INSTRUCTIONAL SUPERVISION OF COMPUTER STUDIES CURRICULUM BY SECONDARY SCHOOL PRINCIPALS IN NAKURU EAST SUB-COUNTY, NAKURU COUNTY, KENYA

BY

MAISO ONKUNDI NEWTON

A THESIS SUBMITTED TO THE SCHOOL OF EDUCATION, DEPARTMENT OF CURRICULUM, INSTRUCTION AND EDUCATIONAL MEDIA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF DEGREE OF MASTER OF EDUCATION DEGREE IN CURRICULUM DEVELOPMENT

MOI UNIVERSITY

OCTOBER, 2019

DECLARATION

Declaration by the Candidate

This thesis is my original work and has not been presented for a degree in any other university. No part of this thesis may be reproduced without the prior permission of the author and/ or Moi University.

Sign: _____ Date: _____

MAISO ONKUNDI NEWTON
EDU/PGCM/1002/11

Declaration by the Supervisors

This thesis has been submitted with our approval as university supervisors.

Sign: _____ Date: _____

PROF. ANNE KISILU
Department of Curriculum
Instruction & Educational Media
School of Education
Moi University
ELDORET, KENYA.

Sign: _____ Date: _____

DR. ALICE YUNGUNGU
Department of Curriculum
Instruction & Educational Media
School of Education
Moi University
ELDORET, KENYA.

DEDICATION

I dedicate this thesis to my entire family and friends for their encouragement, assistance, co-operation and patience which enabled me to complete my thesis writing.

ACKNOWLEDGEMENTS

I wish to thank all those who helped me in the thesis writing and without them I could not have done much: First and foremost, I would like to express my appreciation to all my lecturers and staff from the School of Education, Moi University. Special thanks go to my supervisors Prof. A. Kisilu and Dr. A. Yungungu for their invaluable guidance, continuous evaluation of this thesis and their informed and focused suggestions that provided the main impetus during the entire period of the preparation and writing of this thesis. I acknowledge all my friends and fellow students who may have contributed in one way or another during the preparation of this work. Special gratitude to my family, my dear wife Phelisters and my loving daughter Cailyne for their love and moral support during the thesis writing period. My parents Mr. and Mrs. Maiso, brothers and sisters for their encouragement in this programme. I would also like to convey sincere gratitude to all the respondents who participated in this study.

May all glory be to the Almighty God through whom all things are made possible.

ABSTRACT

The Principal plays various roles in a school and one of the most important one is the role of being an instructional supervisor. The purpose of this study was to investigate instructional supervision of Computer Studies curriculum by secondary school principals in Nakuru East Sub-County, Nakuru County. This study was guided by the following objectives: To determine how principals' mobilization of personnel influences instruction in Computer Studies in secondary schools in Nakuru East Sub-County, to determine how the principals mobilize material resources for instruction in Computer Studies in secondary schools in Nakuru East Sub-County, to establish how teacher motivation influences instruction in Computer Studies in secondary schools in Nakuru East Sub-County and to establish how the principals monitor evaluation in Computer Studies curriculum in secondary schools in Nakuru East Sub-County. The study was based on the contingency theory. The study adopted descriptive design. The research method used was mixed method that is qualitative and quantitative research methods. The population under study comprised 43 secondary schools in Nakuru East Sub-County offering Computer Studies. The target population comprised the 53 teachers of Computer Studies within Nakuru East Sub-County and 43 principals within Nakuru East Sub-County. The sample of this study consisted of 53 teachers of Computer Studies in secondary schools in Nakuru East Sub-County and 43 principals within Nakuru East Sub-County. All the teachers of Computer Studies were included in the study. A structured questionnaire was administered to the 53 teachers of Computer Studies, an interview schedule was administered to 43 school principals and an observation guide was used to collect data on the availability of resource materials thus it assisted in achieving the second objective. Data analysis was done using descriptive statistics such as frequencies and percentages. Findings were presented in tables. The researcher found out that some schools had no formally trained teachers to teach Computer Studies and there were no sufficient technicians to work on faulty computers. Material resources used in the teaching of Computer Studies were not sufficient. The researcher concluded that very few schools had formally trained teachers of Computer Studies as recommended by the Teachers Service Commission. Most of the schools had hired computer literate personnel to teach students. The study recommended that schools through the principal who is a TSC agent should hire formally trained teachers to teach Computer Studies. Stakeholders should also make material resources available. The findings would help all educational stakeholders as it will lay a foundational framework for maintaining effective instructional supervision of Computer Studies in Kenya.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACRONYMS AND ABBREVIATIONS

CATS: Continuous Assessment Tests

ICT: Information and Communication Technology

KCSE: Kenya Certificate of Secondary Examination

KICD: Kenya Institute of Curriculum Development

KNEC: Kenya National Examination Council

MOE: Ministry of Education

NACOSTI: National Council for Science Technology and Innovation

SPSS: Statistical Package for Social Sciences

TSC: Teachers Service Commission

CHAPTER ONE

INTRODUCTION

1.1 Introduction to the study

This study is an investigation of instructional supervision of Computer Studies curriculum by secondary school principals in Nakuru East Sub County, Nakuru County. This chapter examines the introduction to the study which is composed of the background to the study, statement of the problem, purpose of the study, research questions, scope of the study, limitations of the study, justification, significance of the study, theoretical framework and conceptual framework.

1.2 Background of the Study

Instructional supervision is the process of organizing, evaluating the curriculum and encouraging members of an institution to contribute positively towards accomplishing goals and objectives (Goldhammer, et al 1980).

According to the TSC performance contract for head teachers 2016, the principal should perform the following key roles:

i. Ensure maintenance of teaching standards in curriculum implementation and delivery.
ii. Monitor the conduct and performance of teachers.
iii. Create a child friendly learning environment.
iv. Build and maintain cordial professional relationship with relevant stakeholders.
v. Supervise and appraise all teachers within the institution using the prescribed appraisal tool.
vi. Ensure prudent management of human, material and financial resources.

The principal is considered the instructional supervisor of a school programme. The instructional supervision relates to how the teaching process or instruction process of the study is undertaken within an institution (Kamene, 2014). The principal is expected to possess a superior knowledge about curriculum and instruction and to provide expert leadership in all areas of the programme (Eme, Emmanuel, & Ernest, 2015). The principal is in charge of a community of teachers, students and support staff for guidance and direction. The principal has the major task to ensure that all activities are conducted smoothly without tension, collision and frustrations by making sure that there is proper planning, control, supervision and use of school facilities for the benefits of the students (Kamene, 2014).

As a curriculum supervisor, the principal is the pivotal point within the school who effects the quality of individual teacher instruction, students achievement and the degree of efficiency in the school functioning (Mogire, 2015). The principal must be knowledgeable about curriculum development and teacher evaluation. Schools can make a difference to students' performance and principal's instructional supervision is one factor in that success or failure (Paraskeva, Bouta, & Papagianni, 2008).

In order to improve performance of the staff and learning achievement of pupils, the principal in collaboration with teachers should identify needs and set improvement targets, initiate school based support programmes which will improve the performance of staff and enhance student's achievement (Toili & Mutsotso, 2013). Being the head of an institution is a very demanding role to play. It involves being a good instructional supervisor.

