

**CHALLENGES FACING ON-LINE REGISTRATION OF KENYA
CERTIFICATE OF PRIMARY EDUCATION CANDIDATES IN PUBLIC
PRIMARY SCHOOLS IN KHWISERO, KAKAMEGA COUNTY**

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EDUCATION MANAGEMENT, POLICY AND CURRICULUM STUDIES,
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DECLARATION AND RECOMMENDATION

I declare that this research project is my original work and has not been presented in any other university/institution for consideration. This proposal has been complemented by referenced sources duly acknowledged. Where text, data (including spoken words), graphics, pictures or tables have been borrowed from other sources, including the internet, these are specifically accredited and references cited in accordance in line with anti-plagiarism regulations.

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DEDICATION

This work is dedicated to my late parents Mr. Francis Mbune and Mrs. Rebecca Mutola for their unconditional loving care they gave me right from childhood, their emotional, physical and spiritual support I needed, to grow up to maturity by means of Education which they painfully financed.

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I whole heartedly thank the almighty God for his blessing of having me educated up to the University level, and giving me strength and courage while writing this project.

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It might not be possible to mention the entire gamut of individuals who were involved in this process, but I take this chance to thank all those who either directly or indirectly participated in this process.

ABSTRACT

The purpose of the study was to investigate the challenges facing On-line registration of Kenya Certificate of Primary Education Candidates in Public Primary Schools in Khwisero, Kakamega County. The objectives of this study were; to investigate the Head teachers Proficiency Level in the use of ICT in Public primary Schools. Secondly, to find out the availability of Computers in Public primary schools. Thirdly to establish how effective the new registration system was to public primary Schools. Finally the study sought to find out some of the challenges the head teachers faced with the use of ICT in registering candidates. The Innovation Diffusion theory was applied in the Study. Its Proponent was Rodgers in 2003. Technology is considered as a new idea, Registering Candidates online was perceived as a new idea to Public Primary Schools. The study employed descriptive survey research design. The target population consisted of 58 Head teachers and 474 teachers of primary schools in Khwisero District. The sample consisted of 100 teachers and 10 head teachers who were selected using simple random and purposive sampling method. The instruments used in collecting data included questionnaires and interview schedules. The investigator sought the assistance of experts to get the validity of the research instruments during piloting. The study used test-retest technique to get the reliability of the research instruments. Spearman coefficient formula was used to compute the consistency of the results. Data analysis was done using descriptive statistics after cleaning and coding. Quantitative data was analyzed using frequency counts and percentages this was presented using tables and charts. The results of this study showed that principals face various challenges when it comes to online registration of KCPE candidates in Khwisero district primary schools. As the study shows, a higher concentration of 40% (n=4) of the Head teachers found this process tedious and involving, 30% (n=3) found it expensive while another 30% (n=3) found it time consuming. On the other hand, teachers noted that lack of internet access and lack of electricity were some of the challenges. Majority of schools were also found to lack computers and power supply, both the principals and teachers were found to have problems operating computers indicating limited skills in ICT use. These are therefore some of the challenges that the researcher found to be facing principals in Khwisero district primary schools as far as online registration of KCPE candidates is concerned. The Study recommended that the Government should facilitate In-Service training to improve the competence of teachers in the use of computers. There was also need to upgrade the ICT Infrastructure such as Computer Laboratories and internet-connectivity.

ACRONYMS AND ABBREVIATION

B.O.G :	Board of Governors.
ICT :	Information communication technology.
GOK :	Government of Kenya.
K.E.S.I:	Kenya Education Staff Institution.
KESSP:	Kenya Education Sector Support Programme.
K.C.P.E:	Kenya Certificate of Primary Education.
K.N.E.C:	Kenya National Examination Council.
MOEST:	Ministry of Education Science and Technology.
P.T.A :	Parents Teachers Association.
S.A.G.A:	Semi-Autonomous Agencies.
UNESCO:	United Nation Education Scientific and Cultural Organization.
7-4-2-3:	Education system that was in Kenya before the introduction of the 8-4-4 system.

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CHAPTER ONE

INTRODUCTION

This chapter explains the background, Statement of the problem, Purpose of the study, Objectives, research questions, Scope, Significance of the study, Theoretical framework and Conceptual framework.

1.1 Background of the Study

Educational reforms are occurring worldwide and one of the reforms is introduction of ICT in the Education system (Jhuree; 2005). The increasing developments of Educational system at all levels bring great demand on Educational practitioners, who include managers in their bid to move with the 21st century. These developments demand that Educational institutions should modernize their tools in school administration to enhance efficiency in its Management. Management of school is very complex in terms of students' enrolment, population mobility and social problems. This complexity requires the use of powerful administrative tools resulting in better communication, efficient operation and better personal services. Basing on this view it is clear that; the use of ICT in Education and in other sectors cannot be ignored. Modern day businesses are conducted and facilitated through the use of ICT tools such as Computer networks, telephone lines, Radios etc. The use of ICT contributes indirectly to National development through its impact on Social and Economic sectors such as Agriculture, Health and Education.

ICT has an impact on a country's ability to achieve the millennium development goals (M.D.G) The use of information communication Technology (ICT) can improve Education quality, expand learning opportunities and make Education accessible to all.

Investment in Education can help contribute to National and Social development and reduce social inequality (World Bank, 1998). UNESCO (2000) advocates for everybody's right to access information and knowledge. It is on this note that UNESCO promotes the use of ICT among the partners by issuing proposals to Governments and institutional institutions to achieve a genuine pedagogical transformation.

According to Bandele (2006) ICT is a revolution that involves the use of computers, internet and other telecommunication technology in every human endeavor. The author posits that ICT is simply about sharing and having access to data any time. ICT is considered as a super highway where information is shared fast throughout the world. Information and communication technology has the potential to accelerate, enrich and deepen skill among learners and teacher. In the United Kingdom a study conducted by Becta (2005) found out that most primary Schools had effected the use of ICT in schools and administratively teachers had the relevant skills of using the computer. The reforms focus on decentralizing functions from national level. The aim of the reforms is bringing services closer to the beneficiary and ensuring support reaches the child in the shortest time possible.

One cannot under estimate the use of ICT in the activities of the school. ICT assists managers and teachers in making timely decisions concerning the curriculum and instructions, enhances the daily school routine, timetabling, updating the evaluation of school programmes and solving individuals or groups, as well as staff development.

Global and National Policy makers have been making efforts into crafting policies to enable countries to cope with these demands and harness their effort to support economic growth. Kozma (2005) ascertains policy makers worldwide concur on the fact that Education is among Public Sectors that most affects and is most affected by these developments. The improvement of educational systems and educational attainments are seen as primary ways that a county can prepare for global, technology based changes.

ICT is seen as a way to promote Educational change, Improve Skills of Learners and prepare them for global economy and the information society (Haddad& Draxler, 2002; UNESCO, 2002).

Kenya is among the Member States that have adopted the Millennium Development goals (MDG) which was proposed by the United Nations as the Key development targets for the 21st Century. Achievement of Basic Education is one of the goals in MDG. This goal builds on the Education for all (EFA) initiative which was hatched in Jomtein (Thailand) in 1990 and reaffirmed in Dakar in 2000. In Dakar Meeting (UNESCO, 1990, 2000) it was discussed that information and communication technologies must be harnessed to support EFA goals at an affordable cost. The use of ICTs has great potential for Knowledge dissemination, effective learning and development of more efficient education services.

In early 1990's the Kenyan government embraced the use of computers in schools. This was to enhance efficiency in the management of schools. During this period most schools especially secondary schools bought computers which were mainly used in

the offices for typing internal examinations and other office duties. Some of the computers installed in these schools came in a way of donation (Kavagi, 2001; Scott, 1987).

The Kenyan government has undertaken many reforms in the Education sector, which are aimed at addressing educational goals. These goals include the national economic recovery strategy and international commitment as outlined in the Millennium Development Goals, (MoE, 2006: a).

The Ministry of Education in 2005 identified ICT as a tool to support and improve the diversity and quality of Education for all Kenyans. Through sessional paper No. 1 of 2005 on policy frame work Training and Research, the government appreciates and recognizes that an “ICT literate work force is the foundation on which Kenya can acquire the status of a knowledge economy” (Republic of Kenya 2005:79). Education is seen as the natural platform for equipping the Nation with ICT Skills.

In order to operationalize the sessional paper No. 1 of 2005 on a Policy Frame work for Education, Training and Research, the MoE developed the Kenya Education sector support programmers (KESSP), which involves Educational management information Systems (EMIS) whose aim is to furnish Education Managers and administrators with accurate education data, provision of data bases in schools and co-ordination of administration of the entire education sector.

Studies conducted by (Becta,2003; Yang, 2003) acknowledge the role which ICT has played in improving management in Education systems in the world, for example it is convenient to communicate data to parents and other stake holders at large through the central administrative website. The use of ICT in administration has reduced the workload of the teacher. Teachers can fill the report cards and prepare Schemes of work easily on the screen of the computer. Data on student's attendance and performance can easily be recorded and analyzed.

The Ministry of Education further encouraged schools to embrace it to enhance accessibility and sustainability in the field of Education. The Ministry of Education believes that it can achieve the goals of vision 2030 with the help of KESSP (GOK, 2006).

The Ministry of Education came up with the National Strategy for Education and training, The policy outlined that the overall goal of Education is to achieve Education for all (EFA) by 2015 in tandem with national and international commitments; Universal primary Education by 2010 and to increase transitional rate from primary to secondary school from 47% to 70%.(Republic of Kenya, 2006).

Kenya vision 2030 is the nation's new developments blue print of 2008 to 2030 which aims at making Kenya a newly Industrial, "middle income country providing high quality of life for all its citizens by the year 2030" (NESC 2007) .The vision is based on three pillars namely the Economic ,Social and Political pillars. The Education sector which belongs to the social pillar seeks to build a just and cohesive society in which Kenya will provide global competitive quality Education & training with

research for development in vision 2030. One of the Specific Objectives is Modernization of teacher training and strengthening partnership with the private sector to develop ICT in Education.

Apart from Vision 2030 the Government has developed the MoE 2006-2011 strategic plan. The plan articulates the government's vision for the development of Kenya's education System and identifies strategic imperatives necessary to realize the vision. According to the MoE (2007:46-54) some of the strategic plan objective to be achieved is to establish an efficient instructional framework for effective delivery of education services and integrate ICT in education.

To achieve its objective of provision of quality and accessibility of Education; the Ministry of Education is assisted by various Government agencies (SAGA), such as the Kenya National Examination council which is mandated by the Act of parliament to conduct school and post school examination, award certificates except university examination. Some of the examinations that it conducts include Kenya Certificate of Primary Education (K.C.P.E). This is a certificate that is awarded to a person after completion of Primary Education in Kenya. Much value is given to this examination both by the government and Parents who are stake holders. Passing this examination is important because it is used as a bridge to Secondary school and also the government can use the results to make important decisions concerning the curriculum.

The candidature for those registering for Kenya Certificate of primary Education has been constantly increasing since the launch of Free Primary Education in 2003. These

enormous rise of population has placed great demand on the head teachers who provide pupils enrollment data to the Kenya National Examination Council Manually. The Primary Education caters for the largest number of pupils in Kenya's Education System. To manage this massive number requires Management Skills, appropriate organization and adequate Human resource (Olembo, Wanga & Karagu 1992).

Table 1:1 K.C.P.E Examination Registration 2003-2010

YEAR	TOTAL REGISTERED	INCREASE/DECREASE	%
2003	587961	47892	8.87
2004	657747	69789	11.87
2005	671550	13803	2.10
2006	666451	5099	0.76
2007	704918	38467	5.77
2008	695777	9141	1.30
2009	727054	31277	4.50
2010	746080	19026	2.62

Source: Kenya National Examination Council.

For the outcome of primary Education to be realized there is need for good management in the school. This is where technology becomes a tool which can be used to enhance efficiency in Education. Head teachers in Khwisero District, handle a large quantity of data which they must process speedily to provide information to the Ministry of Education and Kenya National Examination Council.

In 2009 the Minister of Education Professor Ongeru; while releasing the K.C.S.E Examination gave a directive that all candidates were to be registered online. This would make the end user have more control over the accuracy of data entered and also enhance efficiency in school management.

In the year 2010 online registration was piloted for the K.C.S.E candidates and a year later primary school Head teachers were issued with a circular to follow the same trend.

However despite the government's efforts to embrace ICT in the Education Sector it is still facing some challenges which include limited level of rural electrification, power disruption and many others. (Republic of Kenya; 2005:80).

1.2 Statement of the Problem

Public examinations act as indicators of measuring the quality of the education system of a country. The results of the student's achievements are used by the Government and other stake holders who include parents and teachers to make important decisions concerning the learner. Since the introduction of Free Primary Education in 2003 there has been a constant increase of pupils registering for Kenya Certificate of Primary Education (K.C.P.E) Examination. This increase has called for the use of sophisticated equipment and facilities such as ICT in management of candidates' data during registration. Through Sessional paper no.1 of 2005 on policy frame work of Educational Training and Research. Kenya government embraced the use of ICT in Schools in order to enhance efficiency and effectiveness in curriculum instruction and Administrative management. The Kenya National Examination council in 2011 issued a circular to Primary school head teachers to register their candidates Online. To Manage this number requires management skills, appropriate organization and adequate human resource (Olembo,Wanga & Karagu 1992). This study sought to determine the challenges facing On-Line registration of Kenya Certificate of Primary Education in Public Primary Schools in Khwisero, Kakamega County.

1.3 Purpose of the Study

The purpose of the study was to investigate challenges facing Primary head teachers in effective implementation of K.C.P.E online registration in Khwisero District., Kakamega County.

1.4 The Objective of the Study

The objectives of the study were as follows:-

- i) To assess head teachers and Teachers level of proficiency in ICT in Public Primary Schools in Khwisero District.
- ii) To assess the availability of computers in primary Schools in Khwisero District.
- iii) To assess the effectiveness of on-line registration of KCPE Candidates in the District
- iv) To find out challenges posed by the new registration system in Public Primary Schools in Khwisero District.

1.5 Research Questions

The following research questions were raised to guide the study:-

- i). What is the level of proficiency of head teacher and teachers in ICT?
- ii). To what extent are the ICT facilities available for online Registration?
- iii). What are the challenges facing the adoption of the new K.C.P.E online registration system?
- iv). What are the Perceived benefits of K.C.P.E online registration?

1.6 Assumption of the Study

In the proposed study the following assumption were made:-

- i) That all respondents in the interview have knowledge on on-line registration process of the K.C.P.E Candidates.
- ii) That public primary school head teachers are facing challenges related to adoption of K.C.P.E online registration.

1.7 Limitation of the Study

The study was carried out in Khwisero district in Kakamega county Kenya. It addressed challenges facing head teachers in effective implementation of K.C.P.E online registration, in relation to accessibility of the Internet; 10 head teachers and 100 teachers participated in the study.

1.8 Delimitation of the Study

The study was limited to Public primary Schools in Khwisero District. The researcher chose to limit her study to public schools to enable her attain conclusive results. Both the public and private schools would have been studied. However this was not possible due to financial constraints and inaccessibility of some of the schools.

