of English to integrate ICT in their teaching. Hiring of more teachers to reduce teachers' lesson load is also recommended. The study also recommended that further research be carried out focusing on private secondary schools to establish their views on ICT integration in learning and teaching.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

In the late 1990's, education reforms started occurring throughout the world and one of it was the introduction and integration of Information Communication Technology (ICT) in education system (Jhurree, 2005). Jhurree further argues that successful integration of ICT into classroom requires careful planning and depends on policy makers to understand and appreciate the dynamics of such integration. English language is regarded as the second learned language around the world (Crystal, 1997), making it the most vital language for the learners. In addition, English teaches the literacy on which practice of other subjects is based (Breisser, 2006). Rassool (2000) argues that technology has power to transform and reinforce English curriculum implementation.

In addition, Leask and Younie (2001) posits that technology-mediated language learning seems to be the most successful when totally integrated into the overall activities of the concerned language rather than being an additional skill-set that may be learnt during or after a language class. Many proponent of integration of ICT in implementation of English curriculum argue that ICT facilitates teaching and learning process and also offer the potential for personalized learning, which they refer to as “scaffold learning” (Sutherland, Robertson & John, 2004). There

is also the recognition that there is a place for computer-assisted language learning (CALL) in teaching and learning English in schools (Hattie, 2009).

Hattie (2009) posits that independent learning through language games and drills using ICT may be effective due to its immediate feedback especially when teachers see learning through the eyes of learners and where they understand that teaching and all that it entails, is key to learning as a continued progression. For instance, when using ICT resources like broadband-related technologies, learning can be significant because they enable learners to communicate with each other over distance, which brings native speakers into contact with non-native speakers and also provides opportunities for developing intercultural understanding (Murchland & Parkyn, 2011; Ware & Warschauer, 2008).

To enhance implementation of English curriculum, many secondary schools around the world and many tech-savvy teachers have begun to embrace children's interest in digital games through use of ICT. This creates language learning opportunities for learners within an educational context which are known as digital games-based learning (DGBL) (Kern, Ware & Warschauer, 2008; Whyte, 2011). Technology is used in different language activities like writing, reading, and pronunciations for the purposes of implementing English curriculum. Beckett and Miller (2006) argue that English curriculum implementation can be achieved through various instructional processes including; question and answer

session, watch educative videos, books and internet research, role play or debate and experience a number of other activities by using ICT resources in classroom situation, which they refer as ‘blend learning.’

English is an official language in Kenya, in addition, English teaches the literacy on which practice of other subjects is based (Good 1990). It is also a medium of instruction and holds a special position in Kenya’s social, economic and political spheres. Therefore, it is regarded highly for it plays an important role both in school and outside. Hence to strengthen English curriculum implementation, the Ministry of Education introduced information communication technology use in classroom to teach the four skills of listening, speaking, reading, and writing (Ministry of Education, 2006). However, there have been hiccups since there is no proper planning and also the fact that, policy makers at national level never laid down a solid ground for the usage of ICT to implement English curriculum to take off (Wastiau, 2013).

Firstly, the integrated approach of teaching English and literature was adopted in 1984/85 syllabus review. It came without being piloted in schools and teachers were hardly prepared. Hwang and Embi (2007) argue that there is no evidence to show teachers of English were given guidelines on how to implement use of ICT at classroom level apart from the syllabus explaining the importance of integration. Following the above problem, Kenya Education Sector Support

Program (KESSP) and MOEST (2005) featured ICT as one of the priority area with the aim of mainstreaming it into teaching and learning. This effort was to improve quality of teaching, especially in implementation of English curriculum. Available research shows that teachers of English do not integrate ICT in teaching and learning process (Cox, 2000; Wiske, Franz & Breit, 2005; Mumtaz, 2000; Smith & Broom, 2003).

Despite the Kenyan government's effort to integrate ICT in major learning processes in basic education, availability of ICT resources to implement the English curriculum have reported has being outrageous inadequacy (MOEST, 2005), According to Fullan (2003) integration of ICT is more emphasized on technical subjects rather than humanities like English and other languages. MOE (2004) states that integration of ICT in teaching and learning in secondary schools requires a lot of time thus facing negative posterities from teachers who are the primary implementers of curriculum. Therefore, there is need to establish institutional factors that influence the integration of ICT in teaching and learning of English curriculum. This situation is not any different in Igembe North Sub-County. Table 1.1 Number of computers, projectors, and laptops per secondary school in Igembe-North sub-county.

Table 1.1

Number of ICT Tools in E-Secondary Schools in Igembe-North Sub-County

| School | No. of computers | No. of laptops | No. of projectors |
|----------------|-------------------------|-----------------------|--------------------------|
| Ambaru | 15 | 2 | 1 |
| Ntunene | 12 | 1 | 1 |
| Naathu | 12 | 1 | 1 |
| Akirangondu | 12 | 1 | 1 |
| Antwambui | 12 | 1 | 1 |
| Mwerongundu | 12 | 1 | 1 |
| Machugulu | 12 | 1 | 1 |
| Thithaa | 12 | 1 | 1 |
| Mutuati | 12 | 1 | 1 |
| St. Mary's | 12 | 1 | 1 |
| Antobetweiongo | 12 | 1 | 1 |

Source: Meru County Government, Education Office (2015)

Table 1.1 shows the availability of ICT resources in public secondary schools in Igembe North Sub-County. Despite, the availability of Information Communication Technologies meant to enhance implementation of English curriculum in secondary schools in Igembe- North sub-county they are largely under-utilized. This study therefore sought the causes of this state of affairs

1.2 Statement of the Problem

Teachers of English in Igembe-North in Meru County do not incorporate ICT in implementation of English curriculum. This state of affairs exists despite the fact that, the government through the Ministry of Education has provided them with computers. For instance, Kenya ICT Trust Fund, formed in 2004 to initiate ICT in education has led to an average of six public secondary schools, from every sub-county in Kenya acquiring computers for integration of ICT in their operations including teaching (MOE 2004).

The Quality Assurance and Standard Office in Igembe-North in conjunction with Open Resources for English Language Teaching (ORELT) organization has been training teachers on how to incorporate ICT in implementation of integrated English curriculum (ICT Survey, 2007). An ICT baseline survey carried out by Kandasamy and Shah (2013) in Igembe-North observed that many teachers in Igembe-North do not use ICT in their classroom due to teachers' related factors. However, very little literature have been studied on institutional factors influencing ICT integration in English curriculum. Goh (2007) argues that most secondary schools with computers use less than 40 percent of the available infrastructure and ICT as an alternative method for the delivery of the curriculum content in Kenya. Therefore it's imperative to carry out a study to find out the cause of this state of affairs.

1.3 Purpose of the Study

The purpose of this study was to assess the influence of institutional factors on integration of information communication and technology in implementation of English curriculum in public secondary schools in Igembe-North Sub-county.

1.4 Objectives of the Study

The study was guided by the following objectives:

- i. To examine the influence of ICT resources on implementation of English curriculum in public secondary schools in Igembe- North Sub-county.
- ii. To determine the influence of school administration support on integration of ICT in English curriculum in public secondary schools in Igembe-North Sub-county.
- iii. To establish the influence of teachers' collegiality on integration of ICT in English curriculum in public secondary schools in Igembe-North Sub-county
- iv. To examine the influence of time allocation on integration of ICT in English curriculum in public secondary schools in Igembe–North Sub-county.

1.5 Research Questions

The study was guided by the following questions:

- i. How do ICT resources influence implementation of English curriculum in public schools in Igembe –North Sub-county?

- ii. To what extent does the school administration support influence integration of ICT in English curriculum in public secondary schools in Igembe-North Sub-county?
- iii. How does the teachers' collegiality influence integration of ICT in English curriculum in public secondary schools in Igembe-North Sub-county?
- iv. To what extent does time allocation influence integration of ICT in English curriculum in public secondary schools in Igembe-North Sub-county?

1.6 Significance of the Study

This study may help the schools administration to improve their understanding on integrating ICT to implement English curriculum, especially at the secondary school level. It is hoped that practicing teachers, teacher educators, will get vital information on influence of institutional factors on implementation of English curriculum. It's hoped that education administrators, who will access the finding of this study will know the import of supporting teachers of English in their work so as to implement English curriculum.

The study also may help policy makers and other stakeholders in the education sector to get general information on this education innovation. It may also give insight to future scholars to research on the same area of study in other part of Kenya to establish whether the same factors influencing ICT integration in implementation of English curriculum. English subject panelist and curriculum

developers will also benefit from the result of the study. It may help them to come up with more resources such as, but not limited to, teachers' guide, and textbooks with this concept. Quality Assurance and Standard Officers and Resource Centers may also benefit from this study. The result of the study is also hoped to enable school administrators in enhancing and providing ICT resources. Looking forward, this will encourage teachers of English in carrying out their duties.

1.7 Limitations of the Study

The study focused on influence of institution factors on integration of ICT on implementation of English curriculum in public secondary schools. Some respondents were reluctant to give correct answers to questions which were asked. To check on this, the researcher created rapport with them and assured them of the confidentiality of their responses. Also the researcher designed questions which were not too long and made it clear to the respondents that information sought was only to be used for the purposes of this study.

1.8 Delimitations of the Study

According to Orodho (2005), delimitation of the study refers to the boundaries of a study. The study focused on the influence of institutional factors on use of ICT on implementation of English curriculum in public secondary schools in Igembe-North, Meru County. This is because the schools are funded by the government and also the fact that, they are open to public. Only teachers of English language, and principals from schools under study were involved in the study because the researcher believed that they had information sought. The focus was on: ICT

resources in public secondary schools support from the school administrators(principals), time allocation in using ICT resources, and teachers' collegiality, because very minimal studies has been carried out in the study area to assess these variables.

1.9 Basic Assumptions of the Study

The researcher made the following assumptions:

- i. That all teachers of English in secondary schools have ICT skills.
- ii. That all sampled public secondary schools integrated ICT policy.

1.10 Definition of Significant Terms

The following were significant terms used in the study;

Curriculum refers to all that is planned by educational institution to enable the learner develop desired knowledge, skills and attitude.

ICT integration refers to use of Information Communication Technology in Implementation of the curriculum using a variety of technological devices that

ICT resources refers to computer-based technologies such as desktops, laptops, tablets, smartphones, projectors and software and internet-based technologies including email, websites, and social networking sites for the purpose of English teaching and learning

Institutional factors refer to the issues related to school and how they influence use of ICT in teaching and learning of integrated English support and enhance students' engagement in meaningful learning situation.

School administration refers to the personnel that oversees the running of day to day activities of the school which include but not limited to management of the school.

School administration support refers to all effort made by the school administration to ensure that teachers carry out their duties effectively and efficiently.

Teachers' Collegiality refers to the teacher collaboration with other teachers at school, zonal, district, or county levels. It can also be through blog and internet.

Teaching of English language refers to the pedagogy of English language, aimed at imparting desired knowledge, skills and attitude.

Time allocation refers to the number of hours which English subject is allocated in a week.

1.11 Organization of the Study

The study is organized into five chapters. Chapter one is the introduction covering; background to the study, statement of the problem, purpose of the study, limitation of the study, delimitation of the study, basic assumption of the study, and definition of terms. Chapter two contains literature review on the influence of institutional factors on integration of ICT in English curriculum in public secondary schools under the following sub-topic: ICT resources, school administration support, time allocation and teachers' collegiality, theoretical framework and conceptual framework. Chapter three describes research methodology, research design, target population, sample size, and sampling

procedures, research instrument, instrument validity, reliability, data collection procedures, and methods of data analysis. Chapter four consists of data analysis, interpretation, and discussion of findings. Chapter five give summary of the study, conclusions, recommendations and suggestions for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents review of related literature from different scholars based on ICT resources, school administration support, teachers' collegiality, and time allocation. It also presents the summary of the reviewed literature as well as the theoretical and conceptual frameworks.

2.2 An Overview on Integration of ICT in Teaching Process

The concept of ICT integration in education provides a fundamental theoretical basis for research and practice in teaching and learning. The EACT defines educational technology as the study and ethical practice of facilitating learning and improving performance by creating; using and managing appropriate technological processes and resources (Cox, 2008). The 21st century classroom is networked, adequately provided with a rich internet connection to support media streams, personal Skype and group/video conferencing communications. It is able to upload and download students work and research to suitable structures to support 'anywhere anytime' learning and collaboration.

For effective ICT integration, facilities need be in place to enable media production, using projectors that have the facility to support wireless networking enabling the users (teachers and students) to easily connect and then switch between users (Abuhmaid, 2011). ICT intends to expand access to education. Through ICT, learning

can occur anytime and anywhere. Online course materials, for example, can be accessible 24 hours a day, seven days a week. Teleconferencing classrooms allow both learner and teacher to interact simultaneously with ease and convenience (Chen, 2008).

Based on ICT, learning and teaching no longer depend exclusively on printed materials. Multiple resources are abundant on the internet, and knowledge can be acquired through video clips, audio sounds, and visual presentations and so on. Current research has it that ICT assist in transforming a teaching environment into a learner-centered one (Kadiri, 2015). Language teaching is one area in which the application of multimedia technology has been encouraged. Integrating technology as a meaningful learning tool involves much more than simply providing equipment. ICT provides a good opportunity to develop and create different enjoyable tasks (Benigno, Bocconi & Ott, 2007).