Computer Studies was introduced as an optional subject within the secondary school education system in 1996. The main objectives of the Computer Studies included; appreciate a computer system; appreciate the technological development of computers; apply basic skills in the safe use and care of a computer system; develop skills to use application packages; and appreciate the role of computer applications in carrying out day-to-day business and organizational tasks (Kithungu, 2015). Objectives of Computer Studies included understanding of the role of Information and Communication Technology in mental, moral, social and spiritual development; develop abilities to interact more efficiently with the wider Community; appreciate the use of programming as a tool for problem- solving; appreciate the impact of computer technology on society and develop a firm base for further education and training(Kamene, 2014).

Since Computer Studies as a subject has not been in existence for long, many challenges have emerged in its implementation. As any other innovation, Computer Studies has faced barriers to its full implementation in all schools in Kenya (Kamene, 2014). Some of the barriers include; lack of clarity and awareness of the innovation among the stakeholders, lack of knowledge and skills required to conform to the new roles in the innovation, lack of competent teachers to perform the new roles in the new curriculum, incompatibility of the innovation to the existing organizational arrangements/structures, lack of resources, lack of time to understand and institutionalize the innovation and negative attitude by either both teachers and students (Kithungu, 2015).

Kenya as a country is in the process of realizing ICT integration in educational institutions. In line with Vision 2030, one of the key pillars that will make us realize the Vision 2030 is education and training and one of the flagship projects in this sector

is establishment of a computer supply programme whose main objective is to equip students with modern Information and Communication Technology skills in order to achieve the vision 2030 goal of mainstreaming Information Technology in schools (Kamene, 2014). The perceived benefit is improved access to ICT services in schools countrywide.

Also the government of Kenya pledged to issue laptops to pupils who join class one in every public primary school. Structures are being put into place so that the laptop project can start rolling out. All these are combined efforts which are aiming at mainstreaming ICT in the education sector in Kenya. An effective principal should provide instructional supervision especially in the areas of classroom teaching to enable him or her supervise curriculum organization management and implementation. Principals should play the role of internal inspector (Paraskeva et al., 2008). According to Odera (2012), if a school is to be an effective one it will be because of leadership of the principal. Although the principal must address certain supervision tasks to ensure an efficient school, the task of the principal must be on activities which pave way for high student achievement. Eme et al., (2015)state that the way school principals manage schools directly affects the implementation of key processes within their work structure which indirectly influences the school climate and organizational hierarchy and ultimately it affects and mould the formal structure of their schools in order to facilitate and encourage high student performance.

Principals are charged by the Ministry of Education and their employer Teachers' Service Commission (TSC) with the responsibility of treating teachers as professionals through giving them autonomy to act upon their work, creating a positive climate of high expectations for staff and students, frequent monitoring of results and providing

feedback to teachers and students, helping staff to identify and assist students with learning problems (Ngala, 1997). The way instructional supervision is carried out influences student academic outcome. The teachers play a critical role in schools including provision of the course content delivery to students, designing and administering examination, guiding and counseling of students, and assisting the management of the school.

Ngala (1997) in a research carried out in Eldoret Municipality observed that head teachers management practices namely, supervision, utilization, motivation, staff development, allocation of instructional resources and communication with teachers affected the achievement of pupils. The study concluded that proper management of teachers is important in the enhancement of pupil academic achievement. Nakuru Sub-County secondary schools in Nakuru County have consistently recorded poor performance in Computer Studies in National examinations and very low enrollment of students taking Computer Studies. KNEC KCSE reports of 2013 and 2014 attributed this to lack of proper instructional supervision by secondary school principals. While this could also be attributed to various factors, this study sought to establish instructional supervision of Computer Studies curriculum by secondary school principals in the area of study.

The overall performance of Computer Studies in Nakuru East Sub-County has been low as shown in the Table 1.1 below.

Table 1.1: K.C.S.E. Overall results for Computer Studies 2011-2014

	2011	2012	2013	2014
Mean Point	5.366	5.0484	5.092	4.901
Enrollment	197	162	170	148

Source: Nakuru East Sub-County Education Supplement 2014

The above table shows that performance in Computer Studies in Nakuru East Sub-County has been relatively below average and this has been attributed to lack of proper instructional supervision of Computer Studies curriculum by Secondary school principals. Scholars and researchers generally are in agreement that variables which include adequate personnel, availability of resources, motivation of teachers and monitoring evaluation of programmes by school heads plays a critical role in educational achievement.

The curriculum supervisor of any school is considered to be the single most important person who can actually transform the academic and other achievements of a school. Being the head of an institution is a very demanding role to play. It involves being good instructional supervisor. This research study therefore intended to investigate instructional supervision of Computer Studies curriculum by secondary school principals in Nakuru East Sub-County, Nakuru County.

1.3 Statement of the Problem

The principal plays various roles in a school but the most important one is the role of being an instructional supervisor. The principal is the one who sets the standards by managing school effectively, freeing the teachers to teach, directing learning process, serving as both evaluator and motivator (Odera, 2012). Everything the principal does is designed to serve students needs by putting academics first with academic

improvement being a common goal of any school principal (Kamene, 2014)..The government expects that various resources available to education including land, finances, teachers, time, facilities and equipment are managed properly and utilized in the most cost-effective manner to bring about efficient provision of quality and relevant education and in order to achieve this there must be proper supervision by principals as they are custodians of these resources at the school level.

Despite the efforts made to support Computer Studies as a subject, various challenges have been pointed out which include poor performance and very few students sitting for KNEC examinations. KNEC KCSE reports of 2013 and 2014 cite that these challenges are due to inadequate instructional supervision of the subject. The same report further observes that a head teacher registered more students for Computer Studies than there were facilities making them sit for their practical in a cyber café. These challenges have even made other schools to completely stop offering the subject. Therefore, this research required an urgent investigation because of dismal performance and low enrollment of students who sit for Computer Studies national examination at the secondary school level. Basing on the report above, there was a clear indication of an underlying problem facing instructional supervision of Computer Studies curriculum by secondary school principals. This research study therefore intended to investigate instructional supervision of Computer Studies curriculum by secondary school principals in Nakuru East Sub-County, Nakuru County.

1.4 Purpose of the Study

The purpose of this study was to investigate instructional supervision of Computer Studies curriculum by Secondary school principals in Nakuru East Sub-County, Nakuru County.

1.5 Objectives of the Study

The study sought to achieve the following objectives:-

i. To determine how principals' mobilization of personnel influences instruction in Computer Studies in secondary schools in Nakuru East Sub-County, Nakuru County.
ii. To determine how the principals mobilize material resources for instruction in Computer Studies in secondary schools in Nakuru East Sub-County, Nakuru County.
iii. To investigate how teacher motivation influences instruction in Computer Studies in secondary schools in Nakuru East Sub-County, Nakuru County.
iv. To investigate how the principals monitor evaluation in Computer Studies curriculum in secondary schools in Nakuru East Sub-County, Nakuru County.