1.9 Significance of the Study

The findings of the study may have both theoretical and practical implications for future use of Technology in registering candidates in Khwisero District. Theoretically, the study may provide greater insight to the policy makers on the effects and challenges likely to be encountered during the implementation of the new registration system. Practically the study may lead to improvement of strategies of using ICT in K.C.P.E exam registration, identifying the strengths and constraints in the

implementation process. The study may be of immediate benefit to the ministry of Education (MOE); with the findings the Ministry may use the results to come up with strategies to improve managerial skills of head teachers. The study finally may help future researchers to make future references on this work with the aim of building more knowledge in the field of ICT and Education administration.

1.10 Theoretical Framework

The study anchored on Rodgers Innovation diffusion Theory. According to Rodgers (2003) Diffusion is the process by which an Innovation is communicated through certain channels over time, among members of a social system.

Diffusion is not a special type of communication concerned with the spread of messages that act as new ideas; in this case registering KCPE candidates through the KNEC website is perceived as a new idea to some of the primary head teachers in Khwisero District who have never used nor even had a chance of being near a computer.

The four key components of diffusion of innovation are as follows; Innovation, Communication channel, Time and Social system.

According to Rodgers (2003) an innovation is an idea, practice or project that is perceived as new by an individual on other unit of adoption, although technology has been with us from time in memorial, Head teachers in Khwisero district perceive the idea of registering candidates online as a new idea. To reduce the uncertainty the Head teachers should be informed about the possible effectiveness and challenges of the system.

According to Rodgers communication is a process in which participants acquire and share information. The communication should have a source of information in this case the head teacher is regarded as a source since he has all the details of the candidates to be registered. Channel is the KNEC Website which gives feedback to the user after the process. A social system involves the social structures of the school which include students, parents Teachers and the Community.

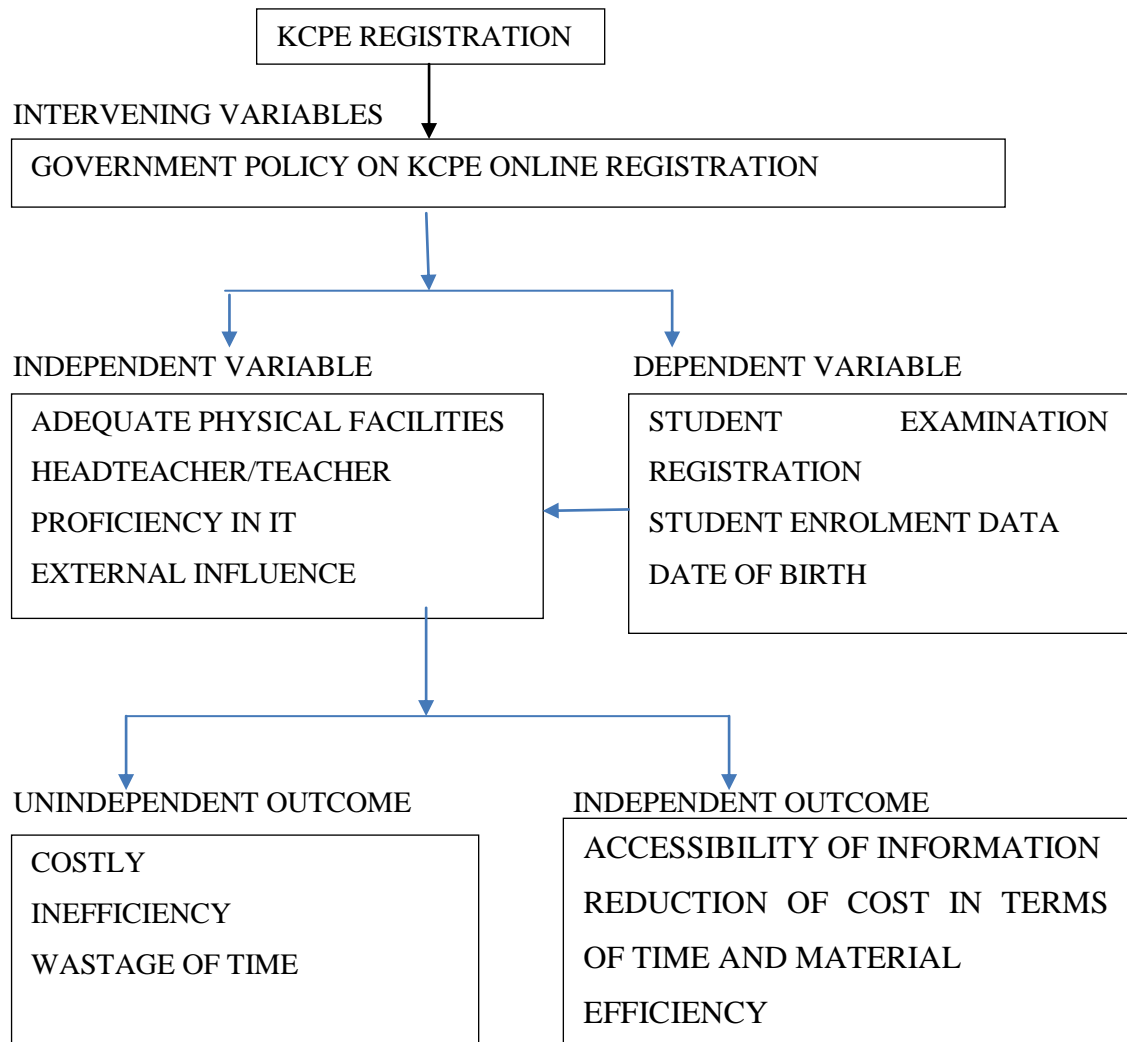


Figure 1.1: Conceptual Frame Work on Challenges Facing Online – Registration of KCPE Candidates in Public Primary Schools in Khwisero

The Conceptual frame work shows the relationship between the dependent variable and independent variable of the study. The implementation of online registration could be affected by adequacy of physical facilities which include the computer and limited access to power. If there is no computer in school and electricity then, the process of registration may be costly and time consuming. On the other hand if there is infrastructure the process can be cost effective and efficient.

1.11 Operational Definitions

Challenges: Constraints or factors that stand in the way of performing an activity that is intended or planned

Head Teacher: A person appointed by the Teachers Service Commission to head a public primary school.

Kenya Certificate of Primary School Education (K.C.P.E): is an examination that is administered to primary school candidates by the Kenya national Examination Council, after completion of eight years in primary school in Kenya.

On line registration: Is a process of registering KCPE candidates using ICT equipment such as computer with internet connectivity to Kenya national examination council website.

Policies: Refers to a government –issued document which sets out the principles, guidelines and strategy for ICT in Education.

Information Communication Technology (ICT): refers to equipment such as computers, television digital cameras that are used to support head teachers work in the school environment.

Pubic primary School: is an institution that enrolls pupils in class one to eight who's Programs are funded and sponsored by the government of Kenya in accordance to Education Act Cap211 of the Laws of Kenya.

CHAPTER TWO

REVIEW OF LITERATURE

2.1 Introduction

In this chapter, the researcher presents a review of Literature related to the study. The literature covers the use of ICT in management, Education management and challenges related to effective use of ICT in School management.

2.2 ICT in Management

Information Technology and Information systems are rapidly becoming essential to management in almost all fields. Modern day businesses are conducted and facilitated through the use of telephones, fax machines and computer communication network through the internet. This phenomenon has given birth to the contemporary e-commerce, e-government, e-medicine, e-banking and e-education amongst others. The use of ICT in administration has helped in reducing the work load of the teacher, which include preparation of schemes of work, lesson plans, assessment tests and filling of report cards. This can be filled on the computer screen. Data on student attendance and performance can easily be recorded, analyzed and communicated to parents through online. (Boody, et al. 2005:5) acknowledges that people in an organization can only do their work effectively if they receive accurate and timely information. The author persists that, systems which provide such information help people to make internal processes more efficient business functions and link an organization with suppliers and customers. Head teachers who are managers should have relevant knowledge of the use of ICT tools; because today's world demands a work force that understands how to use technology as a tool of increasing productivity and creativity Wilding B & Blackford A,(2006:1-3). Becta (2000) notes that ICT is

helpful in supporting management functions for example e-registration enables management of students' enrolment, which can be supported by automatic communication to parents via emails and sending messages through mobile phones. Registering Candidates online is one of the functions of management. Head teachers as instructional leaders and managers are looked upon by various stake holders and government agencies to coordinate and plan all the administrative activities, which include collecting and availing candidate's data to Kenya national examination council.

2.3 What Online Registration Entails

Online registration is one of the functions of Management; head teachers as managers are supposed to enroll pupils, prepare them and present them for public examination. In order to be effective in the registration process use of modern tools of technology is recommended.

According UNESCO (1999) ICTs cover internet service provision, telecommunications equipment and services, information equipment and services, media and broadcasting, libraries and documentation centers, commercial information providers, network based information services & other related based information and communication activities.

The term ICT as applied in school includes Computers internet, broadcasting technologies, and telephony that can facilitate not only delivery of instructions but also learning processes itself.

2.4 Introduction of ICT in Schools

The introduction of computers in school environment in many countries came as a result of government policy pronouncement (Clark 2000; Crawford, 2000; Kirkman 2000; Mizukoshi; Kim Pearson, et.al. 2001 and Lee, 2001). In Kenya many secondary schools acquired computers for use in institutions in early 1990s .The initiative was partly due to pressure from parents, communities and politicians. Some of the computers came in a way of donations (Kavagi, 2001; Scott, 1987). In order to support computer innovation in Educational institutions, the government approached non-governmental organizations to fund project of supplying Computer to schools. In 2003 Computers for Schools Kenya (CFSK) initiated a project of providing computers to rural secondary schools in order to improve the skills of teachers and students on the use of ICT. Through Sessional paper no 1 of 2005 the Ministry of Education encouraged educational institutions to embrace ICT in Schools so as to enhance efficiency and effectiveness in curriculum instructions and administrative management.

2.4.1 ICT in Educational Management

Education is a powerful instrument that unlocks the door to modernization and economic growth of a country. Many countries consider education to be the bedrock of development therefore it is necessary to have quality management in primary school. Education management and development is an intricate process that requires reliable, timely user friendly data Naidu and Jasen (2002). ICT is a modern tool for Education management because it has a critical role to play in development efforts in Kenyan education system. ICTs can be valuable for storing and analyzing data on education indicators: student assessments; educational, physical and human

infrastructure, cost and finance Campbell and Sellsum (2002). The use of technology is important in the field of education. Studies (Becta, 2003; Yang, 2003) indicate that ICT has played an important role in improving management in educational systems for example, it is easy to administer data to parents and the public at large through the central administration website. Mobile phones have also been used to enhance effective communication between the management of the school and other stakeholders. ICTs can help school administrators to streamline operations, monitor performance and improve use of physical and human resources.

According to Wango (2009:238-239) computers integrated in schools have advantages.

Presentation: Work is legible and presentable e.g. class lists schemes of work and classroom tests.

Easy access: It is easy to make more copies of report cards & newsletters using Computer, printer and photocopier machine.

Extended writing copies can be redrafted to improve structure and accuracy.

Storage: Computers can store a large volume of data i.e. student enrolment, financial Records e.t.c.

Communication: Through the internet it is easy to be connected with the world.

2.4.2 The Head Teacher's Role in ICT Management.

An increasing number of scholars agree that leadership plays a major role in ICT implementation at schools especially in its integration into the school curriculum. Head teachers are looked upon by the policy makers to implement any new program by the government at school. Head teacher who are leaders have to establish a culture

that enables innovation as well as a shared sense of responsibility for innovation (Kirkland, K; & Sutch, D.2009). This is supported by Kaplan & Norton (2008:20) who asserts that; Head teachers as leaders play a great role in taking positive action to facilitate coping with technology change. According to Fullan and Hargreavea (1998:103) a change agent is a person whose role includes the responsibility of initiating and facilitating change or a professional whose major function is the advocacy of innovation into practice. Terry (2003) describes the role of the school principle who is a change agent as a:

Process helper- who provides technical and interpersonal assistance and facilitates problem solving, decision making, group interaction & conflicts, resolutions in schools.

Resource Linker-Who communicates information about resources both at instigation of the resource supplier and in response to the user's request who can be a student or teacher.

Resolution giver-who assists in the introduction of innovations in the curriculum.

Negotiator-Who is involved in formal discussions about how to finance the new innovations.

Principals should be ICT literate in order to manage technical change. The management of an organization must participate in the quality programme because today's world demands a workforce that understands how to use technology as a tool; for increasing productivity and creativity (Wilding and Blackford 2006:1-3). However, despite the large investment in ICT infrastructure across school systems, there is reason to question whether principals have ready access to that infrastructure

and whether the access that they do have is adequate for their teaching and administrative needs Frank & Zhao,(2003); Kay,(2006).

2.4.3 Management Related Challenges

Management refers to organizing, coordinating, directing and supervising activities in an organization. In Kenya the head teacher is responsible for the overall running and control of the school and maintenance of the standards. The duties of the head teacher have been grouped by Konchar (1982) as:-

- i). Supervision
- ii). Teaching
- iii). Management

In Kenya primary school head teachers have several leadership functions, including management of the approved school curriculum, the management and motivation of human resources in the school, the secretary to the school management committee, management of human resource, management of the school plant and equipment (TSC, 2007:9-11).The head teacher is supposed to prepare pupils and present them for public examination, he should provide and facilitate accurate registration of the candidates; which include student's index number, Birth certificate number, photograph of the candidate and Kshs 500 as registration fee per candidate. In this case the head teacher is forced to handle a large quantity of data which has to be processed speedily to provide information to Kenya national examination council. The principal cannot perform his administrative duties without accurate, timely, sufficient information. There have been deficiencies associated with storage and preservation of large volumes of information in schools. Over the years the

administrative work of Head teacher is print based. Vital documents are filed and locked in the Head teacher's locker; the preservation and presentation of large volumes of the information in paper form make managerial process very cumbersome. The use of sophisticated machine like a computer is vital. However entering data requires one to be competent and knowledgeable. According to Pelgrum (2001) the success of Educational innovations depends largely on the skills and Knowledge of teachers. The author posits that teachers' lack of knowledge and skills is one of the main hindrances to the use of ICT in education both in developed and underdeveloped countries. However, some researchers argue that many teachers have competence in using computers, but they make little use of the technologies due to lack of time. Becta (2004) found out that lack of time exist among teachers in many aspects of their work as it affects ability to complete tasks. The use of ICT may be used while registering candidates online; however it can be time consuming while logging in the required data. Today's school Head teachers are expected to be familiar with ICT to be able to cope with emerging technology changes because successful change flows from learning, growth and development (Mitzberg, et al 1998:325, Bober,2001:2). Technology driven change has nothing to do with igniting a transformation in an organization but can change an organization from good to great (Collins, 2001:11). Head teachers should be provided with the relevant infrastructure and communicated too, earlier enough of the policy changes. Albirini (2006) noted that teachers did not teach ICT in schools due to lack of skills on the use of computer tools. If teachers can have relevant Knowledge on the use of the computer tools then online registration can be more effective. The Ministry of Education in its spirited efforts of the use of ICT in institutions published a policy & curriculum guideline in 1997 approving teaching of computer education in secondary schools.