The advantage of computer technology as a means of ICT integrated in classroom teaching and learning include: its ability to grab students' attention, focuses and retains students' concentration, does generate interest in class work, creates a sense of anticipation, energizes students for a learning exercise, also draws students' imagination improving attitude towards content and learning process (Pernia, 2008). Watson (2006) urges that integration of ICT in teaching and learning results to rising of the quality of education since interactive radio instruction project has been found to

be the most comprehensively analyzed, saving time and money used on excursions and promoting a lifelong learning experience for both the teachers and the learners.

2.3 ICT Resources and Integration of ICT in English Curriculum

Using hardware and software resources is key to diffusion of technology. Gülbahar and Güven (2008) posit that most of schools are equipped with different technological infrastructure and electronic resources. Such technologies include notebook computers, web spaces, email access, video conferencing and intranet. Efficient and effective use of technology depends on the availability of hardware and software and the equity of access to resources by teachers, students, and administrative staff. Clark (2000), states that teachers want more software and equipment in their classrooms. However, lack of computers is a major barrier to effective integration and use of computers in classrooms. Chen (2008) found that lack of access to computers and software was a major impediment to computer integration.

According to Vannatta and Beyerbach (2000) technology infusion in the classroom was still difficult to implement in American schools because of inadequate computers and software. According to Clark (2000) and Visser and Jain (1997), the issue of access to technology and software is still vital in the effective utilization of computers in the classroom. Moreover, scarce computer laboratories are still an impending factor in ICT Integration. Samuel and Bakar

(2006) posit that lack of ICT resources and infrastructure facilities in schools were cited as the most common reason that impedes the integration of ICT tools in the implementation of English curriculum, causing a long waiting list of learners who want to use ICT resources in the computer room.

Wastiau (2013) posit that among schools in European countries, policies play a major role in bringing about a digital education system and increased the number of digitally supportive schools. The findings of the same survey showed that the number of computers had increased in schools in 2012 as compared to the year 2006. In addition, the study point out that, computers were more often located in classrooms but, they were also found in computer laboratory. Wastiau further argue that laptops, tablets and net books were becoming pervasive in many countries in Europe and the presence of interactive whiteboards and data projectors showed the tendency of increase.

However, the survey by Wastiau (2013) reveals that school heads and teachers consider that, insufficient Information, Communication and Technology (ICT) equipment are the major obstacle to Information, Communication and Technology use in implementation of English curriculum. For any meaningful learning to take place, the availability of ICT resources for implementation of the English curriculum is important. Farrant (2004) notes that for any meaningful change and improvement in education, there must be adequate ICT resources. Shiundu and

Omulando (1992) concur by pointing out that teachers should access and acquire relevant instructional materials for innovation in advance. These resources include physical facilities, for example, buildings and equipment, material like textbooks and adequate staff.

Bishop (1986) cited in Kadiri (2015) warns that unless there is a ready and continuing supply of ICT equipment and adequate support services, any innovation introduced in the curriculum was be just a passing fancy. He further says that when a teacher has tools at hand, his confidence, effectiveness and productivity are increased. As noted from various researches, Gichuki (2007); Perkins, (2000); and Pernia, (2008) lack of adequate teaching- learning facilities and resources were one of the major challenges in implementing Integrated English in most secondary schools in Kenya.

2.4 School Administration Support and ICT Integration in English Curriculum

School leadership provides the direction and support in terms of school policy that outlines goals and the necessary resources for the teachers. Hepp, Hinostroza, Laval, and Rehbein (2004) posit that successful change and ICT implementation in schools depends on effective leadership. He adds that, strong and coherent leadership is an important factor in initiating and maintaining the impetus of promoting quality ICT integration. According to Fink and Brayman (2006),

school principals are key agents of change, who have a clear vision and implementation strategies for ICT with the main elements being staff development focusing on curriculum tailoring and pedagogic innovation. They concluded that principals have a key role to play in the facilitation of educational change.

At a time when information and communication technologies are being integrated into the classroom as learning tools, and when teachers are being asked to incorporate technology into their teaching practices, principals who demonstrate an initiator style are more likely to achieve success in their schools than those who do not (Afshari, 2012). However, the principals should have the understanding and the skills both pedagogically and technically. Fink and Brayman (2006), argue that principals should provide support through stressing classroom applications of technology during staff meetings, organizing staff training, ensuring adequate time and resources for in-class computer use, and monitoring every teacher's progress by reviewing instruction plans and other written materials. It is from this understanding that the principals in the schools under the Economic Stimulus Program (ESP) have been taken through some training (Ministry of Education, 2009).

According to Clarke (2006), school leadership should provide teachers with necessary resources and professional learning opportunities, connect teachers to

each other, and to experts and resources beyond the school, engage teachers in curriculum teaching and learning, assessment, and reporting and decision-making, leverage students' expertise and willingness to embrace ICT (MCEETYA, 2006). Transformative leadership that integrates Information Communication and Technologies (ICT) to improve English curriculum implementation was required in schools. Such leadership monitors and manages access to, and impact of ICT on all groups of students, engages all students with ICT in ethically, culturally sensitive and productive ways, and establishes a whole-school planned and sustained ICT integration program with quality technical support among others.

In the 21st century, visionary leadership is needed which recognizes the critical role of teachers in ensuring the power of Information Communication and Technologies is used to transform pedagogies and learning in schools. This leadership ensures teachers develop the knowledge, competence, skills and confidence to exercise professional judgments in utilizing ICT in implementing curriculum (MCEETYA, 2006).

In Uganda, Twinomujuni (2011) states that, administration support is essential for ICT integration in schools. Cox (2008) concurs that lack of technical support was one of the major barriers that resulted to underutilization of computers in the classes. It can be argued that lack of training support by administrators could be identified as a significant barrier towards implementation of computers in

classrooms as supported by (Krysa 1998). Zounek (2005) stresses the importance of school administrators, noting that school management plays a key role in introduction of new technologies into the process of education. The same author adds that the principals have a role of supplying the school with technologies, which determine the availability of the infrastructure for students and teachers.

The results of the study by Benigno, Bocconi, and Ott (2007) refer to the need for ongoing training for teachers in order to make informed decisions regarding the technological needs of all students, including those with special needs. The results of a survey carried out by Salehi and Salehi (2012) show that many teachers do not use ICT tools in the classroom because of the lack of technical support at schools and little access to the internet. They also bring out school level barriers, which include limited access to ICT, poor quality and inadequate maintenance of hardware as well as unsuitable educational software.

Zounek (2005) adds that overcoming these barriers cited by Salehi and Salehi in 2012 are demanding in terms of time and energy on the part of individual teachers and requires support from school management. (Lundvall & Johnson, 1994), posit that where there is backing of the head of the school, with long-term ICT policy to integrate ICT in implementation of English curriculum, there is gradual development on integration. The success of ICT integration in English curriculum implementation activities depends on the support given by the school principal. Teachers need on-site, classroom based technical support from qualified ICT

personnel/technician. The support also includes pedagogical advice on how they can choose relevant materials from the internet and sample them out for use (Fullan, 2003).

Technical support for teachers is limited in most schools. Where such support is available, it is not adequate (Pelgrum, 2001). For teachers to overcome barriers preventing them from using ICT, teachers require good technical support in the classroom. From the literature review, one of the most frequently cited barrier for lack of ICT integration is lack of technical support (Watson, 2006). According to Mulwa (2012), secondary schools should employ support staff members such as computer laboratory technicians or assistants before embarking on full-scale implementation of e-learning in schools.

Technical barriers impeded the smooth delivery of lessons or natural flow of the classroom activity (Neal & Miller, 2005). Such technical problems take much of the teachers time needed in achieving lesson objectives. If there is no technical support available, then it is most likely that technical maintenance of broken or faulty ICT tools was not take place (Zain Atan, & Idrus, 2004). Most of respondents in Zain *et al*, (2004) survey indicated that technical faults discourage them from using ICT in implementation of the English curriculum because of the fear of ICT tools failure/breakdown during lesson presentation. Research has indicated that in some countries like; United Kingdom, the Netherlands, Latvia,

Malta and the Czech Republic, schools have recognized the importance of technical support to assist teachers to use ICT in classrooms (Grable & Reed, 2007).

2.5 Teachers' Collegiality and Integration of ICT in English Curriculum

Collegiality is profession engagement. It can also be defined as the frequency the teachers have formal substantive communication with other teachers either at international, national, regional, local or at the school level. Becker (1994) argues that the frequency and breath of profession interaction with teachers at other schools and the involvement in specific peer leadership activities, mentoring, workshops conferences and presentations help teachers to networks with their colleagues in other schools. Becker posits that teachers who regularly participate in profession interactions and activities beyond their classroom teach in different ways than those who have minimal contact with their peers or professional.

Perkins (2000) posits that continuing profession development is a very personal and excellent barometer of the level of passion a teacher has for their chosen career. He also says that, teachers who connect with colleagues online in this way and learn how to implement technology, they become involved in the ICT training of their colleagues. He also posits that being part of large online network of ICT means that one was receive regular information from practicing teachers about classroom technology, about what works and what does not and also other teachers' recommendations on what to use in which situation. Cox and Sood

(1999) carried out a study examining the factors that encourage uptake of ICT in education institutions and found that, being a member of an association makes teachers gain confidence in ICT use in their classrooms. For instance, in UK there are associations like teachernet UK, the national association of coordinators and it teachers.

Becker (1994) argues that, collegiality among computer-using teachers especially in their school strengthens them to use ICT in their classes. It also helps them develop desire and enthusiasm in using technology and expanding computer skills among their students. Hoyles, Healy, and Pozzi (1994), argue that collaboration between peers particularly in small groups often becomes very important when information technology is used in classroom environment. He argues that the teacher will bring other perspective interaction paradigm to their students.

Pernia (2008) reports that in the Republic of South Korea, teachers have shown initiative by creating study groups meetings for lectures and seminars in order to develop ICT educational materials. Vocational training in ICT for these groups is offered online. Wilding and Blackford (2006) add that with a range of expertise, experience and educational view points, such an initiative forms a network. They describe networks to be groups of relatively isolated schools linked to a close knit professional team; they demonstrate the impact of collaboration of school leadership on student learning and achievement as well as the professional growth

and morale of staff. They work in partnership to benefit each other and the entire education system.

2.6 Time Allocation and Integration of ICT in English Curriculum

Breisser, (2006), surveyed 161 primary schools and secondary English teachers in South Korea, in Gangwondo province, and found out that, of the 90% who reported having had technology training, most did not use or seldom used a computer in the classroom because of lack of time. Tezci (2010), support the above argument by saying that teachers of English have little time. This is brought about by over relying on course book to drive the English curriculum at school and other activities managed by the teacher. The lessons metered by timetable constraints designed to meet curriculum criteria and attainment targets and incorporate mandatory use of ICT tools to implement the English curriculum. This means that, learners are not offered the best options for their learning because teachers are required to finish the syllabus.

Turkish teachers participating in a study carried out by Gulbahar and Guven (2008) pointed out that the class time is too limited for ICT usage. They added that the introduction of ICT innovations into education requires promoting structural, pedagogical and curricular approaches. Wikan and Molster (2011) noted that teachers need time to merge ICT with their teaching style. Donnelly, McGarr and O'Reilly (2011) reveal that teachers also feel lack of ICT confidence

despite having taken part in ICT courses. Wikan and Molster (2011) and Donnelly, McGarr and Reilly (2011) go further stating that educators are conscious of their own need for training, simultaneously being frustrated by the lack of time, economic resources and insufficient response of the management. According to a study carried out by Benigno Bocconi, and Ott (2007) teachers tend to lack time. Therefore, using ICT in class may mean much overwork and extra effort from teachers to meet the needs of every single student, which is sometimes not possible because of timetable constraints and also the need to complete the syllabus.

A research carried out in Malaysian Smart schools in 2010 revealed that many teachers felt time was an important factor in ICT integration. The problem of lack of time exists for teachers in many aspects of their works as it affects their ability to complete tasks, (Zain, *et al.*, 2004). Dede (2007) agree with Zain *et al* (2004) study on Malaysian Smart schools, in that lack of time affects application of ICT in Saudi Arabia because of teacher's busy schedule. He says that Saudi teachers, work from 7.00 am to 2.00 pm and the average number of lessons taught by teachers have limited number of hours during the day to work on integrating ICT in education.

Wood (1999) investigated on ICT integration in teaching and learning process and found out that ICT integration is likely to fail due to lack of time to prepare ICT

teaching materials because of loaded 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. Wood (1999) also noted that converting teaching notes to ICT requires both time and skill. According to Martinez and Pepler (2000), teacher's lesson workload and time management was a major hindrance to the implementation of ICT in implementing English curriculum. Similarly, Abuhmaid (2011) conducted study on the conduct and effectiveness of ICT training courses within the Jordanian education system. The findings were that teachers were already overloaded and the pressure from ICT training was an additional load. One teacher in the study stated that teachers are overloaded to learn, prepare and practice what they learn within ICT training. Fullan (2003), states that for teachers to realize the aims of educational system as well as implementing new initiatives, it is necessary to lessen the workload of teachers. This implies that less teachers' workload was positively relate to enhanced integration of ICT in teaching of English language in public secondary schools.