1.6 Research Questions

The research questions that guided this study were:

i. How does the principals' mobilization of personnel influences instruction in Computer Studies in secondary schools in Nakuru East Sub-County, Nakuru County?
ii. In what ways do principals' mobilize material resources for instruction in Computer Studies in secondary schools in Nakuru East Sub-County, Nakuru County?
iii. How does teacher motivation influence instruction in Computer Studies in secondary schools in Nakuru East Sub-County, Nakuru County?
iv. How do the principals monitor evaluation in Computer Studies curriculum in secondary schools in Nakuru East Sub-County, Nakuru County?

1.7 Assumptions of the study

The following assumptions were made during the study

(i) That the research instrument was valid and reliable.

(ii) The population under study was homogenous hence the sample population chosen for study was to be a representative for all.

(iii) The respondents in their response were objective and reliable.

1.8 Scope of the study

The research study was on instructional supervision by Secondary school principals and was limited to Computer Studies curriculum in Nakuru East Sub-County, Nakuru County. Specifically, the study set out to investigate how principals' mobilization of personnel influences instruction in Computer Studies in secondary schools in Nakuru East Sub-County, determine how the principals mobilize material resources for instruction in Computer Studies in secondary schools in Nakuru East Sub-County, investigate how teacher motivation influences instruction in Computer Studies in secondary schools in Nakuru East Sub-County and to investigate how the principals monitor evaluation in Computer Studies curriculum in secondary schools in Nakuru East Sub-County. The study was carried out in forty three secondary schools involving a target population of fifty three teachers of Computer Studies.

1.9 Limitations of the study

The study dealt with a sensitive aspect of instructional supervision seeking to establish the extent to which instructional supervision of Computer Studies was done by Secondary school principals.

As a result;

(i) The respondents did not willingly volunteer to give relevant information on the problem feeling exposure of their weaknesses. The investigator assured the respondents of confidentiality of their views in order to eradicate this problem.

(ii) This study was also constrained by lack of local literature on instructional supervision of Computer Studies. The researcher reduced this by; relying more on literature on supervision in books, examination reports, journals and magazines related to this study.

(iii) The time and financial constraints did not allow a nationwide study to be undertaken. But it is hoped that this will stimulate more research to be undertaken in other Counties.

1.10 Justification of the Study

The research study was justified as it sought to determine the extent to which instructional supervision of Computer Studies curriculum was done by school principals, as a result, this thesis has;

(i) Added more information and data to the existing research in the quality of curriculum.

(ii) Found out the state of the Computer Studies curriculum and has devised appropriate ways of improving its quality.

The recommendations of the research study will be useful to school managers, Ministry of Education, Curriculum Developers, KICD, TSC, KNEC and other educational stakeholders.

1.11 Significance of the Study

This study is significant in the sense that it has:

1. Provided the necessary information for the practicing principals on how to improve their instructional supervisory skills.
2. The study has added information on the existing knowledge on supervision, hence a data bank for further research.
3. Provided suggestions for the improvement of instructional supervision of Computer Studies curriculum.

1.12 Theoretical Framework

Theories are perspectives with which people make sense of their world experiences. Theory is a systematic grouping of interdependent concepts (mental images of anything formed by generalization from particulars) principles (are generalizations or hypotheses that are tested for accuracy and appear to be true to reflect or explain reality) that give a framework to, or tie together, a significant area of knowledge. This study was based on the contingency model of leadership, (Fiedler, (1964,1967) which stipulates that leadership theory has increasingly turned to formulations which consider not only the leader`s personality or behavior, but also contingencies have been explicitly recognized by theorists like Vroom and Yelton (1973), House (1975), cited in D.S Pugh (1990). This means that the way the organization works will be adapted according to circumstances and that there is no best way of running an organization; only the most appropriate way in the light of the environmental conditions.

Therefore, there is no way principals can follow set up rules to supervise the school programmes but instead use the best according to the situation.

Therefore the theory observes that supervision is a function of the following:

I. The extent to which the principal mobilize personnel and other types of resources. The duty of allocation, controlling personnel lies securely within the realms of the head teacher's duty, Ministry of Education,(1999,P.54)

II. The allocation and accounting for material resources is a role played by the principals and should be geared towards achieving school goals. Administrators must allocate resources consistent with the priorities set to attain the educational goals.

III. The extent to which teachers are motivated to teach in various areas of specialization.

IV. The extent to which principals monitor evaluation of school programmes. More effective school principals appear to become directly involved in evaluating all school programmes to determine whether the intended objectives, goals or aims have been achieved.

The above four factors were considered as very important and partly so because they indicated the level of instructional supervision in the school by the principals. Therefore, how the principal mobilized personnel, material resources, ensured teachers are motivated and monitoring evaluation of the curriculum determined the supervisory roles in the school. This formed the theoretical framework for the study.