2.4.4 Challenges Related to Adequacy of Finances

Effective implementation of technology into Education Systems involves substantial funding, which is very hard in developing countries like Kenya. The head teacher who is a financial manager is responsible for the implementation of government policy. He is supposed to source money from various sources for the success of any government programme. The cost of ICT in schools include teacher training, computer infrastructure which involve the use of funds. Mooij and Smeets (2001) argue that in order to achieve ICT and its components demand financial support. Mmtaz (2000) in his study noted that lack of funds to obtain computer hardware and software was one of the obstacles to the use of ICT by teachers in School. According to ICT Draft Policy of 2006 the government of Kenya agreed to provide Educational institutions with ICT resources in form of computer hardware, Software and ICT teachers. The study seeks to find out the challenges being experienced in this area.

2.4.5 Infrastructure and Access Challenge

There exists a great deal of literature on resource constraint as a major factor hindering the use of ICT in school Administration. The effective use of ICT would require the availability of equipment, supplies of computers and proper maintenance including other accessories. The development of the ICT Infrastructure depends on the availability of a reliable electricity supply. This is supported by Granger, et.al (2002) who asserts that lack of appropriate up to date equipment restrains the integration of ICT into the Curriculum. ICT requires up to date hardware and software, using up-to-date hardware and software resource is a key feature in diffusion of technology Gulbahar (2007). Internet access is a useful resource which can provide a number of materials relevant to the curriculum Becta (2005). However

in Schools where there is no connectivity, the predominant constraint is the cost of internet connectivity Hodgkinson-Williams, Sieburger & Turzol (2007). This was observed by Sicilia, (2005) in the study she conducted; teachers complained about how difficult it was to access computers, some teachers were forced to borrow from friends or travel for a long distance for internet services. Kenya is one of the developing countries that lack the resource and appropriate infrastructure of implementing ICT in Education. ICT draft policy of 2006 noted that the main challenge of implementing information technology is limited penetration of physical telecommunication, infrastructure into rural and low-income areas. Khwisero district is found in rural Kenya where many Public Primary Schools are spread geographically, some of these areas have not benefited with rural electrification. This is supported by Langimia (2009) who noted that Kenya is still lagging behind in information superhighway technology in form of infrastructure and telecommunication network. Many countries have achieved up to 41% implementation of ICT in Schools, the percentage remains considerably small in Kenya. Findings of the study conducted by Momanyi, Norby & Strand (2006) indicated that secondary schools should be equipped with computer technology for effective delivery than primary schools. Ford (2007) reports that Kenya has approximately 19890 primary schools, 15% of these have electricity while 500 only have limited internet access. Lack of Infrastructure and internet access can affect effective implementation of K.C.P.E Online registration. The researcher needs to find out the challenges being experienced in this area.

2.4.6 External Influence Challenges

A School is a social institution responsible for promoting social interests and it is the responsibility of the communities to look after the school in terms of buildings and Furniture. Members of the community include Religious leaders, politicians, and ordinary citizens who have the responsibility being involved in any development that is beneficial to them. Spencer, Nolan, Ford and Rocher (1989) understand the importance of community relations. The head teacher acts as a mediator and co-coordinator of the community relations. According to Onyango (2001), it is the responsibility of the head teacher to promote school-community relations. The head teacher should forge to seek a good working relationship with the B.O.G, P.T.A and other stake holders to provide learning and teaching resources to the school. Parents are likely not to support any program that may not benefit their community in general. According to Shama (2003) the use of ICT in developing country is according to the political will of the people in the corridors of power. In Kenya the allocation of funds for educational sector and ICT does not seem to be very attractive to the leaders. Leaders prioritize the resources according to their needs and satisfaction. Teachers who are part of the community have a responsibility of spearheading the use of ICT in school through the school vision. This is supported by Yee, (2000) who notes that school leaders who implement ICT programs and share a common vision with teachers stimulate them to use ICT in school. Teachers may also resist changing if they are not involved in the first place. Becta, 2004; Gomes, (2005) found out that teachers attitude and inherent resistance to change was one of the significant barrier of integrating ICT in education. Many researchers have argued that school leadership is a strong predictor of teacher's use of ICT in teaching (Aderson & Dexter, 2010; Gurr, 2010; Bishop, 2012). According to Earle (2002) change from

present to future development is facilitated by driving forces such as availability of power, internet access and communication. The researcher seeks to find out challenges that head teachers are likely to face from this area.

2.5 Summary of the Review

Basing on the review at hand, it is noted that most studies(Becta,2003;Yang,2003) concern themselves to the component of the use of ICT in school administration, classroom instruction and likely challenges that face school administrators.ICT is essential to Management in all fields. Becta (2000) stressed that ICT is helpful in supporting management which include analyzing of students registration record and all clerical work in school. The use of ICT in School administration has helped in reducing the work load of the teacher. The government through Sessional paper no.1 of 2005 on policy Frame work of Educational training & Research, and ICT Draft policy of 2006 has made a remarkable investment on ICT for administration and ICT for education. The government's efforts to streamline education sector has paid off with Kenya national examination council registering K.C.P.E candidates on line, in order to enhance efficiency in registration process. Principals have got several leadership roles which include management and curriculum supervision. There is need for them to have relevant skills in ICT, so as to enhance efficiency and effectiveness in school management. However some of the challenges likely to face the introduction of ICT are finance and competence of the head teachers.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section deals with various methodological procedures and strategies that will be in the study. It focuses on research design, locale, target population, sampling procedures, research instruments, data collection procedures and data analysis.

3.2 Research Design

The study adopted a descriptive design. According to Lokesh (1984), descriptive research studies are designed to obtain pertinent and precise information concerning phenomena and where possible to draw valid general conclusion from the facts discovered. Mugenda and Mugenda (1999) on the other hand give the purpose of descriptive research as determining and reporting the way things are. The study fitted within the provision of descriptive survey research as it collected data from head teachers, and teachers regarding the topic of study.

3.3 Study Location

The study was carried out in public primary schools in Khwisero district. Khwisero district is located in western Kakamega County, Western Kenya. The district borders Butere-Mumias District and Kakamega District .The District covers an area of 143 square kilometer (55 square miles). It is home to an approximately 110,000 people. It is a rural yet densely populated consisting of small hills, rivers and springs. The District consists of two Divisions, Khwisero East and Khwisero West. The District has few roads which are mainly murrum or loose surface. The main economic activity in the region is Mixed Farming. Few of the residents supplement their income by

running small businesses around the market centre. Many children are enrolled in public primary schools within the region. The researcher undertook her study in the district because of the geographical locale of some of the public schools which were along the roads and accessible. Singleton (1993) advice that, the ideal setting for any study should be easily accessible to the researcher and be that which permits instant rapport with the informants.

3.4 Target population

Orodho, (2009) states that target population include all people under consideration in any field of inquiry. The target population for this study consisted of all the 58 head teachers and 474 teachers from 58 public primary schools in Khwisero district. Total population for the study was 532 subjects. The researcher chose teachers as target population because at times the head teacher delegates some duties to them.

3.5 Sampling Procedures and Sample Size

Sampling means selecting a given number of subjects from a defined population as representative of the population, any statement made about the sample should be true of the population (Orodho 2002). Gay (1992) recommends that when the target population is small (less than 1000 members), a minimum sample of 20% is adequate for educational research. The investigator used Purposive sampling technique to select 10 schools and simple random sampling technique to select 100 teachers from targeted population of 532 members. This forms' 20.8% of the targeted population which was within Gays (1992) recommendation. According to Orodho (2002) purposive sampling technique involves the researcher relying on her expert Judgment to select units that were representative of the population. The Investigator used

Purposive Sampling technique to select head teachers who had served for long since they had experience of managing pupils' enrolment and registration of public examination. Using purposive sampling technique there were 10 head teachers and 110 teachers.

Table 3:1 Sampling Matrix

Description	Population	Sample	%
Head teacher	58	10	17.24
Teachers	474	100	21.10
Total	532	110	20.68

3.6 Research Instruments

The research instruments used in this study included questionnaire and Interview schedule. The questionnaire was useful in obtaining data from the respondents. These data collection instruments as suggested by Orodho (2009) are ideal and reliable for the groups to be studied and provided both qualitative and quantitative data for the study

3.6.1 Interview Guides

Interview schedules were used to guide interviews conducted with the head teachers on the challenges facing effective implementation of K.C.P.E online registration at their schools. The interview guides contained items covering all the objectives of the study.

3.6.2 Questionnaires

The questionnaire was used to collect data from teachers. The researcher chose to use the questionnaire because it offered considerable advantage in the administration. It also presented an even stimulus potential to large number of people simultaneously and provided the investigator with an easy accumulation of data. According to Orodho (2009) states that one of the advantages of a questionnaire is it can serve a large number of people. Gay (1992) maintained that questionnaire gives respondents freedom to express their view or opinion and also to make suggestions. The questionnaires consisted of the background of the teacher and the effects and challenges to be found in the implementation of K.C.P.E online registration in relation to adequacy of computer facilities, time accessibility, skills etc.

3.6.4 Check List

Check list was used to verify the availability of material used during registration e.g. computers, power, physical facilities (computer lab).

3.7 Pilot study

Before the actual data was collected the researcher conducted a pilot study in 2 schools that were not included in the actual sample. The researcher selected 2 head teacher and 8 teachers for the study. The purpose of the pilot study was to enable the researcher to ascertain the reliability and validity of the instruments and to familiarize herself with the administration of the questionnaire.

3.7.1 Validity

Orodho (2009) suggests that validity is the accuracy and meaningfulness of inference, which are based on the research results in other words validity is the degree which results obtained from the analysis of the data actually represent the phenomena under investigation. The pilot study helped in improving the validity of the instruments.

The investigator sought the assistance of the supervisors who were experts in order to improve the content validity. According to Borg and Gall (1989) content validity of an instrument is improved through expert judgment.

3.7.2 Reliability

Spearman Brown Prophecy was used to determine the reliability of the instruments whose formula is as shown below:

$$\text{Reliability } 2 = \frac{\text{Reliability of } 1/2}{1 + \text{Reliability of } 1/2}$$

$$\text{Reliability } 2 = \frac{0.9}{1 + 0.9}$$

$$= 0.47368421 \times 2$$

$$= 0.9473684$$

The researcher used the split-half method to determine the Coefficient of Internal Consistency or reliability coefficient whose values was expected to vary between 0.00 and +1.00. The closer the value will be to +1.00, the stronger the reliability. A reliability value of 9.4736842 was obtained hence the instruments passed the reliability test.

3.8 Data Collection Procedure

Before the researcher engaged into collection of data, introductory letter to primary school head teacher was issued by the university and approved by the Ministry of Education which allowed her participate in the study. The researcher personally administered interviews to the head teacher and questionnaire to the teacher. The researcher visited the respected school and administered the questionnaires to the respondent's. The respondents were assured of strict confidentiality in dealing with their responses. They were given a time frame of one week to fill the questionnaire after which the investigator came and collected the filled data.

3.9 Data Analysis Plan

The data collected was grouped, cleaned, coded and analyzed using Statistical Packages for Social Sciences (SPSS) software version 20. The analyzed data are in the form of frequencies and percentages while figures and tables are used to present the results. The tables were generated using SPSS while the figures were generated using Microsoft excel 2010.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF FINDINGSS

4.1 Introduction

This chapter present results from the research on challenges facing head teachers in effective implementation of KCPE examination online registration in public primary schools in Khwisero district, Kakamega county Kenya. This study was carried out based on the following objectives: to assess the head teachers and teachers proficiency in ICT, to assess the availability of computers in primary schools in Khwisero district, to find out challenges posed by the new registration system and lastly to assess the effectiveness of the new system of KCPE registration. The analysed data is presented using frequencies and percentages in tables and figures. Only quantitative data was used in this study and frequencies and percentages were generated from the data. Tables were used to present data gathered using interview while figure were used to present data gathered through questionnaires. However, the researchers' observations are presented without tables or figures. Data from head teachers is presented first, followed by data from teachers and lastly the presentation of the researchers' observations follows.

4.2 Distribution of Respondents by Demographic Information

This section presents data on the study participants' demographic information. These include gender, age, working experience, level of education, academic qualifications, subjects taught and lastly professional qualifications.

4.2.1 Distribution of Respondents by Gender

In the figure below, the researcher presents data on the gender of the teachers who participated in the study.

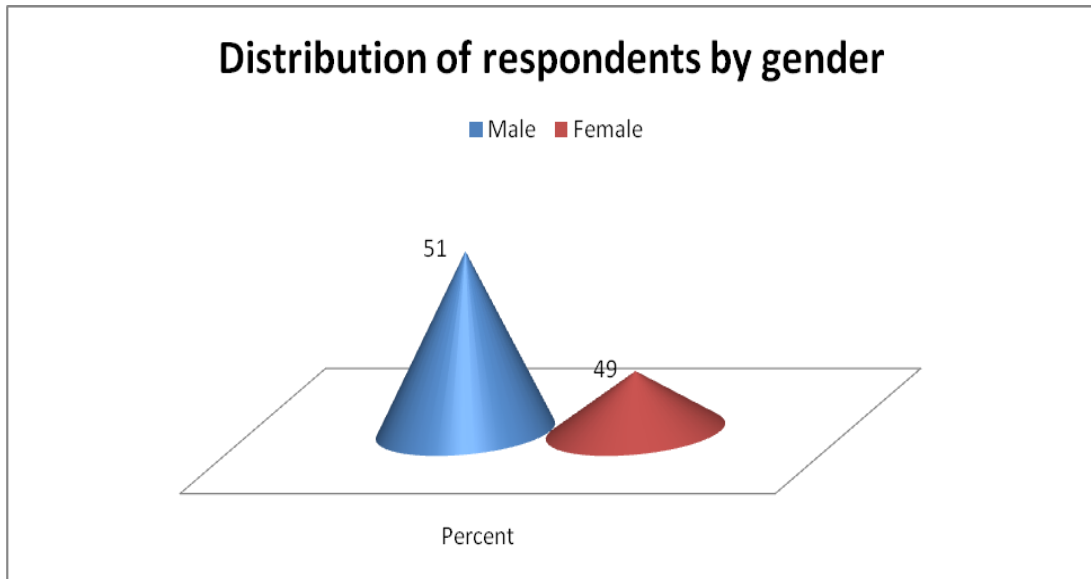


Figure 4.1: Distribution of Respondents by Gender

Findings from the primary school teachers as shown in figure 4.1 above indicates that out of the 100 teachers who participated in this study, 51%, (n=51) were male while 49%, (n=49) were female indicating that a slight majority of teachers who participated in this study were male. From these results it is therefore clear that a slight majority of primary school teachers in the study area are male.

4.2.2 Distribution of Respondents by Age

In figure 4.2 above, the researcher presents data on the age group of teachers who took part in this study.