2.7 Summary of Literature Review

Analysis of the above literature review shows that a number of scholars agree on a number of issues concerning the institution factors influencing the ICT use and implementation of English curriculum in public secondary schools. Firstly, Chen (2008); Clarke (2000); Vennatta and Beyerbach (2000); Visser and Jain (1997); and Bakar (2006) agree that ICT resources are inadequate in schools hence

making it difficult to implement the English curriculum. On the issue of school administration support, Hepp, *et al* (2004); Fink and Bragman (2006); Twinomujuni (2011); Krysa(1998); and Zounek (2005), all stress the importance of school administration support, in that the leadership of the school plays a key role in introduction of new ICT resources into the process of education.

The other area of common agreement is on the issue of teachers' collegiality. Becker (1994); Cox and Sood (1999), Hoyles, Healy, and Pozzi (1994) argue that teachers' collaboration encourages the uptake of ICT in education institutions and also that being a member of an association makes teachers gain confidence in ICT use in their classroom.

A number of scholars have also agreed on the issue of time allocation, in that time allocated is not adequate for using ICT in implementing English curriculum. Breisser, (2006), Tezci (2010) reported that 90% of teachers who have technology training, most did not use or seldom used it because of lack of time. Gulbahar and Guven(2008), Wikan and Molster(2011), Benigno, Bocconi and Ott (2007), noted that teachers need time to merge ICT in their teaching. Zain, *et al* (2004), Dede (2007), Wood (1999), Abuhmaid (2011), all agree that time allocation for ICT use in implementation of English curriculum is inadequate. Therefore the current study used the following variables ICT resources, administrative support, teacher collegiality and time allocation to determine the integration of ICT in implementation of English curriculum in public secondary schools

2.8 Theoretical Framework

The study was guided by the Kwon and Zmud's (1978) model of ICT implementation process. The model is based on the organizational change, innovation and technological diffusion. The purpose of the model is to offer a directing and organizing framework for ICT implementation research. Thus the model covers an implementation process from the scanning of the organizational needs to a full and effective use of the technology in daily practice. The model also identifies five contextual factors which impact on processes and products in each implementation stage; the characteristics of the user community, the organization, the technology being adopted, and the institutional environment. This ICT model was be deemed appropriate for this study as its principles advocate for integration of ICT infrastructure during learning process. The tenets also state that the process of implementation characterizes the collective collaboration of users. For this case teacher collegiality and time allocation enhance effective integration of technology in the English curriculum.

2.9 Conceptual Framework

The conceptual framework is a diagrammatic presentation of the independent and dependent variables of the research study, as shown in Figure 2.1.

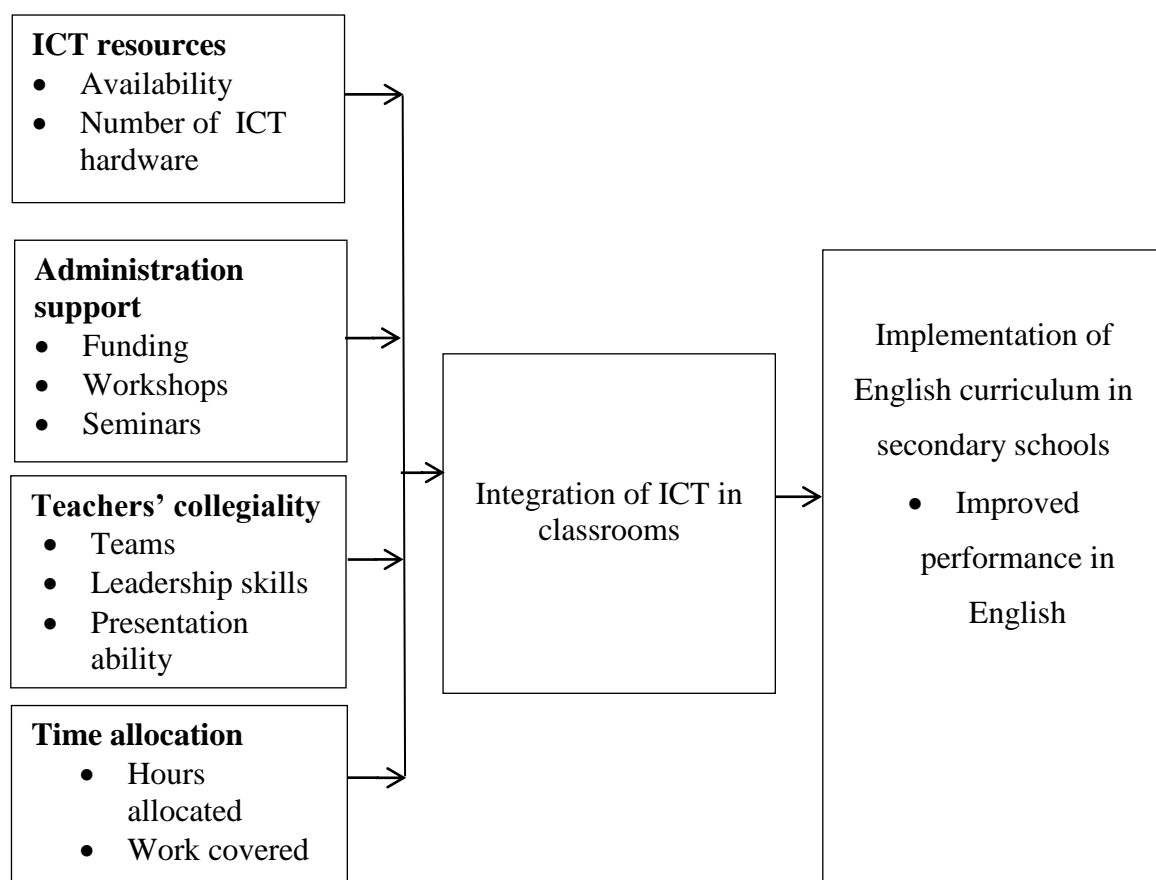


Figure 2.1 Relationship Between Institution Factors and Integration of ICT in English Curriculum

The conceptual framework in this study illustrates the interaction between the independent and dependent variables. The independent variable in this study are institution factors influencing ICT use in implementation of English curriculum, which include, ICT resources, administration support, time allocation, and teachers collegiality. The dependent variable in this study is the implementation of English curriculum.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the methodology used in the study. It describes the study design, the target population, sample size and sampling procedures, research instruments, instruments validity, reliability of instruments, data collection procedures, data analysis techniques and ethical considerations.

3.2 Research Design

The study adopted descriptive survey research design. Descriptive survey design was used to gather information on the influence of institutional factors on integration of ICT in English curriculum in public secondary schools in Igembe-North Sub County. According to Kothari (2008), the major purpose of descriptive survey design is to describe the state of affairs as it exists at present, using descriptive statistics appropriately to explain population parameters. It is based on assumption that the sample collected and studied shares characteristics with the whole population from where it is drawn. The design was used to gather information from respondents using a number of data collection methods to gather data at particular time, that describe the nature of the existing conditions which was used in preliminary studies to allow researchers gather information, summarize, interpret and present for purpose of clarification (Cohen, 2000).

3.3 Target Population

Igembe-North sub-county has 35 public secondary schools. Out of the 35 schools, twelve have ICT resources. The target was the 12 schools, twelve principals in these schools, 15 teachers of English in these schools and 3682 students in the above 12 schools were included. These translated to a target population of 3709 participants (Igembe-North Sub-County Education office, 2017).

3.4 Sample Size and Sampling Procedure

A sample should give an adequate representation of the population to which yielded results can be obtained and generalized. A sample which is a small proportion of the population selected for observation and analysis should give a representation of the whole population (Best & Khan, 2007). According to Kothari (2008) 10 to 30 percent of the population can be picked from a large population though when the target population is less than 20, the whole population can be used. Purposive sampling technique was used to select public secondary schools that integrate ICT in implementation of English curriculum, for purposive sampling allows selection of sampling units subjectively in order to obtain a sample that is representative of the entire population (Nachmias & Nachmias, 2005). The students were sampled by use of stratified random sampling as per gender. Twelve principals, 15 teachers of English and 162 students were the respondents.

3.5 Research Instruments

The research instruments were questionnaires and observation guides. They were developed by the researcher. These instruments were suitable for descriptive survey design (Orodho, 2003). Kombo and Tromp (2006) state that a questionnaire is an instrument that gathers data over a large sample, saves time, upholds confidentiality and seals interviewer bias. Three sets of questionnaires were used: questionnaire for English teachers, questionnaire for principals, and questionnaire for learner. The questionnaires had two sections section A and B. Section A was asking about background information of the respondent and section B of the questionnaire gathered information on institutional factors influencing integration of ICT in implementation of English curriculum in public secondary schools in Igembe-North sub-county. The questionnaire comprised of both open and closed ended questions where the respondent marked the correct answer or filled the gap appropriately. Observation schedule collected data about the number of ICT tools, availability, unavailability, number and the functionality of those tools among the schools and the information was entered in a checklist.

3.6 Instrument Validity

Validity implies the extent to which the data collected constitute accurate measurements of what is supposed to measure (Sapsford, 2007). The data gathering instruments were validated by corresponding the scores against some outside criterion, which were scores on data gathering instruments of acceptable

validity, successful performance or behavior. This study relied on face and content validity procedures to establish that the instruments measure what they were supposed to measure. To check on validity, the researcher sought expert assistance from the supervisors at the University of Nairobi. This was aimed at getting rid of ambiguity, biasness, unclear laid down instructions or poorly structured test-items in the instruments. Pilot study was carried out from the sampled population of the respondent. Mugenda and Mugenda (2003) recommend a pre-test sample of one percent depending on the sample size. The validity of the instrument was assured by checking whether the items in the questionnaire reflected the research question.

3.7 Instrument Reliability

Reliability of instrument is the degree of consistency that the instrument or procedure used for data collection demonstrates consistent results (Best & Khan, 2007). Kombo and Tromb (2006) state that it is important to carry out a pilot study before any research. He states that “even most carefully constructed instrument cannot guarantee to obtain a hundred percent reliable data.” Pilot helped in modifying and removing ambiguous items on the instruments. The instruments of this study were piloted at one secondary school that did not participate in the final study. The reliability was tested using test-retest technique where the research instruments were administered to the same group of respondents twice. A two weeks lapse between the first and second test was

allowed. According to Mugenda(2003) a coefficient which is 0.8 or greater than would imply that there is consistency in reliability. For this study the reliability was 0.84 thus meaning the research tool was reliable to collect data.

3.8 Data Collection Procedures

The researcher sought a research permit from the National Commission for Science, Technology and Innovation (NACOSTI), through the Board of Graduate Studies (BGS) University of Nairobi (UoN). Thereafter, the researcher sent notification letters to the County Commissioner, Sub-county Education Officer and the principals of the sampled schools in Igembe-North sub-county. The researcher visited selected schools, created rapport with the respondents and explained the purpose of the study before administering the questionnaire to them and thereafter collected them on completion. Observation schedule was also filled on the functionality, availability, unavailability and number of the ICT tools in respective schools.

3.9 Data Analysis Techniques

Mugenda, and Mugenda (2003) defines data analysis as a process of showing systematic order and meaning of the raw data that has been collected through research. The data redefines and the information is categorized into manageable topics based on research questions. Descriptive statistics such as frequency distribution tables, percentages can be used to analysis the qualitative data. Tables

are used to show responses for each item used during the research period. Data from the qualitative open-ended questionnaire was organized into themes. Finally all the responses were processed using statistical package for science (SPSS) version 22.

3.10 Ethical Considerations

Saunders, Lewis, and Thornhill (2007) assert that research ethics is important when relating to questions about a research topic, research design, research access, data collection and analysis. A research permit was obtained from the National Council for Science and Technology through University of Nairobi. The permit was then presented to the Director of Education Igembe-North sub-County requesting for permission to carry out the research. The researcher kept private any information given by the respondents. Blumberg, Cooper and Schindler (2005) emphasis that consent to participate in research is not a straightforward matter; therefore in this research informed consent was used. Informed consent according to Saunders, *et al* (2007), presupposes that, the participant will be given full information about participation right and use of data. Therefore the researcher gave the respondents all the information regarding this study. The researcher also recognized the objectivity as important during data analysis to ensure that the collected data was interpreted correctly.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter deals with data analysis, presentation and interpretation of the research findings. The study investigated the influence of institutional factors on integration of ICT in English curriculum in public secondary schools in Igembe North sub-county. The objectives sought to establish the influence of ICT resources, administration support, teacher collegiality and time allocation on integration of ICT in English curriculum in public secondary schools. The findings of this study are based on the responses of the principals, English teachers and students who were sampled from the 12 secondary schools integrating ICT. The chapter is organized into the following sections; questionnaire return rate, demographic information and findings from the research questions based on the study objectives. Collected data was analyzed descriptively and presented in frequency distribution tables.

4.2 Questionnaire Return Rate

Three sets of questionnaires were used to collect data for this study, that is, questionnaires for principals, teachers of English and students. A total of 12 principals, 15 English teachers and 162 students, thus 189 questionnaires were issued. Table 4.1 presents the instrument response rate.

Table 4.1

Questionnaire Return Rate

| Category | Number of questionnaires administered | Number of questionnaires filled out and returned | Percent |
|---------------------|--|---|----------------|
| Principals | 12 | 12 | 100.0 |
| Teachers of English | 15 | 15 | 100.0 |
| Students | 162 | 158 | 97.5 |
| Total | 189 | 185 | 97.9 |

Table 4.1 indicates that the total response rate was 97.9 percent. The findings indicated that the response rates were representative and conformed to the argument from Mugenda and Mugenda (2008) that stipulates that instrument response rates that were above 70 percent were excellent and representative for any social science research.