1.13 Conceptual Framework

The figure below shows a linear model for instructional supervision

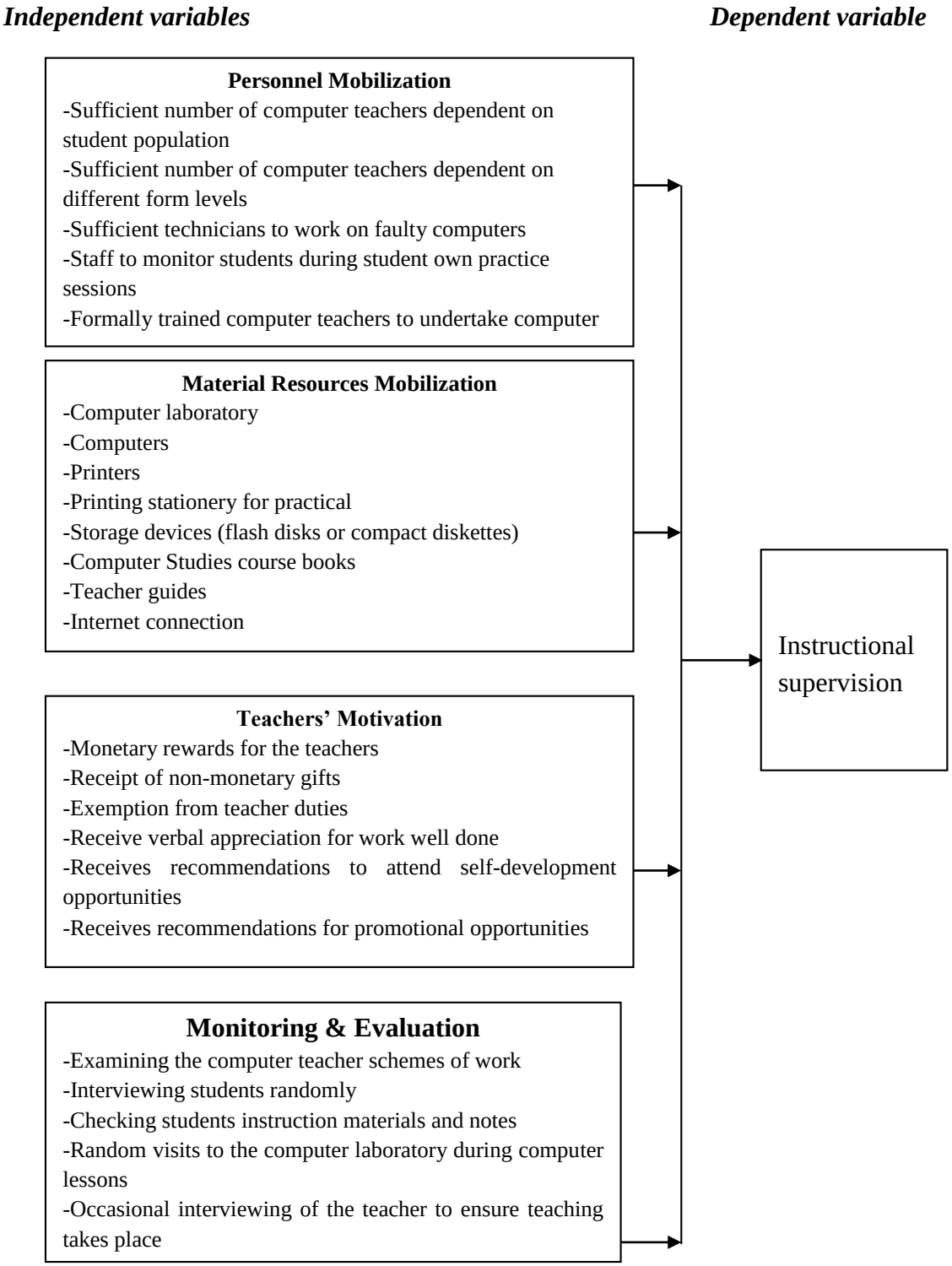


Figure 1.1: Instructional supervision model

Source: Researcher assisted by supervisors

1.14 Definition of Operational Terms

Curriculum- Refer to the content of an education programme.

Instructional programmes- Refer to the activities related to instruction and learning in the school.

Instructional supervision- In this study refers to the process of organizing, evaluating the curriculum and encouraging members of the school to contribute positively towards accomplishing school goals and objectives.

Mobilizing personnel- Used to mean having enough staff and allocating them duties.

Monitoring evaluation- Used to mean constantly assessing or finding out the extent to which instructional process is taking place.

Motivating teachers- Used to mean stimulating the interest of teachers to implement the school curriculum

Principal- Used to refer to the person heading a secondary school, that is, the highest authority in school. In this thesis head teacher, manager and head was used interchangeably with the word principal.

Material resources- Used to mean text books, teaching aid materials and writing materials for teachers, computers, printers and computer laboratories.

1.15 Chapter Summary

Chapter one has stated the background of the study , statement of the problem, purpose of the study, objectives of the study, major research question, subsidiary research questions, assumptions of the study, scope and limitations of the study, justification of the study, significance of the study, theoretical framework and operational definition of terms. This forms a smooth transition to into the next chapter of literature review.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter attempted to analyze the available literature on instructional supervision and the teaching of Computer Studies which was guided by Contingency Model of leadership. The sources of literature included government documents & reports, books, thesis, dissertations, journals, magazines and the internet.

2.2 The meaning and Historical development of supervision

Many authorities have come up with many definitions for supervision. Broadly, it can be defined as the attempt through second party intervention to ascertain, maintain and improve the quality of work done. Olembo et al (1992) says that supervision in secondary schools can be assumed to be a professional service involving the relevant educational administrators for the purpose of interacting with the teachers, in such a way as to maintain change and improve the provision and actualization of learning opportunities for students.

Okumbe (1999) asserts that supervision can be divided into general supervision and instructional supervision. General supervision subsumes supervisory activities that take place principally outside the classroom. Such activities include the writing and revision of curricular, preparation of units and materials of instruction, the development of processes and instruments for reporting to parents and such broad concerns as the evaluation of the total educational programme. Instructional supervision on the other hand is concerned with the student learning in the classroom. All those activities which are undertaken to help teachers maintain and improve their effectiveness in the classroom characterize instructional supervision. It also includes all those activities by

educational administrators that may express leadership in the improvement of learning and teaching, such as observation of class instruction, conducting teachers meetings, conducting group and individual conferences and reorganizing curriculum (Olembo et al, 1992).

The other concept in instructional supervision is called clinical supervision. Goldhammer et al (1980) defined clinical supervision as: -

> *That phase of instructional supervision which draws its data from the first hand observation of actual teaching events and involve face to face (and other associated interactions) between the sponsor and the teacher in the analysis of teaching behaviours and activities for instructional improvement.*

The idea of supervision is as old as mankind, but the systematic study of it is more recent. To comprehend the modern supervisory techniques, it is important to trace supervisory trends in the earlier periods of America and British education systems and review the development of supervision in Kenya‘s education system. In 1654 a statute was adopted in America that empowered selected men to be responsible for appointing teachers of sound moral and faith as supervisors. During the period, supervision was handled by laymen, with special emphasis placed on inspection of schools and classroom instruction.

There were set rules and regulations for the sake of control and standards. Supervision concentrated on appraising the achievement of learners in subject matter and evaluation methods used by teachers. It also involved observing the general management of the schools and pupils conduct. This early supervisory concepts were characterized by inspection. When an educator became the supervisor or the director of instruction, he/she was called the inspector. The functions of such a person were more of judicial

than executive. The supervisor made judgement about the teacher rather than the teaching or the learning process.

In the mid-nineteenth century, the concept of supervision continued to emphasize the inspection of schools and classrooms, with some attention being placed on assisting teachers to improve. At the same time professional educators replaced the laymen in doing supervision. In the early twentieth century inspection involved supervision of classroom instruction through direct classroom observation and demonstration, with the focus being placed on the teacher. The supervisors or inspectors were supposed to be skilled interviewers and sympathetic listeners. They were supposed to create a purposeful, but non- stressful atmosphere.

In conducting the discussion, the supervisor was to ask open-ended questions rather than closed questions. Prior to the discussion, the supervisor was supposed to assimilate and analyse the information received from the various sources. Accurate conclusions could thus be drawn about the teachers' strengths and weaknesses. These could then provide a firm base from which issues could be explored, guidance given and solutions reached at. Schools supervisory activities in Britain started in 1839, when British government established Her Majesty the Inspectorate (HMI) as a result of increasing demands for an educational system under state supervision. A privy council which composed of ministers of the crown was appointed to prepare a plan for education and introduce improvement in the education system. The HMI's were to obtain details of the plans and specifications of buildings, the arrangements of desks and the playgrounds. They were to inquire into the provision of books, the proposed method of instruction and discipline. All these were in order to provide some assurance for the tax payer that their money was well spent.

The history of inspection and supervision of schools in Kenya dates back to 1910 when the colonial government established an education department responsible for supervision of all matters related to education. The department became responsible for supervision of all matters related to education. The commission also recommended separate systems of education for Europeans and Asians. Europeans and Asians were primarily given academic type of education while the Africans were given technical education. In 1923, the Ormsby-Gore commission of education recommended the supervision of education programmes. In 1924 the first Education ordinance was established after the Phelps stokes commission. It enabled the government to develop, control and supervise education in Kenya. The ordinance provided the inspection of schools and control their duration of teaching period (school term). In 1925, the white paper produced by the Advisory Committee on the indigenous Education indicated that a thorough system of supervision was indispensable for the functioning and efficiency of the educational system.