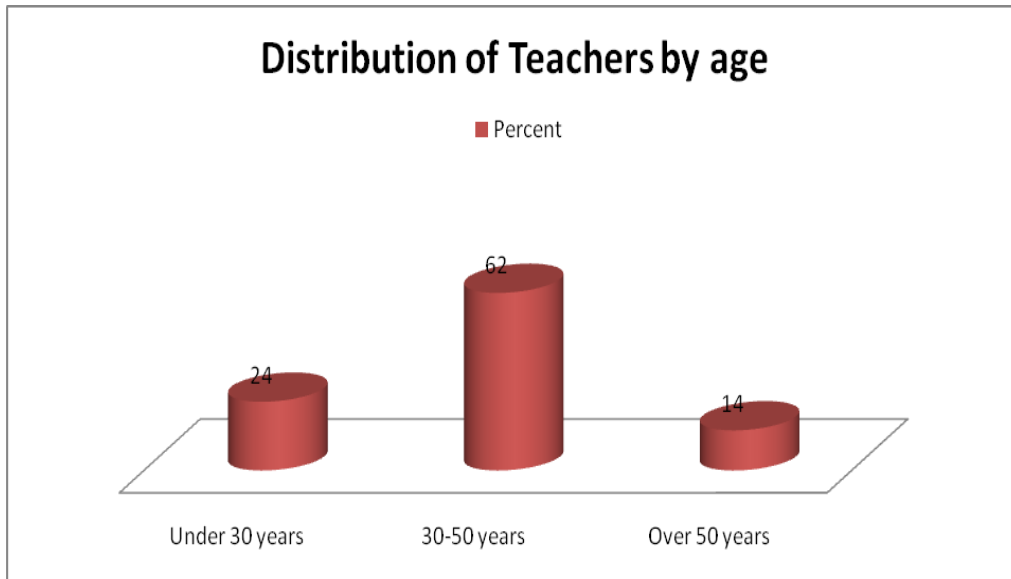


Figure 4.2: Distribution of Teachers by Age

Figure 4.2 Presents data on the age of the teachers and according to the data, a majority of 62%, (n=62) were aged between 30-50 years, 24%, (n=24) were aged under 30 years while 14%, (n=14) were aged above 50 years. This shows that most teachers in Khwisero district are aged over 30 years as shown above. These results show that most teachers in these schools are aged over 30 years while a minor number are above this age. This might have a big influence on their knowledge of computers as these facilities are not quite recent and it's mainly used by the younger generations.

4.2.3 Distribution of respondents by school

The researcher further presents results on schools in which teachers from Khwisero district who were involved in this study taught. These findings are from teachers.

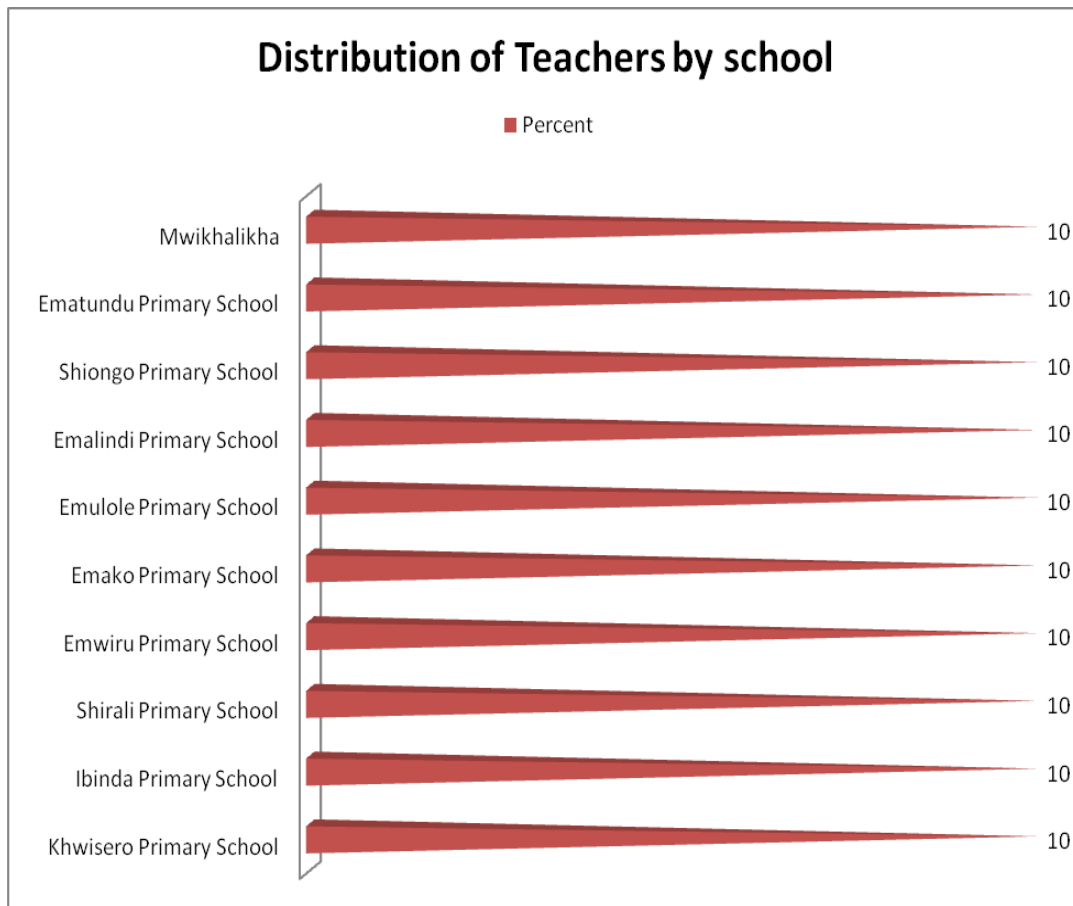


Figure 4.3: Distribution of Teachers by School

As presented above, 10%, (n=10) of teachers who participated in this research were from Khwisero primary school, 10%, (n=10) from Ibinda primary, 10%, (n=10) from Shirali, 10%, (n=10) from Emwiru, 10%, (n=10) from Emako, 10%, (n=10) from Emulole, 10%, (n=10) from Emalindi, 10%, (n=10) from Shiongo, 10%, (n=10) from Ematundu while the remaining 10%, (n=10) teachers were from Mwikhalikha primary school respectively. The study results therefore show that equal number of participants who participated in this study were selected from each school in the district. These findings are as presented in figure 4.3 above.

4.2.4 Distribution of Respondents by Working Experience

Here, the researcher presents findings from the head teacher on their work experience.

The results are presented in the figure that follows.

Table 4.1: Working Experience of Head Teachers

Working Experience	Population	Frequency	Percent
5 yrs working experience	29	5	50.0
26 yrs working experience	6	1	10.0
6 yrs working experience	23	4	40.0
Total	58	10	100.0

The findings of the study on the head teachers work experience show that in Khwisero District, a majority of the head teachers 50%, (n=5) had 5 year working experience while 10%, (n=1) had 26 years working experience as shown in table 4.1 above. Majority of the primary school head teachers in Khwisero district had longer working experience as head teachers with 90 of them having worked for over 5 years. This shows that they had worked in their current positions for over 5 years making them more experienced in their administrative duties.

4.2.5 Distribution of Respondents by Academic Qualification

Academic qualifications are also normally used to indicate an individual's demographic information. The results for teachers are as presented in figure 4.4.

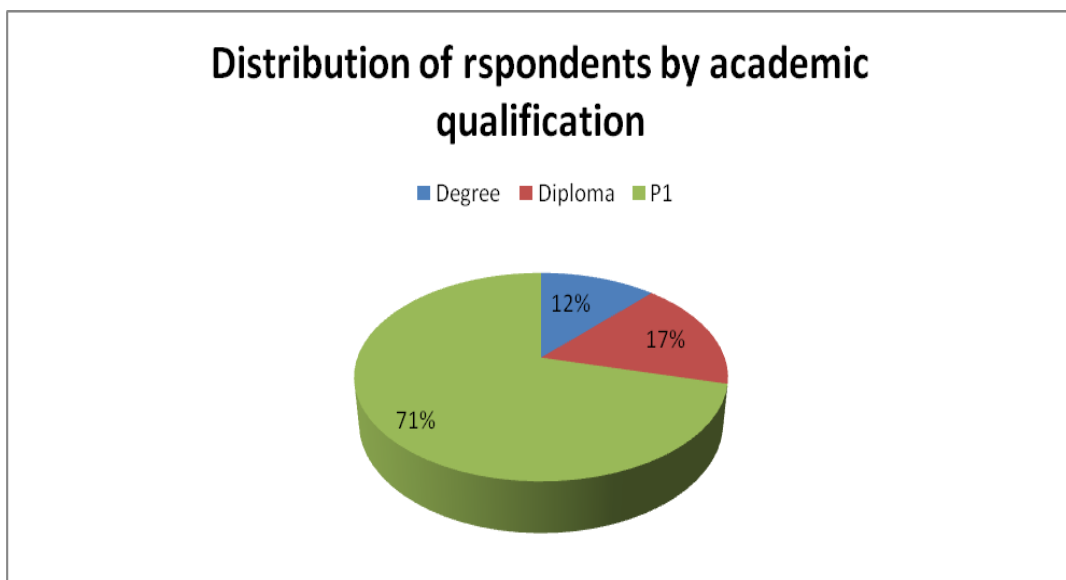


Figure 4.4: Distribution of Teachers by Academic Qualification

As the study findings showed and presented in figure 4.4, majority of primary school teachers from Khwisero district 71%, (n=71) are P1 teachers, 17%, (n=17) are diploma holders while 12%, (n=12) are degree holders. This shows low level of academic qualification teachers from this district. In contrast from the head teachers, it is clear from these results that most teachers in this district lack sufficient education as majority of them are P1 teachers. This may be a hindrance to the use of ICT as they may have not had the chance to train on how to use these facilities.

4.2.6 Distribution of Respondents by Subjects they teach

The researcher also sought to identify the subjects teachers in this district taught. The findings of this are as presented in figure 4.5 below.

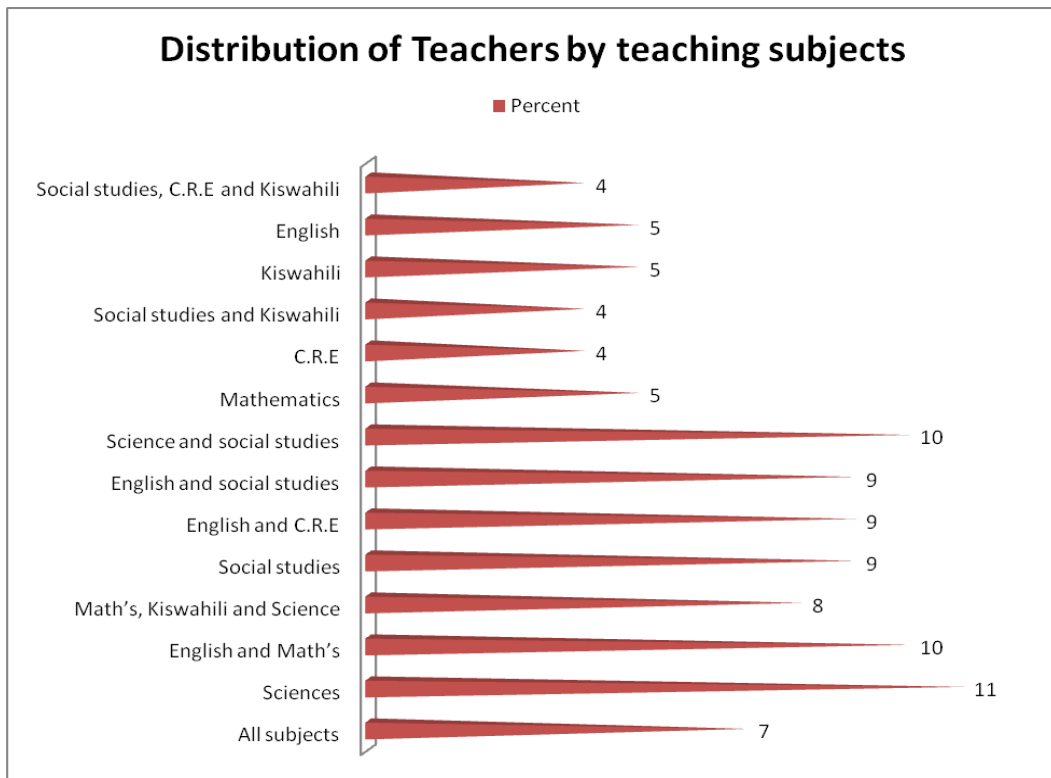


Figure 4.5: Distribution of Teachers by Subjects they teach

The study results showed that a slight majority of primary school teachers who participated in the study 11%, (n=11) are science teachers, 7%, (n=7) teach all subjects, 10%, (n=10) teach English and math's, 8%, (n=8) teach math's, Kiswahili and science, 9%, (n=9) teach social studies, 9%, (n=9) teach English and CRE, 9%, (n=9) teach English subjects and social studies, 10%, (n=10) science and social studies, 5%, (n=5) mathematics only, 4% (n=4) CRE only, 4%, (n=4) social studies and Kiswahili, 5%, (n=5) Kiswahili, 5%, (n=5) English while the remaining 4%, (n=4) teach social studies, CRE and Kiswahili as presented in figure 4.5 above. The results show that majority of teachers lack focus on their subjects as they teach unrelated subjects. It is also clear that there are no teachers for computer use in primary schools in this district despite the government's effort to introduce computers in primary schools in the country.

4.2.7 Distribution of Respondents by Professional Qualification

Table 4.2 presents findings on primary school head teachers' professional qualification. These findings from the head teachers are as follows.

Table 4.2: Distribution of Head Teachers by Professional Qualification

Professional Qualification	Population	Frequency	Percent
Bachelor of education arts	17	3	30.0
Diploma in education science	23	4	40.0
Bachelor of education in literature	12	2	20.0
Bachelor of education science	6	1	10.0
Total	58	10	100.0

Results in table 4.2 shows that more head teachers in Khwisero 60%, (n=6) hold a bachelors degree while 40%, (n=4) of them hold a diploma. This indicates that many head teachers in the district are well educated. Most of the head teachers in Khwisero district are holders of diploma in education of science certificates with a higher majority of head teachers having degrees holding a Bachelor of Arts degree. This shows that majority of these primary school head teachers are holders of a diploma in education science certificate.

4.3 Head Teachers' and Teachers' Proficiency in ICT

This section addresses the first objective of the study which is to assess head teachers' and teachers' proficiency in ICT. The analysis was done descriptively using SPSS software. The results are presented using percentages in figures while frequencies and percentages are used to present results in tables. The results are as presented and discussed below.

4.3.1 Distributions of Respondents by level of literacy in Computer use

In figure 4.6, the researcher presents findings on the level of computer literacy among the teachers. The discussion of the results is presented after the figure.