4.3 Demographic Information on the Respondents

This section sought the demographic attributes of respondents to understand the background of the respondents in the study. The researcher required them to indicate their gender, age, academic qualifications and teaching experience, among other variables. The information was important to establish the nature of the participants of the study. Descriptive statistics from the data collected from the respondents were presented in subsequent sections.

4.3.1 Distribution of Respondents by Gender

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 Table 4.2.

Table 4.2

Respondents Gender

| Gender | Principals | | English teachers | | Students | |
|---------------|-------------------|----------------|-------------------------|----------------|------------------|----------------|
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| Male | 9 | 75.0 | 4 | 26.7 | 77 | 48.7 |
| Female | 3 | 25.0 | 11 | 73.3 | 81 | 51.3 |
| Total | 12 | 100.0 | 15 | 100.0 | 158 | 100.0 |

Table 4.2 shows that a majority (75%) of the principals were male while, 73.3 percent of the teacher respondents were female. These findings agree with Cubillo and Brown (2003) who note that the teaching profession is pre-dominated by women. Females are more represented in the teaching career due to the limited strain associated with the profession unlike other strenuous profession like building and construction, joinery among others.

Students' representation by gender showed that female students were slightly higher than male students. These findings were an implication that due to the higher numbers of girls population than boys in the study area, the population of female students was slightly higher than that of their male counterparts. Therefore, the study sample was gender representatives since both genders were represented in all categories of respondents.

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 Igembe-North sub-County. The results are presented in Table 4.3.

Table 4.3

Principals and English teachers' Distribution by Age

| Age in years | Principals | | English teachers | |
|----------------|------------|--------------|------------------|--------------|
| | Frequency | Percent | Frequency | Percent |
| Below 30 years | 0 | 0.0 | 4 | 26.7 |
| 31 – 40 years | 2 | 16.7 | 8 | 53.3 |
| 41 – 50 years | 3 | 25.0 | 2 | 3.3 |
| Over 50 years | 7 | 58.3 | 1 | 6.7 |
| Total | 12 | 100.0 | 15 | 100.0 |

Table 4.3 indicates that majority of the teachers were of the age ranging between 26 and 35 years accounting for 70 percent. This shows that majority of the teachers of English are in their mid-twenties and thirties.

Students were requested to indicate their class to show their representation in the study. Table 4.4 presents the study findings.

Table 4.4

Students Distribution by Class

| Class | Students | |
|--------------|------------|--------------|
| | Frequency | Percent |
| Form 3 | 61 | 38.6 |
| Form 4 | 97 | 61.4 |
| Total | 158 | 100.0 |

Results presented in Table 4.4 shows that a majority (61.4%) of the student respondents were drawn from form four classes. This showed that data was gotten from students who had been in the schools for the longest period, thus giving reliable information on integration of ICT in their schools over the years.

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 4.5

Table 4.5

Principals and English Teachers Highest Academic Qualification

| Level of education | Principals | | English teachers | |
|--------------------|------------|--------------|------------------|--------------|
| | Frequency | Percent | Frequency | Percent |
| Diploma | 5 | 41.7 | 6 | 40.0 |
| BED | 6 | 50.0 | 7 | 46.7 |
| Masters | 1 | 8.3 | 2 | 13.3 |
| Total | 12 | 100.0 | 15 | 100.0 |

The data in Table 4.3 indicates that most of the teacher respondents representing 46.7% had bachelor degree, 2 respondents representing 13.3 % had reached master’s level of education and six teachers (40.0%) had diplomas. The results therefore indicated that a high percentage of the teachers of English attained a bachelor’s degree. The findings also showed that teachers in secondary schools in Igembe North Sub-County had attained relevant skills to carry out their pedagogical duties in implementation of English curriculum. The result agrees with Ware and WarsChauer (2008) that teacher professional training equips them with skills to facilitate instructional process in teaching and learning.

4.3.4 Teachers' Work Experience

The teachers were requested to indicate their teaching experience in years to establish whether it had an impact on the teachers' use of ICT in teaching of English. The findings are as shown in Table 4.6.

Table 4.6

English Teachers' Teaching Experience

| No. of years | English teachers | |
|---------------------|-------------------------|----------------|
| | Frequency | Percent |
| Below 10 years | 3 | 20.0 |
| 11 – 20 years | 10 | 66.7 |
| Over 21 years | 2 | 13.3 |
| Total | 15 | 100.0 |

The results on Table 4.6 showed that a majority of the teachers of English had a level of experience of between 11 and 20 years which was 66.7%. 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 institutional factors influencing integration of ICT in teaching of English in secondary schools in Igembe-North sub county.

The teachers of English were required to indicate whether they had acquired any other professional training. Thus, they were to identify the kind of additional training English teachers received and presented the findings as shown in Table 4.7.

Table 4.7

Additional Professional Training Acquired by English Teachers

| Training | English teachers | |
|--------------------------------|------------------|---------|
| | Frequency | Percent |
| Computer application skills | 13 | 86.7 |
| Software and hardware training | 2 | 13.3 |
| ICT integration | 11 | 73.3 |
| ICT Education pedagogy | 14 | 93.3 |

Data presented in Table 4.7 shows that about 86.7 percent of English teachers in secondary schools integrating ICT in Igembe-North sub-county had attained basic computer skills and ICT integration skills though, only 2 English teachers (13.3%) had software and hardware knowhow. This implies that majority of the teachers were conversant with basic computer literacy thus, they were efficient in integration of ICT during English lessons.

4.4 ICT Resources and Integration ICT in English Curriculum

The first objective of the study sought to establish the influence of ICT resources on integration of ICT in English curriculum in public secondary schools in Igembe-North Sub-County. The study sought to establish whether students' resources ratio influenced integration of ICT in implementation of English curriculum. Table 4.8 presents students enrolment as indicated by English teachers.

Table 4.8

Students Enrolment as Perceived by Teachers

| No. of students | English teachers | |
|------------------------|-------------------------|----------------|
| | Frequency | Percent |
| Below 30 students | 1 | 6.7 |
| 31 – 40 students | 4 | 26.7 |
| 41 – 50 students | 2 | 13.3 |
| Above 50 students | 8 | 53.3 |
| Total | 15 | 100.0 |

According to Table 4.8, majority of the secondary schools had over 50 students per class. This is an indication that many secondary schools in the sub-county were overpopulated, thus there is a likelihood of ICT resources being inadequate vis-à-vis the number students to ensure effective integration of ICT in English

curriculum. The study sought to establish whether ICT resources were adequate in regards to students' ratio. Table 4.9 presents the study findings.

Table 4.9

ICT Resources to Students Ratio

| Responses | Principals | | English teachers | | Students | |
|--------------|------------|--------------|------------------|--------------|------------|--------------|
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| 1:2 | 1 | 8.3 | 2 | 13.3 | 14 | 8.9 |
| 1:5 | 11 | 91.7 | 13 | 86.7 | 103 | 65.2 |
| 1:10 | 0 | 0.0 | 0 | 0.0 | 41 | 25.9 |
| Total | 12 | 100.0 | 15 | 100.0 | 158 | 100.0 |

Data presented in Table 4.9 shows that all categories of respondents; 91.7 percent of principals, 86.7 percent of English teachers and 65.2 percent of students, stated that the students-ICT resources ratio was one equipment shared among five students. This shows that ICT resources were not adequate to facilitate extensive integration of ICT in the implementation of English curriculum. Therefore, lack of enough ICT resources was likely to hinder successful integration of ICT in English lessons in public secondary schools. The findings agree with Clark (2000) on the argument that efficient and effective use of technology depends on the availability of hardware and software and the equity of access to resources by teachers, students, and administrative staff.

The study sought to establish whether public secondary schools integrating ICT in their learning process had no-site classroom based technical support from qualified ICT personnel to enhance effective integration of ICT in English curriculum. Table 4.10 presents the study findings.

Table 4.10

Presence of On-Site Classroom Based Technical Support from Qualified ICT Personnel

| Response | Principals | | English teachers | | Students | |
|-----------------|-------------------|----------------|-------------------------|----------------|------------------|----------------|
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| Yes | 2 | 16.7 | 3 | 20.0 | 35 | 22.2 |
| No | 10 | 83.3 | 12 | 80.0 | 123 | 77.8 |
| Total | 12 | 100.0 | 15 | 100.0 | 158 | 100.0 |

According to data presented in Table 4.10, a majority of the schools lacked on-site classroom based technical support from qualified ICT personnel. This shows that many secondary schools did not engage qualified technical support when using ICT resources.

The respondents were requested to indicate whether adequacy of ICT resources influence implementation of English curriculum. Table 4.11 presents the study results.

Table 4.11

Adequacy of ICT Resources Influence Implementation of English Curriculum

| Response | Principals | | English teachers | | Students | |
|-----------------|-------------------|----------------|-------------------------|----------------|------------------|----------------|
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| Yes | 12 | 100.0 | 13 | 86.7 | 109 | 69.0 |
| No | 0 | 0.0 | 2 | 13.3 | 49 | 31.0 |
| Total | 12 | 100.0 | 15 | 100.0 | 158 | 100.0 |

Data from all (100%) principals, 86.7 percent of teachers, and 69 percent students showed that provision of adequate ICT resources influenced implementation of English curriculum. These findings showed that ICT resources played a crucial role in effective implementation of English curriculum in secondary school education. The information agrees with Farrant (2004) who notes that for any meaningful change and improvement in education, there must be adequate ICT resources. The study further sought to establish the ways in which ICT resources are used to influence implementation of English curriculum. Table 4.12 presents the study findings.

Table 4.12

Ways ICT Resources Influence Implementation of English Curriculum

| Response | Principals n= 12 | | English teachers n=15 | | Students n=158 | |
|--|---------------------|------|-----------------------------|------|-------------------|------|
| | (f) | (%) | (f) | (%) | (f) | (%) |
| Watching educative videos/ set books | 11 | 91.7 | 13 | 86.7 | 141 | 89.2 |
| Internet searching | 2 | 16.7 | 4 | 26.7 | 22 | 13.9 |
| Sending emails | 1 | 8.3 | 3 | 20.0 | 8 | 5.1 |
| Downloading teaching materials | 7 | 58.3 | 4 | 26.7 | 0 | 0.0 |
| Using talking dictionary during pronunciation class | 8 | 66.7 | 9 | 60.0 | 17 | 10.8 |

According to a majority (91.7% principals, 86.7% teachers of English and 89.2% students) of the respondents, ICT resources are expansively used in their schools to watch educative videos or set books. Eight principals (66.7%) and 60 percent teachers of English indicated that during English lessons ICT resources are used during pronunciation lessons. This shows that ICT resources were used on certain lessons as opposed to using them in all English lessons.

The respondents were requested to rate the extent to which ICT resources influence implementation of English curriculum. Table 4.13 presents the study results.

Table 4.13

Respondents' Perception on the Rate ICT Resources Influence Implementation of English Curriculum

| Response | Principals | | English teachers | | Students | |
|----------------------|-------------------|--------------|-------------------------|--------------|-----------------|--------------|
| | (f) | (%) | (f) | (%) | (f) | (%) |
| To a large extent | 9 | 75.0 | 9 | 60.0 | 87 | 55.1 |
| To a moderate extent | 2 | 16.7 | 4 | 26.7 | 39 | 24.7 |
| To a little extent | 1 | 8.3 | 2 | 13.3 | 23 | 14.6 |
| Not at all | 0 | 0.0 | 0 | 0.0 | 9 | 5.7 |
| Total | 12 | 100.0 | 15 | 100.0 | 158 | 100.0 |

Table 4.13 shows that majority of the principals (75%), English teachers (60%) and 55.1 percent of students indicated that ICT resources influence implementation of English curriculum to a large extent. These findings imply that ICT resources are a crucial component to enhance effective implementation of English curriculum in secondary schools education. The findings are in consistence with arguments from Samuel and Bakar (2006) that lack of ICT resources and infrastructure facilities in schools were cited as the most common reason that impedes the integration of ICT tools in the implementation of English curriculum, causing a long waiting list of learners who want to use ICT resources in the computer room.

4.5 School Administration Support and Integration ICT in English Curriculum

School leadership provides the direction and support in terms of school policy that outlines goals and the necessary resources for the teachers. The second research objective sought to determine the influence of school administration support on integration of ICT in English curriculum in public secondary schools in Igembe North Sub-County. The principals were requested to indicate whether they support refresher/in-service training for teachers of English on the integration of ICT in implementation of English curriculum. Table 4.14 presents the study findings.

Table 4.14

Principals' Response on Support Refresher/ In-Service of Teachers of English on ICT Use on Implementation of English Curriculum

| Response | Principals | |
|-----------------|-------------------|----------------|
| | Frequency | Percent |
| Yes | 8 | 66.7 |
| No | 4 | 33.3 |
| Total | 12 | 100.0 |

Table 4.14 shows that 66.7 percent of the principals indicate they support refresher/in-service training for English teachers on integration of ICT on the

implementation of English curriculum. This implies majority of school Head in public secondary schools in Igembe-North Sub-County were committed to ensuring successful integration of ICT in English curriculum.

The principals were asked to indicate the frequency which they support refresher/in-service training for English teachers on integration of ICT in English curriculum. Table 4.15 presents the study results.