The paper also advised that each mission should be encouraged to make arrangements for the effective supervision of its own system of schools. By 1927, the inspectorate was fully operational and the inspectors were fully paid government workers. Funds for supervision were only included in the grant-in-aid from 1934. In 1949 therefore, the government appointed a committee under Archdeacon L.J Beacher and it recommended strict supervision and inspection of secondary schools. It indicated that (the African Education in Kenya 1949:60) inspection and supervision are entirely separate functions and that inspection belongs to the department and supervision belongs to the body to whom school management has been delegated.

The Binn‘s Report of 1952 advocated a strengthening of supervisory and inspectorate system and advocated for the merging of supervision and inspection. Republic of Kenya (1964) emphasized the importance of supervision when it stated that a good system of supervision is essential to any school system and is particularly important, when a large portion of teachers is without adequate training or education standing. It recommended the establishment of one education officer and four assistant education officers for every hundred schools to strengthen supervision. It further recommended that a school supervisor should be carefully selected, trained and relieved of administrative duties. The legality of inspectorate is stipulated in education act of (1968) revised in (1980) chapter 211 of the laws of Kenya which gives the inspector legal authority. In section 18 of this act, it gives the minister of education powers to appoint officers to visit schools for the purpose of supervision. It states that:-

> *The minister for education shall appoint inspectors who are authorized to enter and inspect any school or any place at which it is reasonably suspected that a school is being conducted at any time with or without notice and to report to him with respect to the school or any aspect thereof. The minister shall appoint officers with authority to enter any school at any time, with or without notice and inspect or audit the accounts of the school or advice the manager of the school on the maintenance of accounting records, may temporarily remove any books or records for the purpose of inspection or audit.*

The Ndegwa commission of 1970 recommended that the inspectoral system for secondary education needed an urgent overhaul. This was because the inspectorate had remained more or less the same in its approach to supervision of schools as it was in the colonial days. The Kenya Education commission, Republic of Kenya (1988) advocated for the provision of government policy guidelines on supervision to ensure quality and relevance in the growth and provision of education in the country. It recommended for the strengthening of schools supervision and inspection by recruiting school inspectors in the ratio of one inspector to thirty schools. In order to support this,

the government decentralized the inspectorate department into zones. Zonal inspectors of schools were deployed to man the education zones. This was supported by the Minister for Education then, Hon. Aringo when he pointed out that, inspection of schools in the country had been intensified. The minister said the department had been decentralized into zones and each inspector was to be in charge of twenty schools.

The government regards effective supervision of schools central to effective teaching and learning and was therefore endeavoured to provide school inspectors with necessary facilities to enable them to undertake effective supervision of schools and teachers. In the earlier years , the supervisors were acting as administrators and were only interested with what the teachers were teaching (the curriculum) but not how they taught (the methodology). This has undergone several changes and today supervision is considered as that dimension or phase of educational administration, which is concerned with improving instructional effectiveness.

2.3 The purpose of instructional supervision

Canner (1987) asserts that the quality of education programmes depends on the quality of the teacher in the school system. Hence instructional supervision should be centered on teaching quality through selecting the best available teacher and providing for teacher‘s personal development.

Wanga and Karagu (1992) believe that principals (supervisors) personality or office may try to influence the staffing functions and obtain the kind of teachers they want from the T.S.C. The same author gives the functions of instructional supervision as:- Helping teachers to develop personal knowledge and competence and remain abreast with professional advances through direct and non-direct consultations between teachers and supervisors, programme development through improvement of course

material, learning environment, to suit teachers and pupils, Maintenance of competence and interest in the work of teachers through promotion, commitment, creativity, participative management, reducing frustrations and stress at work, Ensuring adequate, valid and criteria based data and record to facilitate evaluation appraisal or access to the extent to which programme objectives have been met.

Olembo,Wanga, and Karagu, (1992) divided supervision into three major processes/categories. These are: - Quality control where the principal (supervisor) is responsible for monitoring teaching and learning in his/her own school through classroom inspection, touring the school, talking with teachers and visiting students. The second category involves professional development of teachers by helping them grow professionally and to develop their understanding of teaching and classroom life, improving class teaching skills and expanding their knowledge and the third category is teachers motivation through building and nurturing motivation and commitment to teaching in schools overall purposes and the schools defining educational platforms.

2.4 Principles of Schools Instructional Supervision

Without successful leadership behaviour, instructional supervisors cannot perform their roles effectively. Sergiovani (1995) purports that first step in building a practical and meaningful supervision is the willingness by the principal and the teachers to struggle with and accept views of supervision emerging from the history of hierarchy, dominance and control. Educational researchers and administrators perceive the activities of instructional supervision as principles. Wanga (1984) has articulated Williams (1972) democratic supervision. She has gone further and listed them as ten principles i.e.

Leadership:-It involves accomplishing goals with and through the people. For example in a school situation an instructional supervisor should provide professional and instructional guidance so as to achieve the school‘s predetermined educational goals.

Co-operation:- It denotes joint action for a common cause. In this case, supervision should unite teachers and parents through recognition of contributions of all the stakeholders.

Consideration:-The instructional supervisor should regard and respect the feeling of others. He/she should appreciate other people‘s criticism, faults and weaknesses. He/she should avoid personal attacks and should give criticism of professional rather than personal nature.

Creativity:-It entails constructive thinking and problem solving ability. The instructional supervisor needs to encourage teachers to discover more effective devises and techniques of teaching which in turn gives them self-confidence and stimulates a desire for professional growth.

Integration:-It entails working together harmoniously, despite personal and professional differences and similarities. The instructional supervisor should be able to guide through the principle of integration by selecting or organizing materials that are complete and coherent so as to achieve harmony in the school setting.

Community orientation:-It entails a good relationship between the school and the community it serves. The community leaders should be utilized in school decision, making the process to enhance the achievement of the schools educational goals.

Planning: - The instructional supervisor must be a good planner and organizer for both human and material resources for the best attainment of instructional goals. The head

teacher should continually think through present and future problems, analyse them set priorities and finally select alternative courses of action.

Flexibility:-The head teacher should be flexible and adaptable to new or alternative teaching-learning and supervisory situations.

Objectivity:-It entails sound assessment of performance, goals and objectives. It also involves keeping of clean records of instructional functions. These records help to prevent rise of bias due to personal opinions.

Evaluation: - It entails both formative and summative evaluation based on objective of observation and in relation to educational plans and objectives. It is clear that for any learning institution to achieve its educational goals, those given authority to do so must carry out instructional supervision.

2.5 Areas of Supervision

Supervision is a multifaceted technique. The areas of supervision are quite varied. The following are some of the areas:- Supervision of instructional work, supervision of co-curricular activities programmes, supervision of school environment, supervision of school records, supervision of development aspects, supervision of pupil growth and supervision of financial management. The supervisors from the ministry visit the schools to assess on the above stated areas. During such visits, it is advisable that the supervisors inform the school managers in advance. After the classroom visits and observation, it is important to hold meetings and conferences with teachers to discuss their weak and strong points, and identify opportunities for improvements noted and efforts are made to improve them. It is also important to note that regular guidance is provided to teachers through issuing circulars containing suggestions for improved

methods of teaching and through the study of books and journals, which contain the latest instructional and administrative techniques.