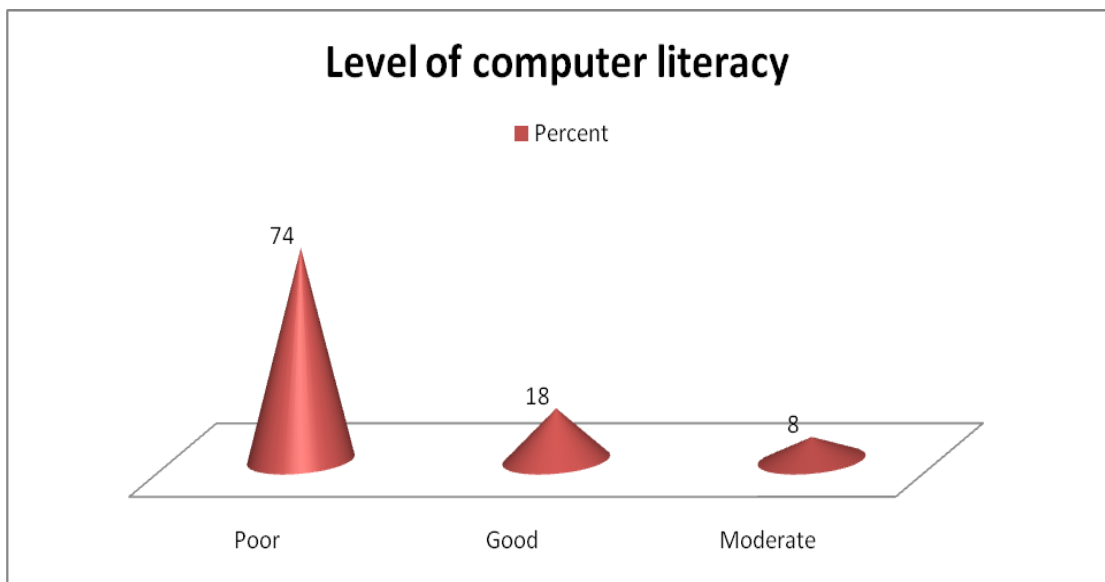


Figure 4.6: Level of Computer Literacy among Teachers

The analyzed data indicated that most of the head teachers 70%, (n=7) have knowledge on computer use while 30%, (n=3) lacked such knowledge. This shows that 70% of head teachers in Khwisero district have knowledge in computers. In figure 4.6, the researcher presents findings on the level of computer knowledge among teachers in this district. Teachers results also show that majority of 74%,

(n=74) of the teachers felt that their computer knowledge was poor, 18%, (n=18) felt it was good while 8%, (n=8) observed that their computer knowledge was moderate. On the frequency of computer use 40%, (n=4) of the head teachers mentioned that they often used computers with a majority of 60%, (n=6) did not often use the computers. There is a need for the head teachers to increase their use of computers as this would improve their knowledge and proficiency with computers. If possible they should at least purchase their own sets of computers.

4.3.2 When Respondents First Encountered a Computer

The figure below presents findings on the period in life when primary school teachers in Khwisero district first encountered a computer. The discussions are as follow.

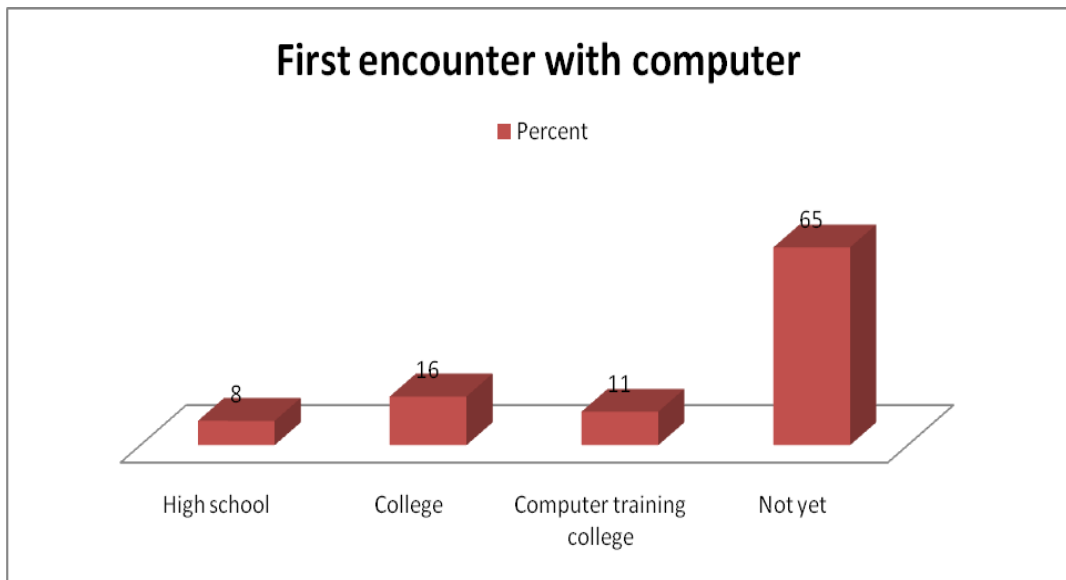


Figure 4.7: When Teachers First Encountered a Computer

As shown in figure 4.7, a majority of teachers in Khwisero 65%, (n=65) have not encountered a computer yet with 8%, (n=8) having encountered it in their high school education. The other study findings are as presented in the figure that follows. The

following table presents similar data but from head teachers in Khwisero on the place they first encountered computers. Results and discussions are as follows.

Table 4.3: Place where a Computer was first encountered by the Head Teacher

Place where a Computer was first encountered	Population	Frequency	Percent
Home	12	2	20.0
College	12	2	20.0
Computer training	5	1	10.0
DEO's office	6	1	10.0
Market place	23	4	40.0
Total	58	10	100.0

The results presented in table 4.3 indicate that a majority of 40%, (n=4) of the primary school head teachers first encountered a computer in the local market places with 10%, (n=1) and another 10%, (n=1) encountering a computer during training and at the DEO's office respectively. This shows that many head teachers first encountered a computer in shops within markets.

4.3.3 Numbers of Year's Teachers have been using Computers

Results on the number of year's primary school teachers in Khwisero district had been using computers as shown in figure 4.8 below.

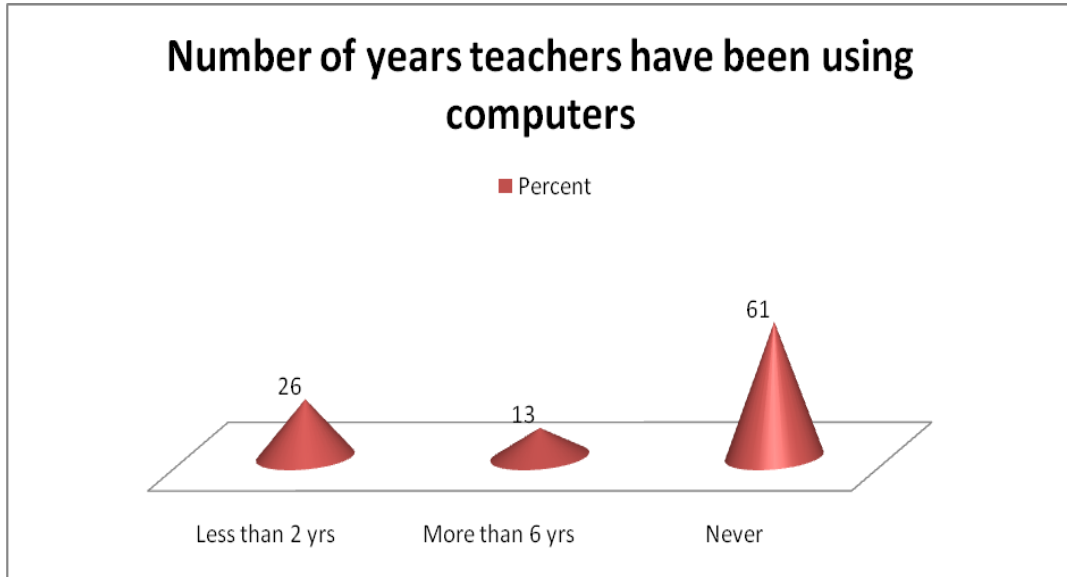


Figure 4.8: Numbers of Year's Teachers have been using Computers

According to the findings shown above in figure 4.8, majority of the teachers 26%, (n=26) had been using computers for less than 2 years while 13%, (n=13) had been using it for more than 6 years by the time of this study.

4.3.4 Software mainly used in a Computer

The study also sought to find out the software mainly used in a computer. The findings from the head teachers and teachers are as shown in table and figure below.

Table 4.4: Software mainly used in a Computer by Head Teachers

Main software used	Population	Frequency	Percent
Microsoft word	35	6	60.0
Microsoft excel	6	1	10.0
None	17	3	30.0
Total	58	10	100.0

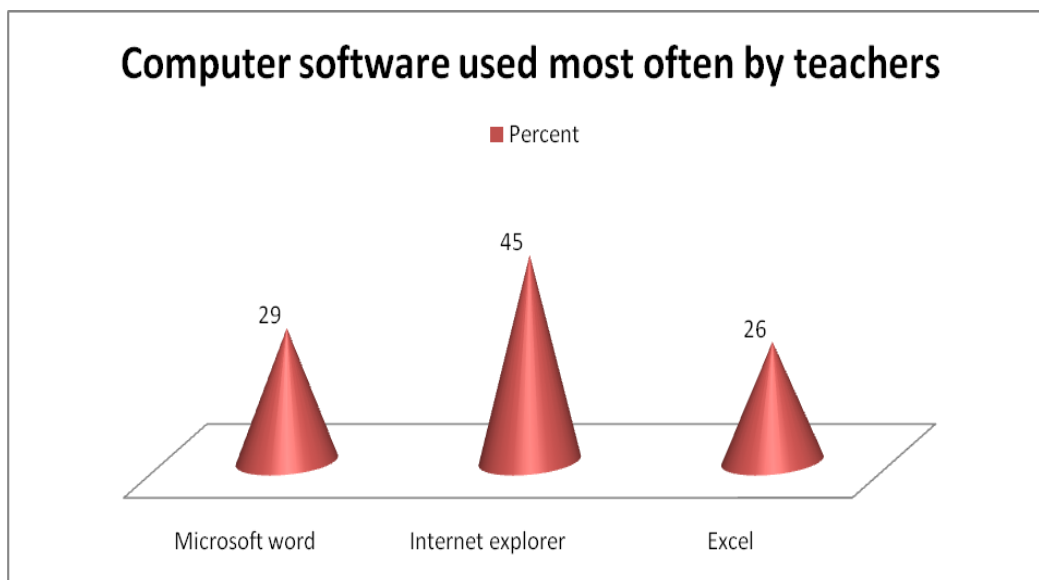


Figure 4.9: Computer Software Used Most Often by Teachers

As the above results show, most of the head teachers 60%, (n=6) mentioned that they used Microsoft word while 10%, (n=1) used Microsoft excel. Based on the result, majority of the head teachers in Khwisero mainly used Microsoft word while using computers as shown above. Majority of the teachers 45%, (n=45) mentioned that they mostly used internet explorer while using their computers, 29%, (n=29) used Microsoft word software while 26%, (n=26) used Microsoft excel as figure 4.9 shows.

4.3.5 Level of Expertise in Computer Use

Level of expertise of head teachers in computer use was also assessed. The results from the Teachers are as presented below.

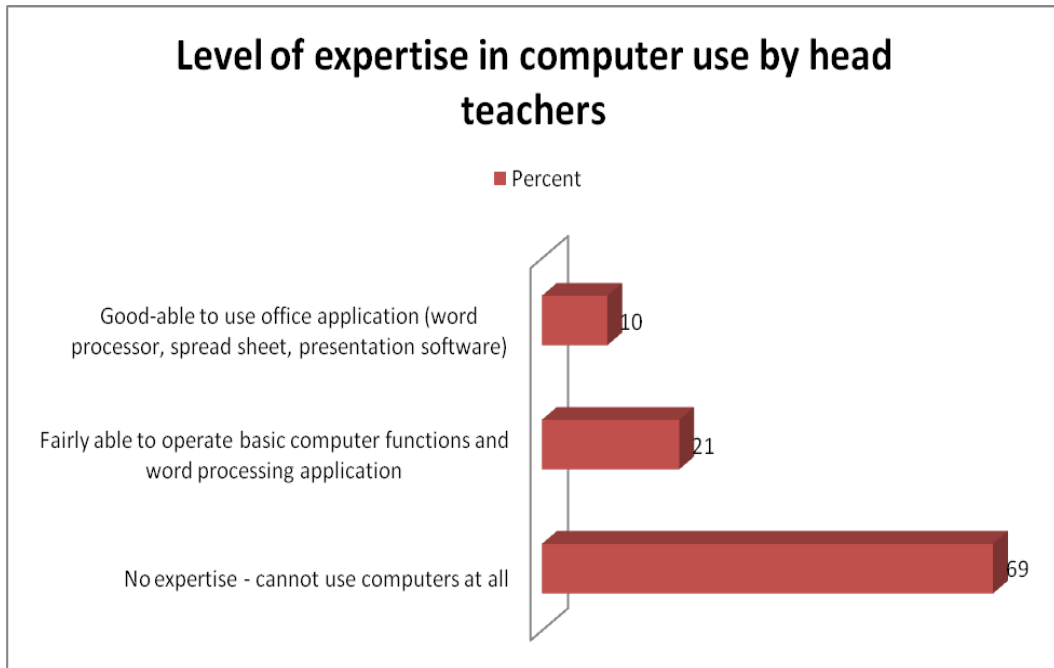


Figure 4.10: Level of Expertise in Computer Use by Head Teachers

As presented in figure 4.10, 69%, (n=69) of the head teachers mentioned that they had no expertise at all as they could not use computers, 21%, (n=21) were fairly able to use computers while the remaining 10%, (n=10) had good expertise in operating a computer. Results indicated that majority of the head teachers 70%, (n=7) as already mentioned had knowledge in using Microsoft word while 30%, (n=3) did not. Study results further showed that a slight majority of head teachers 60%, (n=6) had no knowledge in the use of Microsoft excel with 40%, (n=4) having such knowledge. The study also showed that a lot more of the head teachers 60%, (n=6) in the district were able to print documents on their own while 40%, (n=4) could not. According to the study, 30%, (n=3) head teachers had received formal training on how to use computers while 70%, (n=7) had never received such training.

4.3.6 Where Computer Training Took Place

The location where teachers and head teachers had their training in computer use is as shown the table and figure that follow.

Table 4.5: Where Computer Training by Head Teachers Took Place

Location of computer training	Population	Frequency	Percent
Trained by children at home	24	4	40.0
computer training	17	3	30.0
Nowhere	17	3	30.0
Total	58	10	100.0

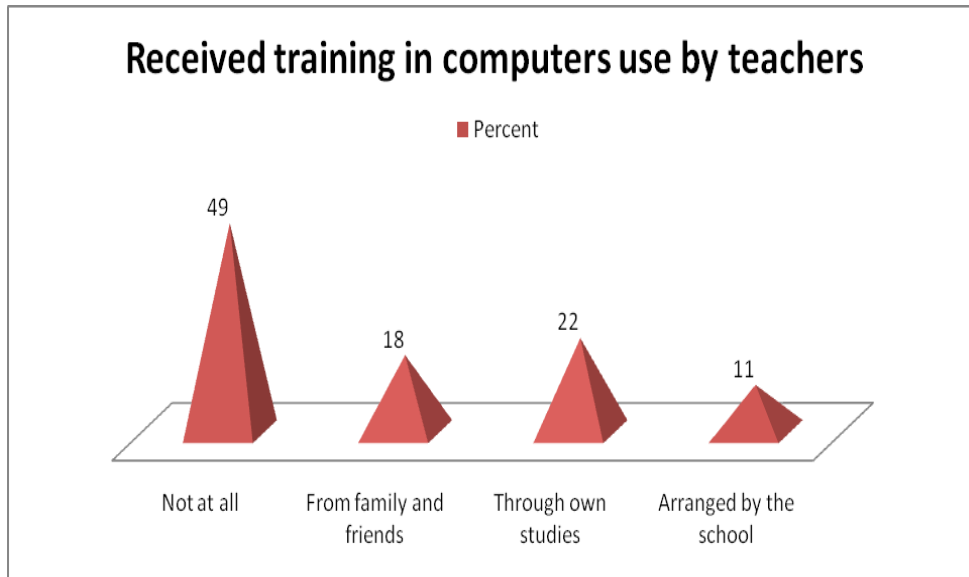


Figure 4.11: Received Training in Computers use by Teachers

As the results presented in table 4.5 indicates, more head teachers 40%, (n=4) trained at home by their children while 30%, (n=3) went to computer training collages. This shows that majority of the primary school head teachers computer knowledge was not achieved through appropriate training. On the other hand, a majority of 49%, (n=49) of teachers had never received computer training, 18%, (n=18) received training from family and friends, 22%, (n=22) received training from their studies while (11%) received training arranged by their schools as presented in figure 4.11 above.