Table 4.15

Frequency of Refresher/In-Service for English Teachers on Integration of ICT in English Curriculum

| Response | Principals | | English teachers | |
|--------------|------------|--------------|------------------|--------------|
| | Frequency | Percent | Frequency | Percent |
| Monthly | 1 | 8.3 | 0 | 0.0 |
| Termly | 2 | 16.7 | 1 | 6.7 |
| Yearly | 5 | 41.7 | 2 | 13.3 |
| Never | 4 | 33.3 | 12 | 80.0 |
| Total | 12 | 100.0 | 15 | 100.0 |

According to most of the principals, 41.7 percent, support their English teachers to attend refresher or in-service training on integration of ICT yearly. These results were disputed by 80 percent of the teachers who sated that refresher/in-

service training never happen in their schools. The contrast on opinion showed that, principals' administrative support for teachers of English on in-service and refresher courses on integration of ICT in implementation of English curriculum was not effectively carried out. The findings disagree with Clarke (2006) that school leadership should provide teachers with necessary resources and professional learning opportunities, connect teachers to each other, and to experts and resources beyond the school, engage teachers in curriculum teaching and learning, assessment, and reporting and decision-making, leverage students' expertise and willingness to embrace ICT. The study further sought to establish the reasons behind principals not supporting refresher/in-service for English teachers on integration of ICT in English curriculum. The study findings are as presented in Table 4.16.

Table 4.16

Principals' Reasons for not Supporting English Teachers' Refresher/In-Service Training

| Response | Principals | |
|---|-------------------|------------|
| | (f) | (%) |
| Lack of adequate funds for in-service | 12 | 100.0 |
| Administration do not see the point of refresher/in-service | 2 | 16.7 |
| Teachers' negative attitude | 8 | 66.7 |
| Lack of time for refresher courses | 10 | 83.3 |

n=12

According to all principals, 100 percent, who participated in the study, lack of enough funds for in-service training for teachers of English was among the major reason why they did not support in-service training of teacher on integration of ICT in English curriculum. Other reasons included limited time to conduct refresher courses that was cited by 83.3 percent of principals and 66.7 percent stated teachers negative attitude towards support given. These results imply that other administrative duties and limited resources hindered principals from supporting refresher/in-service training for teachers of English on implementation of English curriculum using ICT resources.

The school heads who indicated that they supported English teachers to use ICT resources during lessons were requested to indicate the type of support they offered. Table 4.17 presents the study findings.

Table 4.17

Type of Support to Enable English Teachers Use ICT during Lessons

| Response | Principals | |
|---|------------|------|
| | (f) | (%) |
| Providing ICT resources for in-class use | 3 | 25.0 |
| Supervision of teaching and learning process and giving feedback | 4 | 33.3 |
| Employment of technicians | 1 | 8.3 |
| Emphasize classroom application of technology during staff meeting. | 11 | 91.7 |

n =12

According to majority of the principals, they emphasize to teachers to embrace application of technology in classrooms during staff meeting, only 8.3 percent of the principals indicated that they employ technicians to support English teachers on the use of ICT during lessons. This information shows that much needs to be done by the secondary schools' administration in support of their English teachers to ensure effective integration of ICT in English curriculum implementation.

The study further sought to establish the types of programs provided by principals in secondary schools to enhance integration of ICT in English curriculum implementation. Table 4.18 presents the principals' responses.

Table 4.18**Software Provided to Integrate ICT in English Curriculum**

| Response | Principals | |
|-----------------------|------------|-------|
| | (f) | (%) |
| SMART Board | 5 | 41.7 |
| VR-Headsets | 12 | 100.0 |
| Students' portal | 0 | 0.0 |
| Britannica dictionary | 11 | 91.7 |
| Auto tutor | 1 | 8.3 |
| Accelerated reader | 7 | 58.3 |
| Compu read | 4 | 33.3 |
| Distar | 1 | 8.3 |
| Application packages | 12 | 100.0 |

n = 12

According to principals they offered different types of software to ensure effective integration of ICT in English curriculum implementation. The most commonly provided software were VR-Headsets, Britannica dictionary and application packages. This shows that principals provided the basic programs that would facilitate integration of ICT in English curriculum implementation. This is in line with Chen (2008) who found out that lack of access to computers and software was a major impediment to computer integration.

The principals were asked to indicate the ICT resource providers in their schools and the results presented in table 4.19.

Table 4.19

| Response | Principals | |
|----------------------------|-------------------|----------------|
| | Frequency | Percent |
| Individual sponsors/ Donor | 7 | 58.3 |
| School administration | 5 | 41.7 |
| Total | 12 | 100.0 |

According to 58.3 percent of principals their schools had received ICT resources from individual sponsors or donors. This information shows that majority of the schools' administration were yet to fully support integration of ICT in teaching and learning of English and depended on well-wishers.

The principals were asked to state other support other than refresher courses given by school administration to integrate ICT in English curriculum. Table 4.20 presents the study findings

Table 4.20

Other Forms of Support Given by School Administration to Integrate ICT in English Curriculum

| Response | Principals | |
|---------------------------------|-------------------|----------------|
| | Frequency | Percent |
| Ensure connectivity | 3 | 25.0 |
| Regular maintenance of hardware | 9 | 75.0 |
| Total | 12 | 100.0 |

Data presented in Table 4.20 shows that majority of the principals indicated that they regularly maintain ICT resources to ensure integration of ICT in teaching and learning of English. The findings concur with recommendations from MCEETYA (2006) that school leadership should ensure that teachers develop the knowledge, competence, skills and confidence to exercise professional judgments in utilizing ICT in implementing curriculum.

The principals and English teachers were asked to indicate whether administrators monitor progress of integration of ICT in English lessons in their schools. Teachers, students and principals' responses are as shown in Table 4.21.

Table 4.21

Administrators Monitor Progress of Integration of ICT in English Lessons

| Response | Principals | | English teachers | | Students | |
|--------------|------------|--------------|------------------|--------------|------------|--------------|
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| Yes | 7 | 58.3 | 2 | 13.3 | 30 | 19.0 |
| No | 5 | 41.7 | 13 | 86.7 | 128 | 81.0 |
| Total | 12 | 100.0 | 15 | 100.0 | 158 | 100.0 |

According to majority of principals (58.3%), they monitored progress of integration of ICT in English lessons. This notion was refuted by 86.7 percent of teachers and 81 percent of students. This disagreement in opinion showed that the administrators were not keen in supervising integration of ICT in teaching and learning of English.

4.6 Teachers' Collegiality and Integration ICT in English Curriculum

Teachers need to have formal substantive communication with other teachers either at international, national, regional, local or at the school level. These professional interactions with teachers at other schools and the involvement in specific peer leadership activities, mentoring, workshops conferences and presentations help teachers to networks with their colleagues in other schools (Becker, 1994). The third objective of the study sought to establish how teachers' collegiality influences integration of ICT in English curriculum in public

secondary schools in Igembe- North Sub-County. The students were issued with a likert scale to show the teaching method used by their teachers the scale was; A = Always, S = Some times and N = Never. Table 4.22 presents the study results.

Table 4.22

Frequency of Using Teaching Methods by English Teachers

| Teaching method | A | | S | | N | |
|-----------------------------|-----------|---------|-----------|---------|-----------|---------|
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| Demonstration | 53 | 33.5 | 71 | 44.9 | 35 | 22.2 |
| Role play | 15 | 9.5 | 33 | 20.9 | 110 | 69.6 |
| Lecture | 147 | 93.0 | 11 | 7.0 | 0 | 0.0 |
| Practical using computer | 39 | 24.7 | 61 | 38.6 | 58 | 36.7 |

Data presented in Table 4.26 shows that majority of the students stated that their teachers used lecture method in teaching English lessons. This information shows that many schools in Igembe- North Sub-County did not integrate ICT in teaching of English lessons.

The respondents were requested to indicate whether principals encourage English teachers' collaboration on integration of ICT in English curriculum. Principals and teachers responses are as shown in Table 4.23.

Table 4.23

Principals Encourage English Teachers' Collaboration on Integration of ICT in English Curriculum

| Response | Principals | | English teachers | |
|--------------|------------|--------------|------------------|--------------|
| | Frequency | Percent | Frequency | Percent |
| Yes | 11 | 91.7 | 10 | 66.7 |
| No | 1 | 8.3 | 5 | 33.3 |
| Total | 12 | 100.0 | 15 | 100.0 |

According to majority of the principals and teachers (91.7% and 66.7% respectively), principals in their school encourage English teachers to collaborate with their peers on integration of ICT in English curriculum. These shows that majority of the secondary schools believed in teamwork to ensure effective implementation of ICT in English curriculum. This also shows that teachers are fortified to consult from each other on ICT integration.

The teachers of English and principals were requested to indicate whether teachers' collaboration at local of school level influence integration of ICT in English curriculum and their responses presented as shown in Table 4.24.

Table 4.24

Teachers' Collaboration at Local of School Level Influence Integration of ICT in English Curriculum

| Response | Principals | | English teachers | |
|--------------|------------|--------------|------------------|--------------|
| | Frequency | Percent | Frequency | Percent |
| Yes | 12 | 100.0 | 9 | 60.0 |
| No | 0 | 0.0 | 6 | 40.0 |
| Total | 12 | 100.0 | 15 | 100.0 |

According to all principals (100%) and 60 percent teachers of English indicated that teachers' collaboration at local of school level influence integration of ICT in English curriculum. This shows that teachers' collegiality was significant in integration of ICT in teaching English in secondary schools. The results concur with Cox and Sood (1999) that ICT teachers being a member of an association makes teachers gain confidence in ICT use in their classrooms.

The teachers of English were asked to indicate the frequency of engaging their peers on integration of ICT in English curriculum. Table 4.25 presents the study findings.

Table 4.25

Frequency of English Teachers Engaging Peers on Integration of ICT in English Curriculum

| Response | Principals | | English teachers | |
|--------------|------------|--------------|------------------|--------------|
| | Frequency | Percent | Frequency | Percent |
| Always | 6 | 50.0 | 9 | 60.0 |
| Rarely | 5 | 41.7 | 3 | 20.0 |
| Never | 1 | 8.3 | 3 | 20.0 |
| Total | 12 | 100.0 | 15 | 100.0 |

According to half of the principals and majority teachers of English (60%) English teachers always engage their peers on integration of ICT in English curriculum. This shows that teachers of English were actively involved with their peers to ensure effective integration of ICT in secondary schools in the study area. The study then sought to specific benefits that were realized from teachers' collaboration on integration of ICT in English curriculum. Table 4.26 presents the principals and teachers of English responses.

Table 4.26

Benefits of Teachers' collaboration on Integration of ICT in English Curriculum

| Benefits | Principals | | Teachers | |
|---|-------------------|------------|-----------------|------------|
| | (f) | (%) | (f) | (%) |
| Receiving regular information on classroom technology | 6 | 50.0 | 8 | 53.3 |
| Networking with colleagues | 7 | 58.3 | 9 | 60.0 |
| Diversification of technological knowhow | 11 | 91.7 | 10 | 66.7 |
| Development of technological desire and enthusiasm | 8 | 66.7 | 12 | 80.0 |
| Improvisation of teaching aids | 3 | 25.0 | 2 | 13.3 |

Table 4.26 shows the various benefits cited by principals and teachers of English emanating from teacher collegiality on integration of ICT in English curriculum. For instance, 6(50%) principals and 8(53.3%) teachers of English stated that teacher collegiality helps teachers in receiving regular information on classroom technology. Seven (58.3%) principals and 9(60%) teachers of English indicated that collaboration enhanced networking among colleagues, while 11(91.7%) principals and to (66.7%) teachers of English indicated that collegiality benefit teachers on diversification of technological knowhow. Eight(66.7%) principals

and 12(80%) teachers of English stated that teacher collegiality helped to develop technological desire and enthusiasm.

According to these finding, teacher collegiality was cited to have a positive influence of integration of ICT in English curriculum. This shows that consultation from peers helped widen their technological knowhow and easier problem solving strategies. The findings imply that teacher collegiality influence integration of ICT in English curriculum positively.

4.7 Time Allocation and Integration of ICT in English Curriculum

Objective four of the study sought to establish whether time allocation influence integration of ICT in English curriculum. To measure this objective, the researcher first requested the students to indicate the frequency of using computers in class. Table 4.27 presents the study findings.

Table 4.27

Frequency of Students' Using Computers

| Response | Students | |
|-----------------|------------------|----------------|
| | Frequency | Percent |
| Daily | 22 | 13.9 |
| Weekly | 79 | 50.0 |
| Termly | 46 | 29.1 |
| Never | 11 | 7.0 |
| Total | 158 | 100.0 |

According to half of the student they use computers in school on weekly basis. These findings imply that students only use computer in designated computer lessons, hence they are not allowed enough time to use the ICT resources in their schools.

The researcher also sought to establish whether teachers' workload hindered effective integration of ICT in English curriculum. Table 4.28 presents the responses from teachers of English.

Table 4.28

Number of English Lessons per Week

| Response | English teachers | |
|-----------------|-------------------------|----------------|
| | Frequency | Percent |
| Below 15 | 2 | 13.3 |
| 16 – 30 | 3 | 20.0 |
| Over 31 | 10 | 66.7 |
| Total | 15 | 100.0 |

A majority of English teachers (66.7%) indicated that they taught over ten lessons per week. This shows that teachers of English had heavy workload that would hinder effective integration of ICT in English curriculum. The study results also indicate that since majority of the students in Table 4.29 stated that they rarely use computers in class English teachers do not integrate ICT when teaching English lessons.