Another inspection procedure is demonstration technique. The supervisor sometimes teaches a lesson so that a teacher can observe his own students respond to a new approach. Through such a procedure, teachers are able to benefit a lot from such experiences. The technique requires careful planning and preparation of the lesson. The modern supervision tends to be more democratic in its approach and has a positive force for improvement of educational activities and programmes. This supervision helps the teachers to do their job better and it also lays emphasis on providing expert guidance. In its nature, it encourages active supervision and cooperation by all stakeholders.

It should, however, be reckoned that inspection and supervision are rarely performed exclusively. Sometimes, their roles overlap. The lack of a clear differentiation of roles in these two functional areas of supervision may cause confusion and in certain instances, reduce the effectiveness of the personnel involved, especially in cases where there may be a duplication of roles. During such supervisory visit, the assessments are carried out as either panel assessment, subject based assessment, advisory assessment, block assessment, mass assessment, follow- up or special assessment. (Ministry of Education, Science and Technology Newsletter, 2003/2004). However, the head teacher’s assessment and supervision functions should not be underscored either. He/she is mandated to conduct day to day supervision of all the school‘s programmes with the assistance of the teachers.

2.6 Basic skills in supervision

In order to provide an effective supervisory leadership, supervisors must acquire basic skills. These basic skills include conceptual, human relations and technical skills.

Conceptual skills

Conceptual skills involve the ability to acquire, analyse and interpret information in a logical manner. Supervisors must understand both the internal and external environments in which they operate. They also need to understand the effects of changes in one or more of these environments on the organization for which they work. It is imperative that supervisors should enhance their supervisory effectiveness by acquiring newer and emerging concepts and techniques in supervision. This can be acquired through staff seminars and further training.

Human relations skills

The human relation skills refer the ability to understand the teachers and to interact effectively with them. Human relation skills enable the supervisor to act officially and humanely. The human relation skills are important for dealing with teachers not only as individuals but also as groups. The human relations skills can be acquired from both training and experience.

Technical skills

Technical skills include understanding and being able to perform effectively the specific processes, practices and techniques required of specific jobs in an organization. Although the supervisor may not be expected to have all the technical answers, they need an overall knowledge of the functions they supervise and source of specific information. While the supervisors can seek advice from specialists, they need to have

enough technical knowledge in order to make sound judgments. For effective supervision, therefore the supervisor is expected to apply all these skills to efficiently achieve the educational objectives, (Okumbe, 1999).

Concept of Instructional Supervision

Obilade (1989) opined that instructional supervision is a helping relationship whereby the supervisor guides and assists the teachers to meet the set targets. This definition described instructional supervision from the point of establishing the relationship with stakeholders in school system for the purpose of achieving the set objectives. Similarly, Olaniyan (1996) described instructional supervision as a means to help, guide, stimulate and lead teachers through criticism, appraisal and practices in their education and procedures. This definition focuses much on teachers' attitudes over other vital elements that present themselves during the teaching and learning process.

Instructional supervision is a service activity that exists to help teachers do their job better (Glickman, Gordon and Ross-Gordon, 2001). Supervision is a cycle of activities between a supervisor and a teacher with the main aim of improving classroom performance (Patrick &Dawson, 1985). Also, Nwankwo (1984) in Ajani (2001) noted that instructional supervision is a set of activities which are carried out with the purpose of making the teaching and learning better for the learner. It has been observed that instructional supervision is an essential activity for the effective operation of a good school system.

In addition, instructional supervision is a behaviour that is officially designed which directly affects teacher behaviour in such a way to facilitate student learning and achieve the goals of the school system. Through the effective supervision of instruction, supervisors can reinforce and enhance teaching practices that will contribute to

improved student learning. The foregoing suggested that instructional supervision particularly in secondary schools is basically concerned with supporting and assisting teachers to improve instruction through their changing behaviour.

Who is a Supervisor?

Supervisor, according to Hazi (2004), can be described as any certified individual assigned with the responsibility for the direction and guidance of the work of teaching staff members. This implies that supervisor has the role of assisting the teachers to do their work better through collaborative efforts. Ogunsaju (1983) defined supervisor as the mediator between the people and the programme. He designs various methods in performing his function of supervision in order to achieve educational objectives of the institutions under his control.

Also, Olele in Kiadese (2000) defined supervisor as a person by virtue of his functions, carry out duties, which deal with managing both human and material resources within the school system and how they can be best utilized. In other words, supervisor is expected to assist in the learning environment to maximize the available resources to achieve the set goals. Eya & Leonard (2012) defined a supervisor as anyone assigned the function of helping others (teachers) to improve on their instructional competencies.

In view of the functions of supervisors in instructional supervision, there is need to discuss the qualities of a good supervisor in a school system. Ogunsaju (1983) identified the following as qualities of a good supervisor, namely:

I. He should be honest, objective, fair and firm.
II. He has to be opened and democratic;
III. He should be approachable;
IV. He has to be creative, imaginative and innovative;

V. He has to be a good listener and observer;
VI. He should be friendly, courteous and consistent in his interactions with teachers and others;
VII. He should be an educational facilitator.

Similarly, Eferakeya &Ofo in Olorunfemi (2008) highlighted the following qualities of an instructional supervisor which include:

I. He must have enough energy and good health;
II. He must have good leadership style;
III. He must possess ability to get along with people;
IV. He must possess sound knowledge and technical in his own area of specialization; -He must develop positive attitude towards management; and
V. He should have good communication skills.

Roles of Supervisors

In general, the major function of the supervisor is to assist others to become efficient and effective in the performance of the assigned duties. Apart from this general function, supervisors also perform the following roles in the school system especially at the secondary school level.

Instructional leader: Instructional leadership is one of the most important roles of supervisor. Supervisor leads other teachers in instruction to make them as effective as possible. They also lead teachers in developing and implementing an effective plan of instruction. Supervisors have to adapt to meet the needs of the people and the particular environment rather than practice a normative kind of leadership. Instructional leaders improve the quality of instruction by furthering professional growth for all teachers.

Supervisors should be flexible enough to deal with any situation and should maintain a good relationship with their staff.

Assessing student progress: A supervisor assesses students' progress toward the established standards by the regulatory agencies, and also facilitates the planning of various types of instruction. Supervisors ensure that teachers are utilising information from a variety of valid and appropriate sources before they begin the planning of lessons or teaching. Supervisors determine if teachers are using the numerous evaluation processes available to assist in planning meaningful instruction.

The Supervisors ensure that teachers are preparing and maintaining adequate and accurate records of student's progress. This will include the regular and systematic recording of meaningful data regarding students' progress on specific concepts and skills related to the standards for each subject for the grade level they are teaching.

In addition, Aderonmu and Ehhiemetalor in Kiadese (2000) identified the following roles of supervisor in the school system.

Planning: The supervisor needs to apply the planning principles to the supervision from the beginning in order to ensure the aims of supervision are attained. The planning principles involve the articulation of objectives, selecting of the best strategies, mapping out of policies, programmes and procedures that would best help in achieving the stated objectives.

Staffing: supervisors are expected to identify through the process of supervision, staff vacancies in terms of grades and disciplines in accordance with the organisation structure of the school.