4.3.7 Important Skills an Administrator Should Posses on ICT

This study also sought to find out from the head teachers which computer use skills they felt were important for them. The results from the Head Teachers are as shown in the table below.

Table 4.6: Important Skills an Administrator Should Posses on ICT

Important ICT Skills for Administrator	Population	Frequency	Percent
To be able to use office word and excel	17	3	30.0
To be able to start and shut down a computer	24	4	40.0
Should be trained on ICT	17	3	30.0
Total	58	10	100.0

On important skills that the administrators should possess with regards to computer use, a higher number of the head teachers 40%, (n=4) felt that it was important to start and shut down a computer properly while 30%, (n=3) and another 30%, (n=3) felt that it was important to be able to use Microsoft office word and excel as well as receive training on computer use respectively as shown in table 4.6 above. According to the study, more head teachers in Khwisero district 60%, (n=6) felt that the only way for

helping them overcome their difficulties in using computers was to sensitize them on the importance of using ICT while 40%, (n=4) felt that they should be encouraged to receive formal training.

Based on the results, most of the head teachers have knowledge in computer use similar to few teachers. The contrast between the two may impede successful and effective use of ICT usage in these primary schools as even though the head teachers are well equipped to handle ICT their teachers are not in a position to help make this true given their limited knowledge in ICT usage. The findings are in line with that of Becta (2000), and Blackford & Wilding, (2006) which posit that school administrators and teachers should be knowledgeable in computer operations. The study findings at the same time indicated that majority of teachers in the study area had not encountered a computer hence cannot be relied upon to assist with online registration of candidates. Young (2003) also observed that computers are available everywhere, in school, homes, ICT colleges and in various business premises for sale. These are some of the places where individuals first come in contact with computers. It is also clear from the study results that fewer head teachers and teachers encountered computers away from colleges and other relevant institutions of training. Therefore, the government needs to introduce computers training in every level of education including teacher training institutions if its use among primary school teachers is to be improved. Frank & Zhao, (2003) and Kay, (2006) also observed in their research that even though employees see computers everywhere, the actual contact occurs where they first learn how to use this facility which is usually within colleges.

According to the study results, majority of teachers with knowledge in ICT use have less than 2 years worth of knowledge, this means that their proficiency in ICT use is still low and cannot be relied upon. UNESCO (2000) on the other hand showed that computer use is not something everyone can learn, at the same time, the study indicated that the length of use vary among individuals and employees and depends on when an individual first gained knowledge in its use. This seems to support the findings of this study that show different level of computer use among teachers in Khwisero district. Most teachers in this district mostly use Microsoft office in their daily activities. Knowledge in using this software is very relevant as most work is written and stored in it. However it is necessary for the teachers to gain knowledge in Microsoft excel use as well and other software in order to improve their proficiency in computer use. Becta, (2003) observed that the use of Microsoft office, excel, access, PowerPoint, scientific packages for social sciences as well as internet and various media players are true test of proficiency in computer use. However, the author does not indicate which software is mostly used as opposed to the findings of this study.

The lack of expertise in computer use by majority of teachers in Khwisero district is worrisome as this hinders successful implementation and use of ICT in online registration of candidates among other important activities in schools. There is therefore a need for an intensive in-service training on computer use for all the primary school teachers in this district if effective use and implementation of ICT in schools is to be successful. Becta, (2003), Wango, (2009) and Wilding & Blackford (2006) all agree that an individual requires complete knowledge in all aspect of computer use including its maintenance to be considered a real expert. The expertise shown by the current study therefore falls short of these requirements. The study also

shows that most head teachers in the district are proficient in using Microsoft word document. However the remaining few need to receive adequate training on computer use and maintenance. Wilding & Blackford (2006) also observed that administrators require complete knowledge on the use of Microsoft word as this software can help them write and store data in soft copy. The findings of this study therefore seem to highlight this importance as majority of head teachers in the study area are proficient with this software.

Based on the findings of the study, a slight majority of head teachers in Khwisero district primary schools lack knowledge in using Microsoft excel. Knowledge on the use of this software is very necessary, as it helps in storage and presentation of data in various forms. The head teachers in this district therefore should be given intensive training on how to use this software as knowledge in the use of Microsoft office only cannot be considered adequate without complete knowledge in the use of other components of Microsoft office as well. The proficiency in the use of this software is also supported by UNESCO (2000) and Wilding & Blackford (2006) as they showed that this software could be used to store data in different forms either in wording or in figures. The study further indicates that most primary school head teachers 60% in Khwisero can print documents on their own using computers. However, the fact that 40% of them are not able to do the same is worrisome. The ministry of education therefore needs to find a way of imparting this knowledge to these head teachers. UNESCO (2004) showed that printers could help administrators' duplicate the stored data in computers in hard copies. The study further opined that knowledge in the use of this facility is very relevant and necessary. However the study failed to give statistics on individuals' ability to use this facility unlike the current study.

Majority of the primary school head teachers 70% have never had any formal training in computer use in Khwisero district. This means that most of the head teachers' even those with knowledge in computer use got the knowledge through their own personal efforts or through friends. This kind of knowledge cannot be deemed as adequate as one only gains basic knowledge on computer use. They therefore require professional training in computer use if their competence in ICT is to improve. For effective use of computers and improved productivity at work, Frank & Zhao, (2003), Kay, (2006) and GOK (2006) observed that employees and or work force require adequate professional training from various accredited institutions. These studies show that professional training in computer use is very necessary if workers efficiency is to be improved. Majority of teachers and head teachers in Khwisero had received informal training on computer use as the study findings indicated. Most of the head teachers and teachers admit to receiving more informal training than formal training in computer use. The need for intensive training therefore cannot be overlooked if the knowledge and competence of these two groups in computer usage is to be improved. Frank & Zhao, (2003) and Kay, (2006) showed that individuals receive training from various sources, friends, family members, self training all of which are not sufficient as the authors assert that only knowledge gained from colleges or institutions of higher learning are more detailed and adequate. This shows that most of the teachers and head teachers in the district have inadequate computer training.

The study at the same time show that the administrators believe that all they need to know is how to start and shut a computer as well as use office and excel. This shows lack of seriousness on the head teachers as starting and shutting down a computer as well as knowledge in the two software's is not enough to enable them effectively use

online registration. They need knowledge in complete use of this ICT facility and more importantly in addition to the results they require knowledge in internet usage if they are to effectively be able to carry out online registration. These findings are supported by Albirini's (2006) study which showed that apart from the presented results, computer maintenance, website design and knowledge of use of various software's are necessary for an administrator. Sensitization and receiving formal education were some of the ways that respondents felt that could help eliminate difficulties experience by head teachers in computer use in Khwisero. Based on the results, the researcher believes however that as much as these findings may be true, instead of encouraging teachers to train, they should find ways of introducing in-service training in computer use for teachers as this would be more effective. Mooij & Smeets, (2001) also supported these finding by showing that the only way to learn and improve ability to operate computers is through further training.

4.4 Availability of Computers in Primary Schools in Khwisero

The second objective of the study was to assess the availability of computers in primary Schools in Khwisero district. The analysis was done descriptively using SPSS software. The results are presented using percentages in figures while frequencies and percentages are used to present results in tables. The findings of the research are as presented below.

4.4.1 Availability of Computers in Schools

The study findings on the availability of computers in primary schools revealed that majority of schools 90%, (n=9) had no computers with only 10%, (n=1) having one. This shows a serious gap in computer availability of computers in primary schools as

90% of the schools lack computers in the district. From the 10% that had computers, the study observed that they only had 1 computer while the remaining 90%, (n=9) indicated that they had none. According to the researcher and field assistants observations, 10%, (n=1) of the schools had a single computer while a majority of 90%, (n=9) lacked a computer showing that 90% of primary schools lack computers in Khwisero district. Though 90%, (n=9) of the head teachers mentioned that their schools lacked computers, they mentioned that schools with computers did use them in administration offices while the 10%, (n=1) who had computers noted that computer lab was the place this ICT device was mainly used. However the observations of the researcher and her assistants contradicted those of 10% of the head teachers who said that they had a computer lab as they noted that none of the schools had a computer lab hence agreeing with the 90% who said they did not have this facility in their schools. In the table and figure that follows, the researcher presents data on other places where computers are normally accessed apart from schools.

Table 4.7: Other Places where Computers are accessed by Head Teachers apart From School

Other Places where Computers are accessed	Population	Frequency	Percent
At home	17	3	30.0
Nearest market place	29	5	50.0
At a friend's place	12	2	20.0
Total	58	10	100.0

Apart from schools, majority of the principal 50%, (n=5) felt that computers were normally used in the nearest market places within Khwisero district while only 20%, (n=2) used computers at their friends places as shown above in table 4.7. From these results, it is clear that there are other locations where both teachers and head teachers could access computers. They should therefore take advantage of these avenues to improve their computer literacy.

4.4.2 Reasons for Using Computers

In table 4.8 (results from head teachers) and figure 4.12 (results from teachers) the researcher presents data on the reasons why computers are being used in primary schools in Khwisero district.

Table 4.8: Reasons for Using Computers by Head Teachers

Reasons for Computers use	Population	Frequency	Percent
For administrative duties	29	5	50.0
Research	6	1	10.0
Teaching and learning	6	1	10.0
Typing	17	3	30.0
Total	58	10	100.0

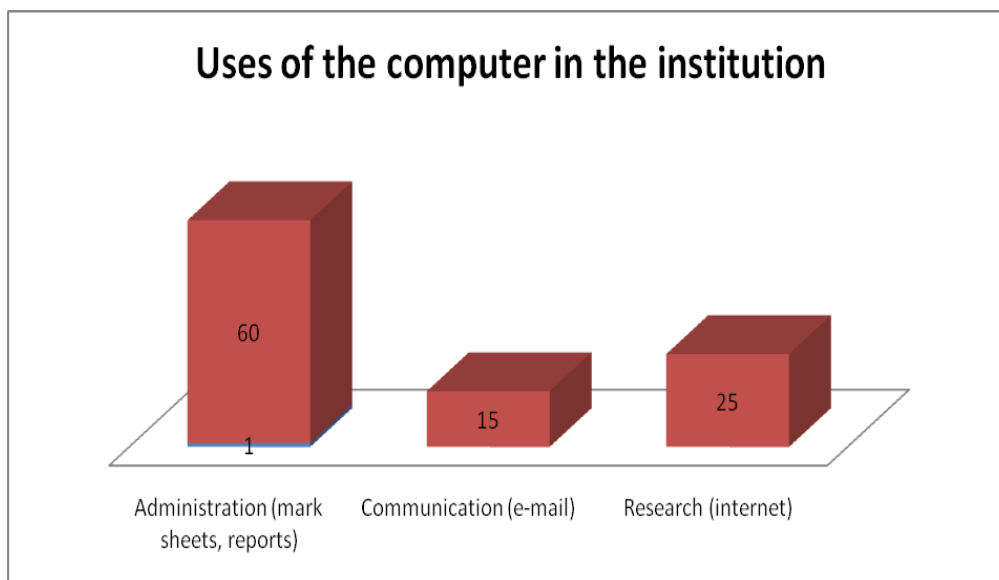


Figure 4.12: Uses of Computer in Schools by Teachers

According to the findings of the study as shown in table 4.8, majority of the head teachers 50%, (n=5) mentioned that the computers were mainly used for administrative duties in schools that had them, 30%, (n=3) felt that they were used for typing, 10%, (n=1) observed that it was for research while the remaining 10%, (n=1) noted that it was being used for teaching and learning. The main use of computers according to the head teachers was for administrative duties as shown above. However, according to data gathered from teachers supported the head teachers' views as they mainly mentioned that computers in primary schools within Khwisero district were used for administrative duties. The results showed that a majority of 60%, (n=60) mentioned that computers were used by schools that had them for administration, 25%, (n=25) mentioned that it was being used for research and lastly 15%, (n=15) observed that it was used for communication as presented in figure 4.12 above. The study also sought to ascertain the source of power that the schools that had computers were using and, 40%, (n=4) of the head teachers mentioned that battery was the main source of power being used to power computers while 60%, (n=6) felt

that there was no source of power in their schools. This shows that most primary schools in Khwisero lacked power or electricity that could be used to power computers which may explain the lack of computers in these schools. According to the researchers observation, 10%, (n=1) of the schools had electricity as a power source, 30%, (n=3) used battery while 60%, (n=6) lacked a power source indicating that most primary schools lacked any form of power in Khwisero district.

4.4.3 Other ICT Facilities Available apart from Computers

As shown below, the study also sought to identify the availability of other ICT facilities other than computers. The results from head teachers are as shown in table 4.9.

Table 4.9: Other ICT Facilities Available apart from Computers

Other ICT Facilities Available	Population	Frequency	Percent
Mobile phones	23	4	40.0
Radio	23	4	40.0
Television	6	1	10.0
None	6	1	10.0
Total	58	10	100.0

Table 4.9 presents' principal's views on other ICT gadgets available in primary schools apart from computers and according to the majority of head teachers 40%, (n=4) mentioned that radios were available, another 40%, (n=4) mentioned that mobile phones were available while 10%, (n=1) mentioned that television was available in their schools. This shows that phones and radios are the most available ICT equipments are radios and phones while conspicuously missing are printers, copiers, laptops among others. The researchers also observed that none of the primary

schools in the district had printer for printing documents not even the 10% that had computers, lacked photocopying machines, fax machine and laptops, however the schools had radios. Several ICT facilities exist in these schools however the teachers and head teachers require more mobile phones as there are some with radios, videos, and internet connectivity among other important aspects. This gadget is more similar to computers especially the newer versions of phones, hence compared to radios at least teachers should be able to own one. None of the teachers in Khwisero primary schools get involved in online registration of the KCPE candidates as the results showed. All the n=100 teachers said that the head teachers were responsible for online registration as they (teachers) did not participate in the process. From the study findings only head teachers get involved in online registration process.