The principals and teachers of English were requested to indicate whether teachers of English have other responsibilities other than teaching. Their responses were presented as shown in Table 4.30.

Table 4.30

English Teachers have Other Responsibilities Besides Teaching English

| Response | Principals | | English teachers | |
|-----------------|-------------------|----------------|-------------------------|----------------|
| | Frequency | Percent | Frequency | Percent |
| Yes | 11 | 91.7 | 14 | 93.3 |
| No | 1 | 8.3 | 1 | 6.7 |
| Total | 12 | 100.0 | 15 | 100.0 |

Table 4.30 shows, 11 (91.7%) principals and 14(93.3%) teachers of English indicated that teachers had other responsibilities other than teaching English. This implies that English teachers had other responsibilities hindering their effective integration of ICT in English curriculum due to the time required to attend to other duties and use ICT resources when teaching English.

The researcher requested the respondents to indicate whether the time allocate for integration of ICT in English curriculum. The results from the study are as shown in Table 4.31.

Table 4.31

Enough Time is Allocated for Integration of ICT in English Curriculum

| Response | Principals | | English teachers | |
|--------------|------------|--------------|------------------|--------------|
| | Frequency | Percent | Frequency | Percent |
| Yes | 2 | 16.7 | 1 | 6.7 |
| No | 10 | 83.3 | 14 | 93.3 |
| Total | 12 | 100.0 | 15 | 100.0 |

According to 93.3 percent of principals and 83.3 percent of teachers time allocated for integration of ICT in English curriculum is not enough. This shows that limited time is allotted to ICT aided teaching and learning processes. The findings are an implication that little time is given to ICT integration in instructional process due to the vastness of the syllabus to be covered and limitation of the available learning time.

The study further sought to establish whether students in public secondary schools in Igembe-North Sub-County use ICT resources to do their homework. Table 4.32 presents the study findings.

Table 4.32

Students Use of ICT Resources to do Homework

| Response | Principals | | English teachers | | Students | |
|-----------------|-------------------|----------------|-------------------------|----------------|------------------|----------------|
| | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| Always | 0 | 0.0 | 2 | 13.3 | 19 | 12.0 |
| Rarely | 3 | 25.0 | 3 | 20.0 | 41 | 25.9 |
| Never | 9 | 75.0 | 10 | 66.7 | 98 | 62.1 |
| Total | 12 | 100.0 | 15 | 100.0 | 158 | 100.0 |

Data contained in Table 4.32 shows that majority of the respondents (75% principals, 66.7% teachers of English and 62.1% students) indicated that students in their schools never used ICT resources to do their homework. This shows that majority of the secondary schools did not offer students ICT resources to use during their free time.

The study also sought to establish barriers encounter during integration of ICT in English curriculum. Table 4.33 presents the study results.

Table 4.33

Barriers Encountered During Integration of ICT in English Curriculum

| Response | Principals | |
|--|-------------------|----------------|
| | Frequency | Percent |
| Limited access to ICT resources | 8 | 66.7 |
| Poor internet reception | 11 | 91.7 |
| Poor maintenance of hardware | 11 | 91.7 |
| Unsuitable education software | 5 | 41.7 |
| ICT tools' failure during presentation | 4 | 33.3 |
| Expansive child-friendly programs for teaching English | 7 | 58.3 |

Information contained in table 4.33 shows that other than the study variable other barriers hinder effective integration of ICT in English curriculum. They include limited ICT resources, poor internet reception, and poor maintenance of ICT hardware, ICT tools' failure and expensive child-friendly programs. This shows that integration of ICT in teaching and learning was faced by numerous challenges thus, much needs to be done to mitigate the effectiveness in integration of ICT in English curriculum.

The study sought to establish the level of integration of ICT resources in public secondary schools in Igembe-North Sub-County. Table 4.34 shows the availability, adequacy and functionality of ICT resources in public secondary schools.

Table 4.34

Availability, Adequacy and Functionality of ICT Tools in Public Secondary Schools

| ICT tools | Available | | Not available | | Adequate | | Not adequate | | Functional | |
|----------------------------|-----------|-------|---------------|-------|----------|-----|--------------|-------|------------|------|
| | (f) | (%) | (f) | (%) | (f) | (%) | (f) | (%) | (f) | % |
| Electricity infrastructure | 12 | 100.0 | 0 | 0.0 | - | - | - | - | 9 | 75.0 |
| Internet | 3 | 25.0 | 9 | 75.0 | - | - | - | - | 1 | 8.3 |
| Printer | 2 | 16.7 | 10 | 83.3 | 0 | 0.0 | 12 | 100.0 | 6 | 50.0 |
| Scanner | 0 | 0.0 | 12 | 100.0 | 0 | 0.0 | 12 | 100.0 | 2 | 16.7 |
| Copier | 1 | 8.3 | 11 | 91.7 | 0 | 0.0 | 12 | 100.0 | 8 | 66.7 |
| Projector | 12 | 100.0 | 0 | 0.0 | 0 | 0.0 | 12 | 100.0 | 4 | 33.3 |
| Computers | 12 | 100.0 | 0 | 0.0 | 0 | 0.0 | 12 | 100.0 | 7 | 53.3 |

Data contained in Table 4.34 shows that ICT tools that were observed from the study area revealed that majority of the schools had most of the essential resources though either inadequate or not functional. For instance, all schools had

electricity infrastructure though, in three schools it was disconnected. This means that in schools that electricity was disconnected the ICT resources were not used. Consequently, internet connectivity was coted to be very poor thus not reliable for implementing English curriculum. Only seven schools were reported to have functional computers. This shows that integration of ICT was not fully effected in the study area.

4.8 Inferential statistics

To establish the magnitude of the influence of independent variables on the dependent variable, the researcher cross tabulated the level of significance on the influence of ICT resources, teacher collegiality, administrative support and time allocation on integration of ICT in English curriculum. Table 4.35 presents the study results.

Table 4.35 Cross tabulation of independent variables and dependent variables

| Score | ICT resources | | Teacher collegiality | | Administrative support | | Time allocation | |
|---------|---------------|-----|----------------------|------|------------------------|------|-----------------|-----|
| | f | % | f | % | f | % | f | % |
| | High | 23 | 92.0 | 6 | 24.0 | 21 | 84.0 | 22 |
| Average | 1 | 4.0 | 12 | 48.0 | 3 | 12.0 | 2 | 8.0 |
| Low | 1 | 4.0 | 7 | 28.0 | 1 | 4.0 | 1 | 4.0 |

The study showed that the different independent variables scored high influence on ICT integration in English curriculum in Public secondary schools in Igembe North Sub-County. This was an indication that ICT resources, teacher collegiality, administrative support and allocated time highly enabled ICT integration in teaching English curriculum. The findings concurred with results from a study conducted by Samuel and Bakar (2006) that ICT integration in teaching and learning process was highly influenced by provision resources and allowing enough study time.

4.9 Summary

This chapter was organized in various sub-sections which included; response rate, demographic information, and the study objectives. Analyzed data was presented in frequency distribution tables where the frequency/tally and percentages of the item counts were used to present the findings. The total response rate was 97.8 percent. The research sought the respondents' demography to gain an insight on their characteristics.

From the study findings the influence of ICT resources on implementation of English curriculum showed that availability and adequacy of ICT resources facilitate effective implementation of English curriculum. The researcher was able to show on the availability of inadequate resources in many schools. Most of the ICT tools in many schools were not functional. It was thus, evident that lack of enough ICT resources hinders effective integration of ICT in English curriculum.

Teachers' collegiality was realized to help teachers of English to be able to increase their ICT knowledge when they network with peers within or outside their school. School administrators play a crucial role in ensuring effective implementation of educational policies. The study realized that the support given by the administration increase integration of ICT in teaching and learning process. Moreover, allocated time for teaching and learning allow teachers to either have or not have ample time to use ICT resources when implementing English curriculum.

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 purpose of the present study was to investigate the institutional factors that influence integration of ICT in teaching of English curriculum in public secondary schools in Igembe-North sub-county. The study was guided by the following objectives: to examine the influence of ICT resources, school administration support, teachers' collegiality and time allocation on integration of ICT in English curriculum in public secondary schools in Igembe–North Sub-county. The study was guided by the model of ICT implementation process. The study employed descriptive survey research design.

The study targeted 12 schools principals, 15 teachers of English and 3682 students. Purposive sampling technique was used to select public secondary schools, principals and teachers of English that integrate ICT in implementation of English curriculum. The students were sampled by use of stratified random sampling as per gender. Twelve principals, 15 teachers of English and 162 students were sampled for the study. The research instruments were questionnaires and observation guides.

The first objective of the study sought to establish the influence of ICT resources on integration of ICT in English curriculum in public secondary schools in Igembe-North Sub-County. The study findings revealed that all categories of respondents, 91.7 percent of principals, 86.7 percent of English teachers and 65.2 percent of students, stated that the students-ICT resources ratio was not adequate. This shows that ICT resources were not adequate to facilitate extensive integration of ICT in the implementation of English curriculum. Therefore, lack of enough ICT resources was likely to hinder successful integration of ICT in English lessons in public secondary schools.

Data from all (100%) principals, 86.7 percent of teachers, and 69 percent students showed that provision of adequate ICT resources influenced implementation of English curriculum. These findings showed that ICT resources played a crucial role in effective implementation of English curriculum in secondary school education. According to majority of the respondents, ICT resources are expansively used in their schools to watch educative videos or set books. Eight out of 12 principals (66.7%) and 60 percent teachers indicated that they use ICT resources during pronunciation lessons. This shows that ICT resources were used on certain lessons as opposed to using them throughout in English lessons.

The study findings shows that majority of the principals (75%), English teachers (60%) and 55.1 percent of students indicated that ICT resources influence implementation of English curriculum to a large extent. These findings imply that

ICT resources are a crucial component to enhance effective implementation of English curriculum in secondary schools education.

The second research objective sought to determine the influence of school administration support on integration of ICT in English curriculum in public secondary schools in Igembe- North Sub-County. The information from the study findings showed that 66.7 percent of the principals indicate they support refresher/in-service training for English teachers on integration of ICT on the implementation of English curriculum. This implies majority of school Head in public secondary schools in Igembe-North Sub-County were committed to ensuring successful integration of ICT in English curriculum.

According to most of the principals, 41.7 percent, support their English teachers to attend refresher or in-service training on integration of ICT yearly. These results were disputed by 80 percent of the teachers who sated that refresher/in-service training never happen in their schools. The contrast on opinion showed that principals' administrative support for teachers of English on in-service and refresher courses on integration of ICT in implementation of English curriculum was not effectively carried out.

According to all principals, 100 percent, who participated in the study, lack of enough funds for in-service training for teachers of English was among the majors

reason why they did not support in-service training of teacher on integration of ICT in English curriculum. Other reasons included limited time to conduct refresher courses that was cited by 83.3 percent of principals and 66.7 percent stated teachers negative attitude towards support given. These results imply that other administrative duties and limited resources hindered principals from supporting refresher/in-service training for teachers of English on implementation of English curriculum using ICT resources.

According to majority of the principals, they emphasize to teachers to embrace application of technology in classrooms during staff meeting, only 8.3 percent of the principals indicated that they employ technicians to support English teachers on the use of ICT during lessons. This information shows that much needs to be done by the secondary schools' administration in support of their English teachers to ensure effective integration of ICT in English curriculum implementation.

Results from the study shows that majority of the principals (83.3%) indicated that they always provide ICT resources to implement English curriculum, while 60 percent of English teaches and 40.5 percent of students disputed the response. This shows that teachers and students were not fully satisfied with the levels of principals' support on ICT integration in English curriculum implementation.

According to 58.3 percent of principals their schools had received ICT resources from individual sponsors or donors. This information shows that majority of the

schools' administration were yet to fully support integration of ICT in teaching and learning of English and depended on well-wishers.

The third objective of the study sought to establish how teachers' collegiality influences integration of ICT in English curriculum in public secondary schools in Igembe -North Sub-County. According to majority of the principals and teachers (91.7% and 66.7% respectively), principals in their school encourage English teachers to collaborate with their peers on integration of ICT in English curriculum. These shows that majority of the secondary schools believed in teamwork to ensure effective implementation of ICT in English curriculum. This also shows that teachers are fortified to consult from each other on ICT integration.

All principals (100%) and 60 percent teachers of English indicated that teachers' collaboration at local of school level influence integration of ICT in English curriculum. This shows that teachers' collegiality was significant in integration of ICT in teaching English in secondary schools. Half of the principals and majority teachers of English (60%) English teachers always engage their peers on integration of ICT in English curriculum. This shows that teachers of English were actively involved with their peers to ensure effective integration of ICT in secondary schools in the study area.

According to 58.3 percent of the principals and 66.7 percent of English teachers there were no ICT teachers collaborative support groups. This shows that though, teachers of English were reported to engage with their peers on ICT integration there were no formally organized groups to enhance collaboration of ICT teachers in Igembe-North Sub-County.

According to majority of the principals (75%) and most teachers of English (46.7%) teacher collegiality is very beneficial for integration of ICT in English curriculum. This implies that teachers' consultation and engagement of each other benefited their ability to integrate of ICT in English curriculum. These finding show that, teacher collegiality was cited to have a positive influence of integration of ICT in English curriculum. This shows that consultation from peers helped widen their technological knowhow and easier problem solving strategies. The findings imply that teacher collegiality influence integration of ICT in English curriculum positively.