Coordination: The supervisor is expected by this function to co-ordinate the efforts of all participants and ensure that by so doing, decision making becomes a collective responsibility.

Observation: Supervisors are expected to observe management, staff and students at work during a typical supervision session. Thus, in a bid to help improve observed habits and standards, the supervisor should through consultation, offer advice to the participants in the school system.

Curriculum development: In view of the level of involvement of supervisors in the school activities, they can however through observations make useful suggestions which can help the process of curriculum development in the country.

Similarly, Kathleen (2006) summarized the roles of supervisor in this way:

i. Monitoring or providing for mentoring of beginning teachers to facilitate a supportive induction into the profession.
ii. Bringing individual teachers up to minimum standards of effective teaching (quality assurance and maintenance functions of supervision).
iii. Improving individual teachers' competencies, no matter how proficient they are deemed to be.
iv. Working with groups of teachers in a collaborative effort to improve student learning.
v. Working with groups of teachers to adapt the local curriculum to the needs and ability of diverse groups of students, while at the same time bringing the local curriculum in line with state and national standards. vi. Relating teachers' efforts to improve their teaching to the larger goals of school-wide improvement in the service of quality learning for all students.

From the forgoing, it is evident that the role of supervisor in a school system especially in the secondary schools is very crucial. Thus, for effective supervision of instruction, supervisors should be able to discharge their functions as expected if the goals of education are to be attained.

The role of the principal as an instructional supervisor

Supervision is the ability to use authority, power and influence in the process of managing and administering resources at work to produce results. It's a social influence in which one person is able to enlist the aid and support of others in the accomplishment of a common task. Naisiae (2013) describes leadership as a social process in which a member or members or a group or organization influences the interpretation of internal and external events, the choice of goals or desired outcomes, organization of work activities, individuals motivation and abilities, power relations, and shared orientations.

School principals occupy a strategic position in the school organization structure for developing a school climate conducive to learning. This strategic position is based on the principal's status as chief administrator, school managers and instructional leaders. As supervisors they are responsible for introducing useful changes aimed at improving the quality of the schools instructional program (Kuria, 2013). Research has shown that effective schools are run by leaders who exercise assertive leadership, while unsuccessful schools have principals who are bogged down with administrative details which render them unable to engage in leadership activities (Nkirote, 2013).

Effective principals are expected to be effective curriculum supervisors. The principal must be knowledgeable about curriculum development, teachers and instructional effectiveness, clinical supervision, staff development and teacher evaluation (Obama,

Akinyi, & Orodho, 2015). However, (Fullan, 1992) describes instructional leadership to be an active, collaborative form of leadership where the principal works with the teachers to the school as a work place in relation to shared goals, teachers' collaboration, teachers' learning opportunities, teachers' certainty, teachers' commitment and students' learning.

The principal as a supervisor needs to have up- to- date knowledge on three areas of education, namely; curriculum, instruction and assessment. With regard to curriculum, principals need to know about curriculum evaluation and improvement and ensure that the curriculum is will delivered to meet learners' needs. With regard to instruction, principals need different models of teaching and theoretical treasons for adopting a particular teaching model. Finally, with regards to assessment, the principals need to know the principles of student assessment, assessment procedures with emphasis on alternative assessment methods that aim to improve rather than prove student learning (Nzomo, 2012).

Students of exemplary schools have described principal as task –oriented, action-oriented, well organized and skilled in work delegation and getting things done (Gwiyo, 2014).Principal who exercise strong leadership set and communicate high goals for their schools. They also have high expectations for students and staff performance. Head teachers should therefore play key role as leaders and they should set target for students and improve instruction and instructional materials. Principals are instruments in school success. According to Kefa (2014),principals who are perceived as strong leaders communicate school mission effectively, provide resources for instructional resources themselves for their staff and maintain a high visible presence in all parts of the school.

Kamene (2014)) established the link that teachers' perception of their principal instructional supervision is strongly related to the change in student's performance. He found that are in high performance schools, head teachers were perceived by teachers as 'strong' leaders. These schools were characterized by high expectations, frequent monitoring of student progress, positive learning climate and goal clarity. Teacher had positive perception of the quality of their work; they were more productive as shown the incremental growth in students' performance. The present day study too explored almost a similar linkage between instructional supervision of principals and implementation of a curriculum.

Okwako (2013) believes that principals are managers of their schools and all teachers fall under authority. The success of any school therefore depends on how effective and efficient the principal is. In essence most scholars agree that proper leadership translates into high student academic performance. This study intends to collaborate these findings on the instructional supervision of Computer Studies curriculum by school principals in Nakuru East Sub-County, Nakuru County.

Ilahuyah (2014) explains that the days of the principal as one educational leader are over, as such therefore, curriculum leadership should not lie solely with the principal, but teachers should be directly involved and responsible for driving educational processes including curriculum development and providing leadership at various levels within the school structure. Also, teachers have to lead the process of curriculum implementation as well as curriculum development. The responsibility of the principal in this regard lies in providing a suitable and supportive pedagogic environment where curricula can be effectively and efficiently implemented. A desirable characteristic that emerges from such situation, in which the principal himself as the curriculum leader, is

when the role of curriculum leadership is distributed amongst teachers at different levels in the school. This proposes that leadership is in fact most powerful when it is shared with others appropriately. The prime task of curriculum leader is viewed as one of stimulating staff initiatives and encouraging creative thinking around curriculum matters. This proposes that curriculum leaders enable teacher to actively participate in the process of curriculum implementation and development (Mogire, 2015).

Curriculum supervision is distributed and disseminated to teachers who are empowered to be instructional leaders in their own right. The task of instructional leader and curriculum implementation is therefore a shared one, and one that can develop sustainability in instructional leadership. An effective principal must perform as a resource provider, instructional resource, communicator and visible presence. Muthike (2014)said effective school researchers hold that a key element of an effective school is an effective principal. Principals must be visible and interactive part of the school environment.

Gerald Tirozzi, executive director of the national association of secondary principals, stated: the principals of tomorrow`s schools must be instructional leaders who possess the requisite skills, capacities and commitment to lead excellence in school leadership should be recognized as the most important component of school reform. In a nutshell, the successful principal of the future will be the individual who raises academic standards, improves academic achievement for all students, and provides support and assistance to the staff.

Roles of principals in the Twenty-first Century

One of the most recent studies on principal roles and responsibilities was conducted by David Gaston. Gaston (2005) conducted a Virginia study that investigated the roles

and responsibilities of principal. He found student discipline, supervising and evaluating teachers, responding to teachers' needs, contacting parents and working with special needs students to be the top five responsibilities performed by principal. While Gaston's study did not reveal significant differences in responsibilities of principal when compared by gender and ethnicity, significant differences were noted in instructional leadership between high school and middle school principal. Interestingly enough, 95% of the participants in his study indicate that principal duties were assigned by the principal.

Education literature is filled with studies and articles that discuss the lack of instructional leadership in public schools, particularly at the secondary level. As we move into the 21st Century with increased accountability for student achievement, instructional leadership has become a major responsibility. Although instructional leadership is surfacing as a major responsibility in schools, principal have not as a practice been assigned instructional leadership responsibilities, nor have instructional leadership responsibilities been included as part of their job descriptions.