4.4.4 Use of Computers to Prepare Schemes of Work and Entering Students Report Forms

The results presented above shows that according to majority of primary school head teachers in Khwisero district 80%, (n=8), computers were not being used in majority of the primary schools in Khwisero to prepare schemes of work and enter pupils reports with only 20%, (n=2) mentioned that they were being used for this purpose. The low number of computer usage in these tasks can also be attributed to lack of the facility and limited skills among the teachers themselves. To improve the use of computers in this task, it is important for schools to improve teachers' computer skills as well as the availability of computers in schools.

Most of the public primary schools in Khwisero lack computers according to this study. The researcher suggests that the school administration as well as the ministry of

education should buy more computers for schools in this district for this may go a long way in improving online registration of candidates as well as teachers and head teachers' knowledge in computer use. Gulbahar (2007) also agree that for there to be efficient use, facilities must be available. The MOE (2007) also observed that computers have been distributed to schools mainly secondary schools in Kenya. However, primary schools must have missed out as in Khwisero district, majority of schools lack this important ICT facility. Schools with computers in Khwisero district only had one computer. This is not enough for the entire school administration the number of computers should be at least 4 to avoid competition for its use. Hence schools with 1 computer should be added 3 more while the majority without require 4 computers. Though the MOE (2007) indicate that schools had been given computers, they fail to show how many computers were being distributed per school. In Khwisero, Computers were available in administrative offices and the school computer laboratories. It is fine to have a computer in the administrative office however, the schools need to focus more in having the available computer used in a computer lab as here every teacher would have an opportunity to use and share this facility. Wilding & Blackford (2006), Frank & Zhao, (2003) and Kay, (2006) all agree that in many schools computers are being used mainly for administrative duties. Though they further show that the most effective way of ensuring computer use is through computer laboratories which allows both teachers and learners access.

Other avenues where head teachers could access computers in the study area included at home, in the nearest markets and at a friend's place. Apart from these results a different study by Granger, et.al (2002) showed that computers can be accessed in cyber cafes as well as well. Apart from administrative uses, the computers through the

internet could be an important source of learning for teachers on their areas of studies. This could further improve their skills and make it easier for schools to register students online without looking for professional assistance. Results from Kay, (2006) study supports the findings of this study however the researcher observed that this facility could be used to communicate through mails, conduct presentations as well as for entertainment. Computer usage relies solely on power. Lack of electricity in most if not all of the schools therefore makes it difficult for schools to purchase computers or even use them if they have them. Instead of using battery for schools with computers, it is safer to use renewable energy such as solar panels instead. More therefore needs to be done to improve availability of power in Khwisero district primary schools. Power especially electricity has also been shown by Hodgkinson-Williams, Sieburger & Turzol (2007), Gulbahar (2007) and Langimia (2009) as being important for computer usage. A study by Ford (2007) showed that Kenya has approximately 19890 primary schools, 15% of these have electricity. This shows lack of electric power in most Kenyan primary schools just as the current study showed.

Television, radio and cell phones were found to be in use within primary schools in the study area. Becta, (2003) and Yang, (2003) also agreed with these findings as they noted that cell phones are among the ICT facilities that are being used. They further show that fax machines, duplicators for movies, photocopy machines are some of the ICT facilities found in schools. Just like in Khwisero district, no other study lends support to the involvement of teachers in online registration unless with the permission of the head teacher (MOE, 2007). None of the teachers had experience in using ICT for online registration hence all found the question not applicable. This shows that no teacher in Khwisero has any experience in online registration of KCPE

candidates. This is understandable given the lack of computers and limited knowledge in computer use among them. The result supports Pelgrum (2001) who noted that the success of Educational Innovation depends largely on the skills and knowledge of the head teachers. The use of ICT for preparation of schemes of work and entering pupils report was very minimal in the study area, however, despite the limited use of ICT to perform these functions, Boody, et al., (2005) and Becta (2000) showed that the facilities helped teachers in preparation of schemes of work, lesson plans, assessment tests and filling of report cards.

4.5 Effectiveness of New System of K.C.P.E Registration

In an attempt to show the effectiveness of online registration systems, the researcher asked several questions which addressed the third objective of this study which was to assess the effectiveness of the new system of K.C.P.E registration. The analysis was done descriptively using SPSS software. The results are presented using percentages in figures while frequencies and percentages are used to present results in tables. The following results were gathered during the study.

4.5.1 Time used in Registering your Candidates Online

The researcher sought to find out the time or duration it takes for head teachers to register their KCPE candidates through online registration process. The findings of this study are as discussed in table 4.10 below.

Table 4.10: Time used in Registering Candidates Online by Schools

Registration duration	Population	Frequency	Percent
3 days	12	2	20.0
5 hours	17	3	30.0
12 hours	12	2	20.0
Less than 2 hours	17	3	30.0
Total		10	100.0

Time used to register candidate online by the school head teachers in Khwisero district varied from one primary school to the next. As shown in 4.10, 20%, (n=2) of the head teachers used 3 days to complete registering, 30%, (n=3) used 5 hours, 20%, (n=2) used 12 hours while 30%, (n=3) used less than hours to register. This indicates that the most time the schools used for online registration was 5 days with a few using less hours to register their candidates online. This shows wastage of time in a process that could otherwise take a few minutes or hours to accomplish if the persons responsible had adequate knowledge on how to handle it. However the long registration period may be explained by larger number of candidates in most of the schools in the district. None of the head teachers experienced any difficulties in making corrections during online registration of their candidates. This indicates a smooth process of correcting errors during this process. According to the results from the primary school head teachers in this district, a majority of 70%, (n=7) received their online registration feedback for their candidates on the spot while for the remaining 30%, (n=3) the feedback came back after a few minutes. On feedback generation, the study shows that most head teachers had immediate feedback during

online registration which is the reason why this registration process needs to be implemented in every school.

4.5.2 Benefits Attained During Online Registration Process

The benefits that arise from online registration of candidates in Khwisero district primary schools according to the head teachers are as presented in table 4.11 and discussed below.

Table 4.11: Benefits Attained During Online Registration Process

Benefits	Population	Frequency	Percent
It is efficient	12	2	20.0
Could ascertain errors and correct them immediately	6	1	10.0
Reduced paper work	6	1	10.0
It is fast and convenient	29	5	50.0
	58	10	100.0

According to majority of head teachers 50%, (n=5), online registration was faster and convenient to most of them while ascertaining errors and immediate correction and well as reduction in paper work was mentioned by 20%, (n=2) of the study participants as shown in table 4.11 above. Online registration is efficient and reliable means of correcting errors. This is because of ease of conducting such processes. Hence these findings only confirm the need for ICT facilities in primary schools in Khwisero district Kenya.

4.5.3 Effectiveness of ICT registration process as far as KCPE is concerned

The study also sought to determine the effectiveness of ICT online registration in Khwisero district primary schools. The results from the teachers are as presented in the figure that follows.

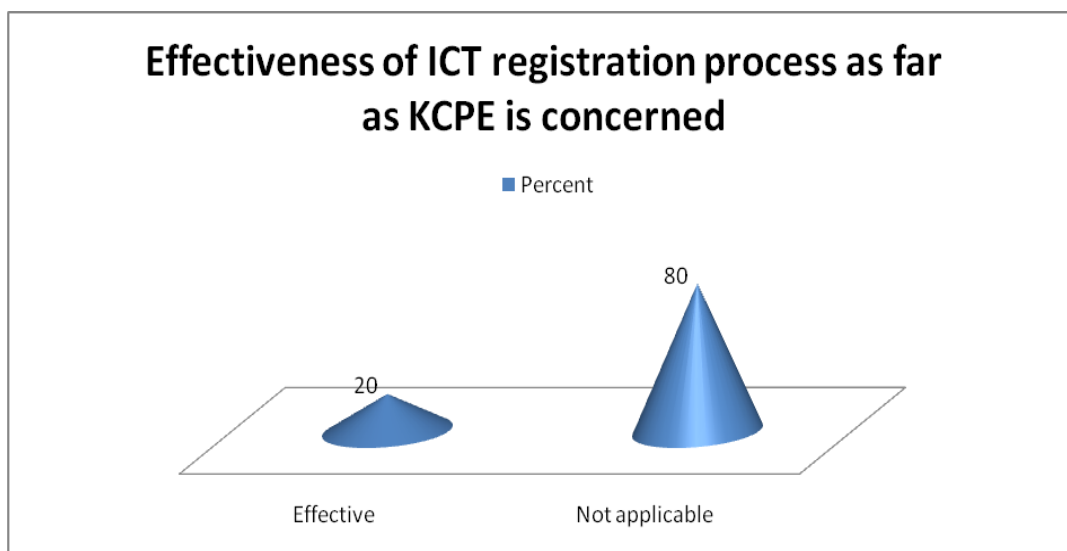


Figure 4.13: Effectiveness of ICT registration process by head teachers as far as KCPE is concerned

As the study findings in figure 4.13 show, only 20%, (n=20) of head teachers found the use of ICT to register candidate effective as shown above. For the schools with computers and internet connectivity, online registration for candidates is effective in this district. This therefore shows that there is a need for introduction of computer use in primary schools.

Online registration often took hours in Khwisero district public primary schools. These results are in agreement with that of Becta, (2003) and Yang, (2003) that indicated that the use of computers reduces the amount of time taken to complete a task that would normally take longer hours when done manually. The results of the study showed that ICT usage in primary school online registration provided

immediate feedback. Boody, et al., (2005) held the same view as those of they showed that the use of ICT enables quicker reception of feedback on activities and services delivered. Being fast and convenient is the main benefits that the study showed to be derived from the use of ICT for online registration in Khwisero district public primary schools. Boody, et al., (2005) agreed with these views by stating that the use of ICT helps in reducing the work load of the teacher, which include preparation of schemes of work, lesson plans, assessment tests and filling of report cards. The current study show that in school with computers, registration of candidates using ICT was found to be effective. These findings are supported by the views of UNESCO (2000) which show that the use of ICT in many processes is very effective and necessary if outcomes are to be improved and end results achieved.

4.6 Challenges Posed by the New Registration Systems

In this section, the researcher addresses the fourth objective of this study which was to find out challenges posed by the new registration system. The analysis was done descriptively using SPSS software. The results are presented using percentages in figures while frequencies and percentages are used to present results in tables. The results are as follows.

4.6.1 Availability of Candidates Sitting for KCPE Examination

Again, all the head teachers unanimously agreed 100%, (n=10) that they had candidates who were sitting for KCPE in their schools for the 2013 national examinations. For this reason all the primary schools require computers as well as experts in operating them. The number of KCPE candidates varied from one school to another. The results from the head teachers are as presented in table 4.12 below.

Table 4.12: Number of Candidates Registered for KCPE

Number of Candidates	Frequency	Percent
Above 60	1	10.0
21-40	4	40.0
41-60	3	30.0
Less than 20	2	20.0
Total	10	100.0

As shown by the findings in table 4.12, 10%, (n=1) had over 60 candidates, 30%, (n=3) had between 41-60 candidates, 20%, (n=2) had less than 20 registered KCPE candidates while a majority of 40%, (n=4) had between 21-40 registered KCPE candidates. This indicates that the number of candidates registered for KCPE during the time of this study varied from one school to the next. This may be influenced by performance of schools and proximity of schools to learners. As findings showed, all the head teachers 100%, (n=10) mentioned that they experienced challenges during online registration process for KCPE candidates. Challenges that were found to face schools during online registration process are as the table (for the head teachers) and figure (for teachers) below present.

Table 4.13: Head Teachers Views on Challenges Faced During the Registration Process

Challenges	Population	Frequency	Percent
The process is tedious and involving	24	4	40.0
Expensive	17	3	30.0
Time consuming	17	3	30.0
Total	58	10	100.0

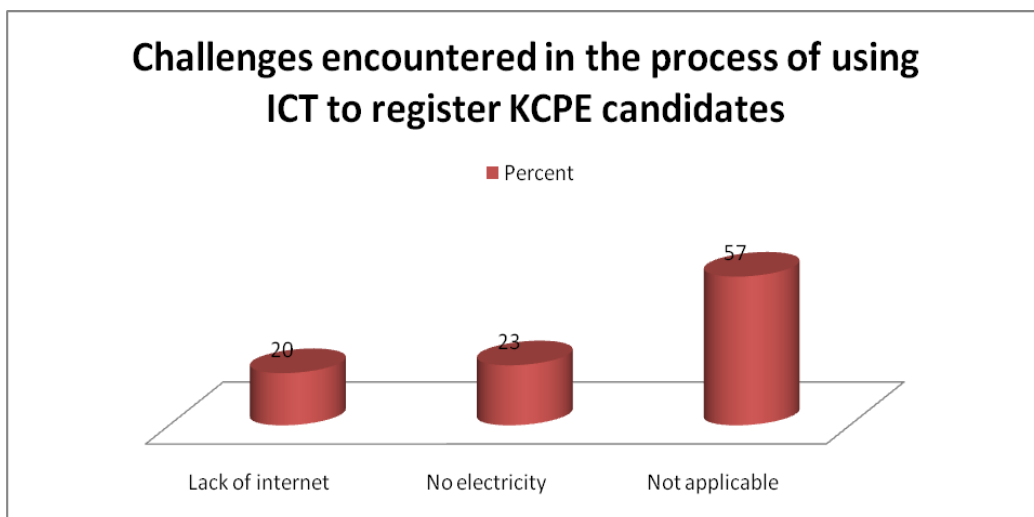


Figure 4.14: Teachers Views on Challenges Faced by Schools during the Registration Process

Table 4.13 presents findings on the challenges that the primary school head teachers experience during online registration of KCPE candidates and as the results indicates a higher number of 40%, (n=4) found the online registration as being tedious and involving, 30%, (n=3) found it expensive while another 30%, (n=3) found it time consuming. The online registration process is commonly viewed by majority of primary school head teachers as being tedious and too involving as shown above. The challenges faced during online registration according to the teachers included lack of internet access as mentioned by 20%, (n=20) of the teachers while 23%, (n=23) mentioned lack of electricity. These findings are as presented in figure 4.14 above. These challenges are however out of place first because computers eases work, minimizes time taken to complete a process and the cost should not even exist. However the respondents failed to mentioned lack of skills in computer use by head teachers and teachers as this is by far the biggest challenge base on the findings of this study. Majority of the schools lacked a computer specialist that is individuals with capabilities of operating and repairing computers. According to the results, only 10%,

(n=1) of schools in Khwisero district have computer specialists with a majority of 90%, (n=9) did not. Lack of computer specialists in skills in terms of skilled teachers and head teachers makes it clear that online registration of candidates is a challenge in the district. This is however no surprise given the lack of knowledge among teachers and head teachers in computer use in the district. Given these results, the head teachers therefore may be forced to source for an external expertise for a service they themselves or their teachers could do if they had necessary training. According to the results showed, a majority of primary school head teachers for Khwisero district 60%, (n=6) felt that teachers should have basic education on computers while 40%, (n=4) mentioned that they should have necessary skills in operating computers as shown above. The results indicate that teachers in this district require complete training on how to operate a computer as this would help them learn different aspect of this ICT facility.

4.6.2 Policy Interventions that can be used to Increase Quantity of Computer Use

The policy interventions for increasing quantity of computers according to the head teachers are as presented in the table below.