Objective four of the study sought to establish whether time allocation influence integration of ICT in English curriculum. According to half of the student they use computers in school on weekly basis. These findings imply that students only use computer in designated computer lessons, hence they are not allowed enough time to use the ICT resources in their schools. A majority of English teachers (66.7%) indicated that they taught over ten lessons per week. This shows that

teachers of English had heavy workload that would hinder effective integration of ICT in English curriculum. The study results also indicate that since majority of the students in Table 4.34 stated that they rarely use computers in class English teachers do not integrate ICT when teaching English lessons. Information from 11 (91.7%) principals and 14(93.3%) teachers of English indicated that teachers had other responsibilities other than teaching English. This implies that English teachers had other responsibilities hindering their effective integration of ICT in English curriculum due to the time required to attend to other duties and use ICT resources when teaching English.

According to 93.3 percent of principals and 83.3 percent of teachers time allocated for integration of ICT in English curriculum is not enough. This shows that limited time is allotted to ICT aided teaching and learning processes. The findings are an implication that little time is given to ICT integration in instructional process due to the vastness of the syllabus to be covered and limitation of the available learning time. Data from the study shows that majority of the respondents (75% principals, 66.7% teachers of English and 62.1% students) indicated that students in their schools never used ICT resources to do their homework. This shows that majority of the secondary schools did not offer students ICT resources to use during their free time.

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 Ministry of Education and other policy makers like KICD 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. There needs to be prudent leadership when it comes to ICT implementation from principals. 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 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 Igembe North 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.

REFERENCES

- Abuhmaid, A. (2011). ICT training courses for teacher professional development in Jordan. *TOJET: The Turkish Online Journal of Educational Technology*, 10(4).
- Afshari, H.S (2012). A Preliminary study of school administrators use of information and communication technologies: Bruneian perspective. *International journal of education and development using information and communication technology (IJEDICT)* 8 (1), p. 29 – 45.
- Aliard, R. W., Frankel, O., & Bennett, E. (1970). Population structure and sampling methods. Genetic resources in plants-their exploration and conservation., 97-107.
- Bakar, Z. (2006). The utilization and integration of ICT tools in promoting English language Teaching and Learning: Reflections from English Option Teachers in Kuala Langat District, Malaysia. *International Journal of Education and Development using ICT* [Online], 2(2). Available: <http://ijedict.dec.uwi.edu/viewarticle.php?id=161>.
- Becker, H. J. (1994). How exemplary computer-using teachers differ from other teachers: Implications for realizing the potential of computers in schools. *Journal of Research on Computing in Education*, 26(3), 291-321.
- Beckett, G. H. & Miller, P. C. (2006). *Project-based second and foreign language education: Past, present, and future*. IAP.
- Benigno, V., Bocconi, S. & Ott, M. (2007). Inclusive education: helping teachers to choose ICT resources and to use them effectively. *eLearning Papers*, 6.
- Berman, P., & McLaughlin, M. W. (1978). *Implementing and sustaining innovations (Vol. 8)*. Santa Monica, CA: Rand.
- Best, John W. and Kahn, J.V. (2007), *Research in Education*, New Delhi, Prentice Hall of India
- Bishop, G. (1986). *Innovation in education*: London: Macmillan Publishers.
- Blumberg, B., Cooper, D.R & Schindler, P.S. 2005. *Business Research Methods*. London: McGraw

- Breisser, S.R. (2006). An examination of gender differences in elementary Constructionalist classroom using Lego/Logo instructions. *Computer in the Schools*, vol. 22, pp. 7-9
- Carroll, E., & Nibley, B. (1996). Technology in the Classroom: Selected Resources. *Teaching Education*, 8(2), 141-150.
- Chen., (2008). Why do teachers not practice what they believe regarding technology integration? *The journal of Educational Research*, vol. 102, no. 1, pp. 65-75
- Cho, B. E. (2004). Issues concerning Korean learners of English: English education in Korea and some common difficulties of Korean students. *The East Asian Learner*, 1(2), 31-36.
- Clark, K. D. (2000). Urban middle school teachers use of instructional technology. *Journal of Research on Computing in Education*, 33(2), 178-195.
- Clarke, S. (2006). From fragmentation to convergence: Shaping an Australian agenda for quality school leadership. *School Leadership and Management*, 26(2), 169-182.
- Cohen, S. B. (2000). *Sample Design of the 1997 Medical Expenditure Panel Survey, Household Component* (No. 1).
- Cox, G. (2008). Enablers and barriers, intentions and use: Faculty take-up of an online learning environment. In *Proceedings of 3rd International Conference on e-learning, Cape Town, June* (pp. 28-29).
- Cox, M. & Sood, A. (1999). Design and technology and information technology. *Promoting Equality in Secondary Schools*, 115.
- Crystal, D. (1997). The Linguistic Identity of English-language Dictionaries of Linguistics. *Lexicographica*, 13, 17-33.
- Dede, C. (2007). Reinventing the role of information and communications technologies in education. *Yearbook of the National Society for the Study of Education*, 106(2), 11-38.
- Donnelly, D., McGarr, O., & O'Reilly, J. (2011). A framework for teachers integration of ICT into their classroom practice. *Computers & Education*, 57(2), 1469-1483.

- Farrant J.S (2004). *Principle and Practice of Education (New edition.)* Longman education texts.
- Fink, D., & Brayman, C. (2006). School leadership succession and the challenges of change. *Educational administration quarterly*, 42(1), 62-89.
- Wiske, M. S., Franz, K. R., & Breit, L. (2005). *Teaching for understanding with technology*. San Francisco, CA: Jossey-Bass.
- Fullan, M. (Ed.). (2003). *The moral imperative of school leadership*. London. Corwin press.
- Gichuki, A.W. (2007). Challenges facing teachers implementing revised English curriculum in secondary schools in Othaya division, Nyeri district, Kenya. Unpublished master's for master's degree, Kenyatta University, Nairobi, Kenya
- Goh, L. H. (2007). A case study of the integration of ICT in teaching and learning in a smart school in Sabah. 5th ASEAN Symposium on Educational Management and Leadership (ASEMAL 5)
- Gorman, T. P. (1970). Language in Education in Eastern Africa. Available at: <https://www.amazon.com/Language-Education-Eastern-Africa-Gorman/dp/B00PLN0KFQ>
- Grable, L., & Reed, R. (2007). Professional development for 21st Century teachers: Digital just-in-time support. *Technology and Teacher Education Annual*, 18(1), 343.
- Gülbahar, Y., & Güven, I. (2008). A Survey on ICT Usage and the Perceptions of Social Studies Teachers in Turkey. *Educational Technology & Society*, 11(3), 37-51.
- Hattie, J. (2009). Visible learning: A synthesis of over 800 meta-analyses relating to achievement.[IBook]. Retrieved from <http://www.amazon.com/Visible-Learning-Synthesis-Meta-Analyses-Achievement/dp/0415476186>.
- Hepp, P., Hinostroza, J. E., Laval, E., & Rehbein, L. (2004). Technology in schools: Education, ICT and the knowledge society (pp. 30-47). World Bank, Distance & Open Learning and ICT in Education Thematic Group, Human Development Network, Education.

- Hoyles, C., Healy, L., & Pozzi, S. (1994). Groupwork with computers: An overview of findings. *Journal of computer assisted learning*, 10(4), 202-215.
- Hwang, D., & Embi, M. A. (2007). Approaches employed by secondary school teachers to teaching the literature component in English. *Journal Pendidikan dan Pendidikan*, 22, 1-23.
- ICT Survey, (2007). Survey of ICT and Education in Africa (Volume I) : A Summary Report, Based on 53 Country Surveys & (Volume 2): 53 Country Reports (infoDev/World Bank).
- Igembe North Sub-County Education office, (2017). Number of schools, unpublished school list, Igembe North.
- Jhurreev, V. (2005)"Technology Integration in Education in Developing Countries: Guidelines to Policy Makers". *International Education Journal* [Electronic], 6(4):467-483.
- Kadiri, B.M. (2015). Teacher-based factors influencing integration of Information Communication Technology in teaching of English language in public secondary schools in Igembe North Sub-county, Kenya. Unpublished M.Ed Project, University of Nairobi.
- Kandasamy, M., & Shah, P. B. M. (2013). Knowledge, attitude and use of ICT among ESL teachers. Proceedings of the Global Summit on Education. Available at http://worldconferences.net/proceedings/gse2013/papers_gse2013/247%20Moganashwari%20Kandasamy-Parilah%20Bt%20Hj.%20Mohd%20Shah.pdf914-930. Retrieved on February, 10, 2014.
- Kern, R., Ware, P., & Warschauer, M. (2008). Network-based language teaching. In, N. V. Deusen-Scholl & N. H. Hornberger (Eds.), *Encyclopedia of language and education*, 2nd Edition, Vol. 4: Second and foreign language education (pp. 281-292). New York: Springer.
- Khan, V. J., Markopoulos, P., Eggen, B., IJsselsteijn, W., & de Ruyter, B. (2008, September). Reconexp: a way to reduce the data loss of the experiencing sampling method. In, Proceedings of the 10th international conference on Human computer interaction with mobile devices and services (pp. 471-476). ACM.
- Kombo, D. K. & Tromp D.L.A. (2006). *Proposal and Thesis Writing; An Introduction*. Nairobi. Pauline Publications Africa.

- Kothari, C. (2008). *Research Methodology: Method and Techniques (2nd Ed.)* New Delhi: New Age International (p).
- Krysa, R. (1998). Factors affecting the adoption and use of computer technology in schools. University of Sasktoewar.
- Kwon, T. H. and R. W. Zmud (1987) “Unifying the Fragmented Models of Information Systems Implementation, in, Bolan R. J. and R. A. Hirschheim (eds.) *Critical Issues in Information Systems Research*, New York: John Wiley, pp. 227–251.
- Leask, M., & Younie, S. (2001). Communal constructivist theory: information and communications technology pedagogy and internationalisation of the curriculum. *Journal of Information Technology for Teacher Education*, 10(1-2)
- Lundvall, B. Ä., & Johnson, B. (1994). The learning economy. *Journal of industry studies*, 1(2), 23-42.
- Martinez, P., & Pepler, G. (2000). Reducing Bureaucratic Burdens on Lecturers. *FE Matters*, 2(12), n12.
- Ministerial Council on Education, Employment, Training and Youth Affairs [MCEETYA], (2006). National report on schooling in Australia. Melbourne: Author, Retrieved from <http://smc.curriculum.edu.au/anr/2003>.
- McLaughlin, M. W. (1990). The Rand change agent study revisited: Macro perspectives and micro realities. *Educational researcher*, 19(9), 11-16.
- Meru County Government, (2015). Igembe North Available at: <http://meru.go.ke/content.php?com=37&com2=11&com3=103&com4=#.WEofSvQ7HIU>
- Ministry of Education (2006). ICT strategy for Education and Training. Available at: <http://nepadkenya.org/documents/MOE-ICT%20in%20Education.pdf>
- Ministry of Information and Communications, (2006). ‘*National ICT Policy*.’ Nairobi: Government Printer.
- Mugenda, O.M & Mugenda, A.G. (2003). *Research Methods; Quantitative & Qualitative Approach*. Nairobi: Africa Centre for Technology Studies.

- Mulwa, A. S. (2012). The influence of institutional and human factors on readiness to adopt E-learning in Kenya: the case of secondary schools in Kitui district (Doctoral dissertation, University of Nairobi, Kenya).
- Mumtaz, S. (2000). Factors affecting teachers' use of information and communications technology: a review of the literature. *Journal of Information Technology for Teacher Education*, 9 (3), pp.319-341.
- Murchland, S. & Parkyn, H., 2011. Promoting participation in schoolwork: Assistive technology use by children with physical disabilities. *Assistive Technology*, 23(2) 93-105.
- Nammias, C.F., & Nachmias, D. (2005). *Research Methods in Social Sciences*. (5th Ed). Great Britain: Hodder Arnold.
- Neal, L., & Miller, D. (2005). The basics of e-learning: an excerpt from handbook of human factors in web design. *eLearn magazine*, 2005(8), 2.
- Orodho, A.J. (2003). *Essential of Educational and Social Sciences Research Methods*. Nairobi: Masola Publishers.
- Orodho, J (2005) *Techniques of Writing Research Proposals and Reports in Educational and Social Sciences*. Nairobi: Masola Publishers.
- Oxford, R., Crookall, D., Cohen, A., Lavine, R., Nyikos, M., & Sutter, W. (1990). Strategy training for language learners: Six situational case studies and a training model. *Foreign Language Annals*, 23(3), 197-216.
- Pelgrum, W. J. (2001). Obstacles to the integration of ICT in education: results from a worldwide educational assessment. *Computers and Education*, 37 pp.163-178.
- Perkins, J. (2000). Education in process systems engineering past, present and future. *Computers & Chemical Engineering*, 24(2), 1367.
- Pernia, E. E. (2008). Strategy framework for promoting ICT literacy in the Asia-Pacific region. *Publication of UNESCO Bangkok Communication and Information Unit*. Bangkok: Asia and Pacific Regional Bureau for Education, 4-20.
- Rassool, N. (2000) "Contested and Contesting Identities: Conceptualizing Linguistic Minority Rights Within the Global Cultural Economy", *Journal of Multilingual and Multicultural Developments*, 21/5, 2000, 386-398.

- Salehi, H., & Salehi, Z. (2012). Integration of ICT in language Teaching: Challenges and Barriers. In *International Conference on e-Education, e-Business, e-Management and e-Learning, IPDER* (Vol. 27, No. 1).
- Samuel, R., & Bakar, Z. (2006). The utilization and integration of ICT tools in promoting English language teaching and learning: Reflections from English option teachers in Kuala Langat District, Malaysia. *International Journal of Education and Development using ICT*, 2(2).
- Sapsford, R. (2007). *Survey Research (2th Ed.)*. London: Sage Publications.
- Saunders, M., Lewis, P. & Thornhill, A. (2007). *Research Methods for Business Students. 4th edition* England: Prentice Hall.
- Shiundu, J.S. and Omulando, S.J (1992). *Curriculum: Theory and Practice in Kenya*. Nairobi: Oxford University Press.
- Sutherland, R., Robertson, S., & John, P. (2004). Interactive education: Teaching and learning in the information age. *Journal of Computer Assisted Learning*, 20(6), 410-412.
- Tezci, E. (2010). Attitudes and knowledge level of teachers in ICT use: The case of Turkish teachers. *Journal of Human Sciences*, 7(2), 19-44.
- Trwinomujuni J. A. (2011): Problems in ICT implementation in selected institutions of higher learning in Kabale district (Masters Dissertation), Makerere University, Kampala, Uganda.
- US Department of Health and Human Services, Public Health Service, Agency for Healthcare Research and Quality Communications technology pedagogy and international liaison of the curriculum. *Journal of Information Technology for Teacher Education*, 10(1-2), 117-134.
- Vannatta, R. A., & Beyerbach, B. (2000). Facilitating a constructivist vision of technology integration among education faculty and preservice teachers. *Journal of Research on Computing in Education*, 33(2), 132-148.
- Visser, J., & Jain, M. (1997). Towards building open learning communities: re-contextualising teachers and learners. In *Information Technology* (pp. 20-32). Springer US.
- Ware, P., & WarsChauer, M., (2008). Learning, change, and power. *Handbook of research on new literacies*, 215-239.

- Wastiau, P. (2013). The Use of ICT in Education: a survey of schools in Europe
Special Issue: ICT and Education: taking stock of progress and looking at
the future *European Journal of Education*, Volume 48, Issue 1, pages 11–
27.
- Watson, G (2006). ICT integration and teachers' confidence in using ICT for
Teaching and learning in Queensland state schools. *Australian Journal of
Educational Technology*, vol.22, no. 4, pp. 511-530.
- Whyte, S. (2011). Learning to teach with videoconferencing in primary foreign
language classrooms. *ReCALL* 23(3): 271–293.
- Wikan, G., & Molster, T. (2011). Norwegian secondary school teachers and ICT.
European Journal of Teacher Education. Available at: [http://dx.doi.org/10
.1080/02619768.2010.543671](http://dx.doi.org/10.1080/02619768.2010.543671).
- Wilding, B., & Blackford, A. (2006). Does the Network?. How can a networked
learning community promote and develop leadership. Available at:
<http://dera.ioe.ac.uk/7394/1/media-7b0-c4-does-the-network-2.pdf>
- Wood, D., Underwood, J., & Avis, P. (1999). Integrated learning systems in the
classroom. *Computers & Education*, 33(2), 91-108.
- Zain, M. Z., Atan, H., & Idrus, R. M. (2004). The impact of information and
communication technology (ICT) on the management practices of
Malaysian Smart Schools. *International journal of educational development*,
24(2), 201-211.
- Zounek, J. (2005). ICT and learning-and teaching-friendly environment in
contemporary Czech school. Available at:
<http://www.leeds.ac.uk/educol/documents/150637.htm>

APPENDICES

APPENDIX I: LETTER OF INTRODUCTION

University of Nairobi

P.O. Box 30197

NAIROBI

27th October, 2016

Dear Sir/Madam,

RE: PERMISSION TO CARRY OUT RESEARCH

I am a post graduate student at the University of Nairobi, pursuing a Master of Education degree in curriculum studies. I am conducting research on institutional factors influencing integration of ICT in teaching and learning of integrated English in public secondary schools in Igembe-North Sub-County in Meru County. Your school has been purposely selected to take part in the study. The information collected is strictly meant for the study and your school's identity will be treated with a lot of confidentiality.

Thank you.

Yours faithfully,

Koome Joshua Ncebere.

Mobile:0721442493

E-mail:nceberekooome@gmail.com

APPENDIX II: QUESTIONNAIRE FOR TEACHER OF ENGLISH

You have been identified to participate in the research on the institutional factors influencing ICT use on implementation of English curriculum in Igembe-north sub-county. Please respond to the questions asked honestly.

SECTION I: Background information

1. Please indicate your gender Male() Female()
2. Tick the age category which applies to you in years.
20-30 () 31-40 ()
41-50 () 51-and above
3. What is your teaching experience in years-----
4. Please tick the highest qualification which applies to you
Certificate () Diploma ()
BED () Masters ()
5. Do you have any other profession training? Yes () No()
If yes specify_____

Section II ICT resources and integration ICT in English curriculum

6. How many students are in you class? Below 30() 31-40() 41-50() above 51()
7. Do you have ICT resources in your school? Yes() No()
if yes specify_____
8. According to you, what is your take on ICT resources in your school?
Enough() not enough() do not know()

9. Briefly explain how you use these resources in your class during English lesson?_____

10. Do ICT resources influence the implementation of English curriculum?

Yes () No ().

If no explain _____

11. Section III: School administration support and integration ICT in English curriculum

12. Does the school administration sponsor you for refresher course on the implementation of English curriculum? Yes () No ().

b) If yes name them_____

c) How many do you attend in a year? _____

13. Apart from refresher courses, what other support do you get from the school? (explain your answer) _____

14. Does the school administration monitor your progress on ICT use in English lessons? Yes() No()

Explain your answer_____

Section IV: Teachers' collegiality and integration ICT in English curriculum

15. Do you engage other teachers in the integration of ICT in teaching English?

Yes () No (). Explain your answer_____

16. How often do you engage other teachers on the use of ICT resources on implementation of English curriculum? Very often () often () rarely()
17. Do you have any ICT teachers' collaborative support group in your locality? Yes() No().
18. What is your take on teachers' collegiality on use of ICT resources on implementation of English curriculum? Very beneficial() Beneficial() Not beneficial()

Section V: Time allocation and integration ICT in English curriculum

19. What is your weekly number of lessons? _____
Are you comfortable with those lessons? yes() No()
20. Do you have other responsibility in your school apart from teaching? Yes () No() if yes, explain _____
21. Is time allocated enough to use ICT in implementing English curriculum?
Yes () No () Explain your answer.

22. How often do you use ICT resources in you English lesson? Very often () often() rarely()
23. Does the school daily class schedule permit allocating time for students to use computers in their learning? Yes () No() if no explain _____

Thank you very much for your cooperation.

APPENDIX III: QUESTIONNAIRE FOR PRINCIPALS

This questionnaire has been prepared to gather information on the institutional factors influencing ICT use on implementation of English curriculum in Igembe-north sub-county.

Please answer the questions by ticking or filling in the spaces provided.

Section I: Background information

1. What is your gender? Male () female ()
2. What is your age bracket? 30-40() 41-50() 51-above()
3. What is your highest academic qualification?_____

Section II: Adequacy of ICT resources

4. Do you think the ICT resources are adequate in relation to number of students in your school? Yes() No ()
5. Is there on-site classroom based technical support from qualified ICT personnel? Yes () No ()
If yes explain_____
6. Do you think the adequacy of ICT resources can influence implementation of English curriculum? Yes () No ()
If yes explain briefly_____

Section III: School administration support

7. Do you support refresher/ in-service of teachers of English on ICT use on implementation of English curriculum? Yes () No()
If yes, how often? Monthly () termly () yearly ()
If no explain why _____
8. What support do you give teachers of English in order to use ICT in their English lessons?_____
9. How often do you supply ICT resources in the school to facilitate implementation of English curriculum? very often() often() rarely()
10. What software do you provide for easy implementation of English curriculum?_____
11. Does your school have a long-term ICT policy to back the use of ICT on implementation of English curriculum? Yes () No()
If yes explain_____
12. Who provide ICT resources in your school?_____
13. What hinders the effective usage of ICT resources on implementation of English curriculum? _____
14. How do ensure effective use of ICT resource on implementation of English curriculum? Observation() assessment()
How often? _____

Section IV: Teachers' collegiality

15. Do you encourage your teachers of English to collaborate with their peers on the usage of ICT resources on implementation of English curriculum?

Yes () No ()

16. Do you agree that teachers' collaboration with their peers either at local or school level influences the adoption of ICT usage on implementation of English curriculum? Yes () No ()

if yes explain _____

Section V: Time allocation

17. How do you ensure that teachers of English do get time to use ICT resources on implementation of English curriculum?

18. Do you think the time allocations for English lesson are adequate to use ICT resources on implementation? Yes () No()

If no explain _____

Thank you very much for your cooperation.

APPENDIX IV: QUESTIONNAIRE FOR LEARNERS

This questionnaire has been prepared to gather information on institutional factors influencing ICT use on implementation of English curriculum in Igembe-North. Please answer the question honestly. Tick where appropriate or fill in the space provided.

Section I. Background information

1. What is your gender? Male () Female ()
2. Please indicate your class? Form 3 () Form 4 ()
3. Kindly scale the frequency of your English teacher using the following method of teaching use during English lesson. Use the scale A = Always, S = Some times and N = Never

| Teaching method | A | S | N |
|--------------------------|---|---|---|
| Demonstration | | | |
| Role play | | | |
| Lecture | | | |
| Practical using computer | | | |

4. How often do they use computer? Daily() weekly () termly ()
5. How would you describe the ICT resources in your school? Enough () not enough () not available ()
6. How do you rate your teacher in terms of ICT use competency in English lessons? Excellent () good () fair () poor()

7. What problems do you encounter during your English lessons while using ICT resources?_____
8. Which computer programs do you use during English lessons?

9. Does the HOD or the principal come to your class to access your progress during English computer lesson? Yes () No() if yes how often _____
10. Do you use ICT resources to do your homework? Yes () No ()

Thank you very much for your cooperation.

APPENDIX V: OBSERVATION SCHEDULE.

DATE: _____

SCHOOL: _____

| ICT tools | Available | Not available | Number | Functional | |
|-------------------------------|-----------|---------------|--------|------------|----|
| | | | | Yes | no |
| a) Electricity infrastructure | | | | | |
| b) Internet | | | | | |
| c) Printer | | | | | |
| d) Scanner | | | | | |
| e) Copier | | | | | |
| f) Projector | | | | | |
| g) Computers | | | | | |

APPENDIX VI: AUTHORIZATION LETTER



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: 020 400 7000,
0713 788787,0735404245
Fax: +254-20-318245,318249
Email: dg@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No. **NACOSTI/P/17/52747/20254**

Date: **27th November, 2017**

Koome Joshua Ncebere
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Influence of institutional factors on integration of Information Communication Technology in English curriculum in public secondary schools, Igembe-North Sub-County, Kenya”* I am pleased to inform you that you have been authorized to undertake research in **Meru County** for the period ending **24th November, 2018.**

You are advised to report to **the County Commissioner and the County Director of Education, Meru County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit a **copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

G.P. Kalerwa

**GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO**

Copy to:

The County Commissioner
Meru County.

The County Director of Education
Meru County.

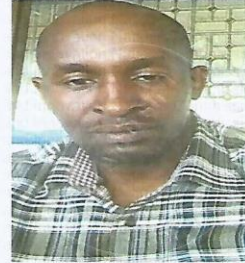
National Commission for Science, Technology and Innovation ISO9001:2008 Certified

APPENDUX VII: RESEARCH PERMIT

**THIS IS TO CERTIFY THAT:
MR. KOOME JOSHUA NCEBERE
of UNIVERSITY OF NAIROBI, 92-902
KIKUYU, has been permitted to conduct
research in Meru County**

Permit No : NACOSTI/P/17/52747/20254
Date Of Issue : 27th November, 2017
Fee Received : Ksh 1000

**on the topic: INFLUENCE OF
INSTITUTIONAL FACTORS ON
INTEGRATION OF INFORMATION
COMMUNICATION TECHNOLOGY IN
ENGLISH CURRICULUM IN PUBLIC
SECONDARY SCHOOLS, ISEMBE-NORTH
SUB-COUNTY, KENYA**



**for the period ending:
24th November, 2018**


.....
**Applicant's
Signature**


.....
**Director General
National Commission for Science,
Technology & Innovation**

CONDITIONS

1. The License is valid for the proposed research, research site specified period.
2. Both the Licence and any rights thereunder are non-transferable.
3. Upon request of the Commission, the Licensee shall submit a progress report.
4. The Licensee shall report to the County Director of Education and County Governor in the area of research before commencement of the research.
5. Excavation, filming and collection of specimens are subject to further permissions from relevant Government agencies.
6. This Licence does not give authority to transfer research materials.
7. The Licensee shall submit two (2) hard copies and upload a soft copy of their final report.
8. The Commission reserves the right to modify the conditions of this Licence including its cancellation without prior notice.



REPUBLIC OF KENYA



National Commission for Science,
Technology and Innovation

**RESEARCH CLEARANCE
PERMIT**

Serial No.A 16691

CONDITIONS: see back page