Table 4.14: Policy Interventions that can be used to Increase Quantity of Computer Use

Policy interventions	Population	Frequency	Percent
Train the teachers with relevant ICT	17	3	30.0
Employ technicians	17	3	30.0
Provision of the school with ICT equipments	12	2	20.0
Organize workshops for teachers	12	2	20.0
Total	58	10	100.0

Policy interventions that could be used to increase the quantity of computers in schools are as presented in table 4.14 above. According to the data in the table, 30%, (n=3) of the head teachers believed that teachers requires ICT training, another 30%, (n=3) believed that employment of computer technicians was necessary, 20%, (n=2) observed that providing schools with computers was another strategy while the remaining 20%, (n=2) observed that organizing computer training workshops was another intervention that could be used. All of these policy interventions are very essential and therefore the researcher believes that their implementation would help not only improve computer use skills but also make online registration effective, cheap and timeless.

Accessibility and knowledge in computer use has been shown by the MOE (2007) as some of the challenges facing online registration of candidates for national examinations. These are however different from the above challenges observed in this study. Though this study showed that majority of head teachers and teachers lacked computer specialists, a study by Bandele (2006) showed similar results however, the authors reiterated that any employee working in a position that requires computer literacy should acquire all the necessary skills acquired through professional training. Lastly this study showed that skills for operating computer are necessary in order to improve efficiency and effectiveness despite the fact that the respondents lacked it. This view is again supported by Bandele (2006) who states that every employee requires complete knowledge in computer use if their work is to improve. Several policy interventions for improving quality and quantity of computer use in public primary schools were proposed among them providing ICT training for teachers. This finding is supported by Becta (2005) who also showed that training and improving access to ICT facilities could improve quality of computer use within schools.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

This section presents a summary of the findings of the study as presented in chapter four. The analysis is arranged based on the study objectives as shown below.

5.1.1 Head Teachers' and Teachers' Proficiency in ICT.

Based on the study findings, more head teachers 70%, (n=7) had knowledge on computer use in the study area. The findings from the teachers on the other hand showed that 74%, (n=74) of them had poor proficiency in computer usage. This is supported further by the findings of the study which indicated that majority of 65%, (n=65) of the teachers having not yet encountered computers either in their work or in their private lives. For teachers who are proficient in computer use, a majority of them (26%, n=26) had only used the facility for less than 2 years. The study further showed that the software mostly used by head teachers (60%, n=6) in Khwisero district primary schools was Microsoft word while the teachers (45%, n=45) mainly relied on internet explorer for browsing the internet. Majority of head teachers (60%, n=6) lacked knowledge in the use of Microsoft Excel software. The research further indicate that majority of the head teachers (60%, n=6) on the other hand could print a document. Most of teachers (49%, n=49) had not attended any form of training in computer use within colleges while on the other hand fewer head teachers (30%, n=3) had received this type of training as majority of them trained at home. The skill that was mostly felt to be important for administrators in ICT use according to the study results was the ability to be able to start and shut down a computer properly (40%, n=4), the other skills were the ability to use Microsoft office word and excel (30%,

n=3) as well as having training on computer use respectively. According to the findings, most head teachers did not use computers frequently in the study area (60%, n=6). This may be due to the lack of the facilities in primary schools within the district.

5.1.2 Availability of Computers in Primary Schools in Khwisero

Almost all of the schools (90%, n=9) studied lacked computers according to the study findings. The school that indicated availability of computers (10%, n=1) only had one computer. Majority of the primary school head teachers (50%, n=5) first encountered a computer in the local markets in the district while others encountered it during training and at the DEO's office respectively. The available computer was normally used at a computer lab in the study area. Apart from computer lab, the study found out that computers were normally used in the nearest market places and at friend's places (50%, n=5). Computers were mainly found to be used for administrative purposes (50%, n=5) while other uses included typing (30%, n=1), research (10%, n=1), teaching and learning (10%, n=1) and lastly communication (15%, n=15). The main source of power for computer use was found to be battery the other source was found to be electricity though in limited schools. The ICT gadgets available in Khwisero district primary schools apart from computers included radios (40%, n=4) and mobile phones (40%, n=4). None of the teachers in Khwisero primary schools (100%, n=100) get involved in online registration of the KCPE candidates as the results showed. The results showed that computers were not being used in majority of the primary schools 80%, (n=8), in Khwisero to prepare schemes of work and enter pupils reports with only 20%, (n=2) mentioned that they were being used for this purpose.

5.1.3 Effectiveness of New System of K.C.P.E Registration

Time used to register candidate online by the school head teachers in Khwisero district varied from one primary school to the next. It took 20%, (n=2) of the head teachers 3 days to complete registering, 30%, (n=3) used 5 hours, 20%, (n=2) used 12 hours while 30%, (n=3) used less than hours to register. None of the head teachers (100%, n=10) experienced any difficulties in making corrections during online registration of their candidates. According to the results majority of schools 70%, (n=7) received their online registration feedback for their candidates on the spot while for the remaining 30%, (n=3) the feedback came back after a few minutes. For most schools, online registration was faster and convenient (50%, n=5) while ascertaining errors and immediate correction (10%, n=1) as well as reduction in paper work (10%, n=1) was a challenge for others. Online registration of candidates was found by the study to be ineffective (80%) as only a few schools (20%) found the process effective.

5.1.4 Challenges Posed by the New Registration Systems

All schools in the study area (100%, n=10) had candidates sitting for KCPE examinations. The number of candidates ranged from less than 20 to over 60 candidates per school. Every school studied (100%, n=10) experienced some form of challenge during online registration. The main challenge was found to be tedious and involving (40%, n=4), lack of power source (23%, n=23), expensive (30%, n=3), time consuming (30%, n=3) and lastly lack of internet access (20%, n=20). Majority of the schools (90%, n=9) were found to lack computer specialist. The main skill needed for teachers in order to use ICT facilities effectively was found to be the acquisition of basic education on computers (60%, n=6), the other skill was found to be the acquisition of necessary skills in operating computers (40%, n=4). Policy

interventions that could be used to increase the quantity of computers in schools were found by the study to include ICT training (30%, n=3), employment of computer technicians (30%, n=3), provision of computers in schools (20%, n=2) as well as organizing computer training workshops (20%, n=2).

5.2 Conclusions

Based on the study results, the researcher makes the following conclusions.

- The research observed that more principals than teachers in the study area had poor proficiency in computers.
- The researcher also concludes that there are numerous schools in Khwisero district that lacked computers. This figure is way higher than that of schools that have a computer in this district.
- Online registration as a process however was found to be effective amongst those who used it. However it is important to note that the schools normally hired someone with a laptop or computers in order to help with this process due to lack of ICT in almost all of the schools.
- Online registration systems pose a lot of challenges to teachers and principals in Khwisero district and this is justifiably so because the level of computer use knowledge among the primary school teachers and lack of the computers and electricity within the schools. Therefore head teachers in Khwisero primary schools can be said to be facing various challenges while doing online registration of KCPE of the candidates.

5.3 Recommendations

The study makes the following recommendations:

1. In-service training is required to improve the level of knowledge and the number of teachers who can effectively operate a computer as the results show poor level of knowledge in computer operations
2. There is need for a concerted effort from parents, teachers and the government to ensure that all primary schools have at least a single computer as the study showed that majority of schools lacked this gadget
3. There is a need to improve the effectiveness of online registration among primary school teachers and principals in the district if this system of registering KCPE candidates is to be considered a success as in some cases the process took days
4. There needs to be effective strategies to help deal with the challenges facing principles due to online registration and these may include provision of electricity to all schools as well as hiring a qualified computer specialist

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APPENDICE

APPENDIX ONE: QUESTIONNAIRE FOR TEACHERS

Introduction

This questionnaire is designed to collect information about on-line registration of the KCPE candidates at primary level.

The objective is to determine the problems encountered by the head teachers in Kwisero District upon the introduction of online registration of KCPE candidates at primary school level.

I would like to ask you some few questions concerning the same.

The information obtained here will ONLY be used for the research purpose and shall be treated in confidence.

Thank you for your time.

PART A: BIO DATA

Please tick where applicable

1. Name

Sex: MALE [] FEMALE []

2. How old are you?

Under 30yrs [] 30-50yrs [] Over 50yrs []

3. What is the name of your school?

.....

4. What are your qualifications?

PHD [] MASTERS [] DEGREE []

DIPLOMA [] P1 []

5. How many years have you been in a teaching position or role?

.....

6. What are your teaching subjects?.....

PART B: PROFICIENCY LEVEL OF THE TEACHER.

7. What is your level of computer literacy?

Poor [] Moderate [] Not that good []

Excellent [] Good

8. Where did you first have encounter with computer?

High school [] College [] Computer training School []

9. How many years have you been using computers and related technology?

Less than 2yrs [] More than 6yrs []

More than 2yrs but less than 6yrs []

10. What training have you received to use computer

None at all [] Through own studies []

Arranged by the DEO [] Arranged by the school []

From family and friends []

11. If you use computers which software do you use most often?.....

.....

12. How would you rate your level of expertise in computer use?

Tick the one that applies	Level of expertise
[]	No expertise-cannot use computers at all
[]	Fair –able to operate basic computer functions and word processing application
[]	Good-able to use office application (word processor, spread sheet, presentation software)
[]	Very Good –all the above skills including use of internet and internet resources
[]	Excellent-all of the above including use of e-mail, internet surfing and searching

13. Please indicate whether you have access to computers and internet in the following locations

	Access to computers		Access to internet	
	Yes	NO	Yes	No
Institution				
Home				
Nearest town				
Other(specify)				

14. Where do you use computers in your institution?

(Tick all that apply)

In my office Staffroom Computer lab
 Class room Library other (state)

15. For what purpose do you use computers for?

- Administration (mark sheets, reports)
- Communication (e-mail)
- Research (internet)
- Teaching and learning
- Marketing

16. Did you participate in the registration process of KCPE candidates of your school?

Yes No

17. If you did, what was your experience in using ICT (online registration) in registering KCPE candidates?

.....

18. Would you term it as effective or more efficient as far as registration of KCPE is concerned? Explain further

.....

19. What challenges or difficulties did you encounter in the process of using ICT to register KCPE Candidates?.....
.....

20. Can you determine the surrounding community's Perception of the process as good, poor or confused?
.....

21. In a scale of 1-5 how would you rate the ministry of education and the Kenya National Examination Council (KNEC) in their effort to improve quality and efficiency in education sector? (Where 1 is the smallest value while 5 is largest)

Poor [] Moderate [] Not that good []
Excellent [] Good []

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE

**APPENDIX TWO: INTERVIEW SCHEDULE FOR
HEADTEACHERS**

OBJECTIVES	MAIN QUESTION	PROBING QUESTIONS
<p>1. To assess Head teacher's proficiency in ICT</p>	<p>What is the level of head teacher and teachers proficiency in ICT?</p>	<ol style="list-style-type: none"> 1. Can you kindly tell me about yourself and your interest in ICT? 2. Do you know how to use a computer? 3. Can you start and shutdown a computer? 4. If you use computer which software do you use most often? 5. Do you know how to use Microsoft office word? 6. Do you know how to use excel? 7. Can you print a document using ICT facilities? 8. Where did you first have an encounter with a computer? 9. Have you received any training on how to use computers? 10. Can you tell us where you received it? 11. What do you feel are important skills an administrator should possess on ICT? 12. How would you help other staff members to overcome their difficulties/reluctance in using computers?

<p>2. To assess the availability of computers in primary schools in Khwisero District.</p>	<p>To what extent are the ICT facilities available for online registration?</p>	<p>13. Do you have computers in school? 14. How many are they? 15. Where do you use computers in your institution? 16. How often do you use computer and for what purpose? 17. Apart from school where else do you have access to computers? 18. Do you have internet connectivity? 19. If not which source of power do you use? 20. Apart from computers which other ICT facilities do you have? 21. What are some of the tasks that you use computers for? 22. Do you use computers to record student's enrolment and drawing school budget? 23. Do you use ICT facilities to communicate with teachers and stakeholders? 24. Do your teachers use computers in preparing schemes of work and entering Students report forms? 25. In what ways would parents help the school acquire ICT facilities?</p>
<p>3. To find out challenges posed</p>	<p>What are the challenges facing</p>	<p>26. Do you have candidates sitting for K.C.P.E examination?</p>

<p>by the new registration system.</p>	<p>the adoption of the new K.C.P.E online registration?</p>	<p>27. How many are they? 28. Did you face any challenges during the registration process? 29. Can you please tell us some of the challenges you experienced? 30. Is there any computer specialist in school? 31. What skills do you think teachers should have to enable them use ICT effectively? 32. What are some of the policy interventions that can be used to increase the quantity of computer use?</p>
<p>4. To assess the effectiveness of the new system of K.C.P.E registration.</p>	<p>What are the perceived benefits of K.C.P.E online registration?</p>	<p>33. How many hours did you use in registering your candidates online? 34. Did you have any difficulties in making corrections in the entries? 35. How long did it take for you to receive the feedback that the candidates had been registered? 36. What was the response of candidates and the parents in using ICT for registration? 37. Can you tell us some of the benefits you attained during the registration period</p>

APPENDIX THREE: OBSERVATION CHECK LIST

AVAILABILITY OF ICT FACILITIES IN SCHOOL

FACILITIES	OPERATIONAL	NOT FUNCTIONAL	NOT AVAILABLE
How many Computers are in school?			
Printers			
Mobile phones			
Radio			
Internet services			
Computer lab			
Photocopying Machine			
Fax Machine			
Lap-top			
Source of power			

APPENDIX FOUR: APPROVAL LETTER



KENYATTA UNIVERSITY GRADUATE SCHOOL

E-mail: kubps@yahoo.com
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Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

Our Ref: E55/CE/22808/10

Date: 15th October 2013

The Permanent Secretary,
Ministry of Higher Education, Science & Technology,
P.O. Box 30040,
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR MS. MBUNE ABISAKI BEATRICE - REG. NO. E55/CE/22808/10

I write to introduce Ms. Mbune Abisaki Beatrice who is a Postgraduate Student of this University. She is registered for an M.Ed degree programme in the Department of Educational Management, Policy & Curriculum Studies in the School of Education.

Ms. Mbune intends to conduct research for a thesis project entitled, "Challenges Facing Headteachers in Effective Implementation of KCPE Examination Online Registration in Public Primary Schools in Khwisero District, Kakamega County."

Any assistance given will be highly appreciated.

Yours faithfully,

**MRS. LUCY N. MBAABU
FOR: DEAN, GRADUATE SCHOOL**



LNm/fwk

APPENDIX FIVE: RESEARCH AUTHORIZATION



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

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9th Floor, Utalii House
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NAIROBI-KENYA

Ref. No.

Date:

14th November, 2013

NACOSTI/P/13/7044/305

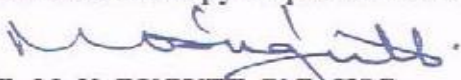
Beatrice Abisaki Mbune
Kenyatta University
P.O.Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on "*Challenges facing headteachers in effective implementation of KCPE Examination online registration in public primary schools in Khwisero District, Kakamega County,*" I am pleased to inform you that you have been authorized to undertake research in **Kakamega County** for a period ending **1st January, 2014.**

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

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


DR. M. K. RUGUTT, Ph.D, HSC.
DEPUTY COMMISSION SECRETARY
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Copy to:

The County Commissioner
The County Director of Education
Kakamega County