Instructional Leadership

Instructional leadership is defined by DeBevoise (1984) as those actions that are taken by a principal or allocated to others that facilitate student learning. Most researchers' definitions of instructional leadership give generic, broad functions of instructional leadership. The definitions discuss the actions that encompass instructional leadership and indicate the end product of the functions and actions. Greenfield (1985a) defines instructional leadership in the broad sense by stating, "instructional leadership involves actions undertaken with the intention of developing a productive and satisfying working environment for teachers and desirable learning conditions and outcomes for children"

(p. 56). Calabrese (1991) defines instructional leadership as defining and promoting the school's mission, establishing parameters and goals for the school's instructional program. There are many different definitions of instructional leadership. The definition depends on the source and philosophy of the researcher that is reporting the definition. Celikten (1998) notes, differing examples of definitions for instructional leadership can result in miscommunication, low evaluation ratings as well as conflicts.

It can reasonably be ascertained that there is no single definition of instructional leadership for principal. Several researchers have identified gauges that can be used to identify instructional leaders. In his 1991 study, Calabrese identifies several indicators that can be used to identify instructional leaders within schools. The indicators include: visibility, problem solving, community awareness, support of staff, vision communication, use of school resources, teacher in-service, school schedule and promoting a positive school climate.

Early studies on the role and responsibilities of the principal suggest the role was mostly managerial in nature and focused on being a disciplinarian. There is little mention of the principal as an instructional leader. It was not until recently that the position of principal has been looked upon as a source of instructional leadership. The extent of their involvement in instructional leadership is unclear and researchers perceive a need for principal' involvement in instructional leadership to increase.

One of the reasons researchers are calling for an increase in principal involvement in instructional leadership is to improve the principal's growth as an instructional leader. Growth as instructional leaders will allow principal an additional opportunity for skills to be able to fill expected principal vacancies in the near future. Many researchers

believe the principalship is an important stepping stone to the principalship (Marshall, 1992b).

Current researchers have indicated that principals need to look for creative ways to utilize principal talents to enhance the instructional leadership process (Celikten, 1998; Koru, 1989; NASSP, 1991). Some writers believe that an expansion of the instructional leadership role of the principal is both necessary and possible. Greenfield (1985b) emphasizes the need for principal to be instructional leaders. He goes on to give suggestions for making the principal position more central to instruction. Some of those suggestions include looking at the actual work of the principal, identifying the processes by which innovative responses are encouraged rather than custodial responses, and looking at the availability of resources for managing the instructional program-essentially restructuring the focus and scope of responsibilities.

Glatthorn and Newberg (1982) indicated the need for instructional leadership in schools in order to improve them. They suggested that there be an instructional team in schools and that the principal is an underused resource in that process. They also mention an instructional leadership team that should emphasize the critical leadership functions and not just the role.

2.7 Dimension of Leadership

2.7.1 Mobilizing personnel

The teachers are probably the most important resource that any country has (Toili & Mutsotso, 2013). This is because an efficient human capital development depends on the quality and effectiveness of teachers. Teachers thus play a key role in the overall human resource development in any country. The principal should be in a position of mobilizing human resource who will be key in implementing the school curriculum.

2.7.2 Provision of material resources

The principal as the instructional and organizational leader of the school is better placed to provide the needed resources to implement curriculum and instruction in the school. The principal should be in a position to identify various resources available in the school and use them where they will be most useful to meet school goals (Githinji, 2013).

In schools principal is an accounting officer and he/she should liaise closely with the school committee, treasurer and chairperson to account for all financial transaction. A major part of the success of a good school is how well resources are managed and maintained. These include textbooks and other learning materials, physical facilities that make up the school environment, buildings, furniture and land(Joseph & John, 2015).

Eme et al., (2015)noted that schools with superior facilities, equipment and supplies and innovative instructional materials should be more successful than schools that are physically antiquated or dilapidated. On the other hand when school equipment supplies are delayed for example, teachers cannot be expected to do their work properly, poor teaching will lead to poor performance by pupils. There is need therefore for the principals to provide relevant, adequate materials on time as required, to enhance achievements.

Most programmes of instruction require some physical facilities including school buildings and equipment needed as incidental to instruction. Organization and supervision are required and in relating availability to need. According to Kamene, (2014), resource control involves; making sure that material resource are actually present by keeping up- to-date inventories which are periodically checked, ensuring

that someone is clearly responsible for the control and maintenance of each piece of equipment and reviewing the use to which resources are being put.

According to Mogire (2015), the principal's responsibility to prove the needed resources is better achieved by; seeking additional resources for school instruction, providing sufficient supplies, instructional materials, supplemental resources and school equipment. It is important that principals stress on proper utilization of existing resources. To do all the above instructional supervision action requires that the principal be knowledgeable about instructional resource.

2.7.3 Motivation of teachers in a school

The principal has a role of motivating teachers. Teachers need motivation to spend their time and efforts to effect curriculum innovations. Principals should maintain competence and interest in the works of a teacher. This is achieved through promotion of enthusiasm, commitment, creativity, self-discipline and participative management. The principal should provide opportunities for their teachers to benefit from in-service training programmes by sponsoring teachers to attend seminars, conferences and workshops (Paraskeva et al., 2008). Through in-service education, teachers gain professional development which is essential for quality of teaching.

Therefore in order to achieve effective teaching and learning in a school, teachers need to be motivated. A sound motivational system provides the following.

(a) Financial opportunities

Although money in itself is not a motivator, workers crave for it because financial independence equates with personal freedom. It is what one does with money that motivates one to work better.

(b) Growth in stature and responsibility

This is an outgrowth of a man's desire for status and self-development. This includes promotions, training opportunities and awards like medals.

(c) Discipline and morale

Discipline is achieved via positive and negative motivation and including desired behaviour though rewards and punishments are necessary for the future welfare of an organization. Morale is difficult to measure. Most researchers however relate higher morale with higher productivity.

2.7.4 Instructional Supervision and evaluation in the school

According to Mogire (2015), supervision is today considered as that phase of educational administration which is concerned with improving instructional effectiveness. Instructional supervision aims at stimulating staff growth and pupil development, influencing teacher belief and pupil performance in the classroom, fostering selection, development, use and evaluation of adequate and suitable instructional materials and process, improving communication skills among the personnel in the school (Eme et al., 2015).

Instructional supervision is concerned with the pupil or the student learning in the classroom. The principal being the first supervisor in their school must ensure that;

I. Teachers prepare and plan for their lesson at the right time.
II. Lessons are structured with an interesting beginning, revision of previous knowledge and summary of major points are made at the end.
III. Teachers have good relationship with the students.
IV. Ensure that teachers follow up curriculum strictly.

Toili & Mutsotso (2013)asserts that the responsibility of a school principal which includes supervision of curriculum, evaluation of programmes, staff instructional planning and supervision of teachers' plays an important role for it to ensure that teachers do their work properly which finally contributes to improved performance in schools.

Principals should ensure that teachers carry out both formative and summative evaluation to determine whether intended objectives of a curriculum have been met or not. Effective principal exerts pressure on teachers and students for high achievement, always assuming an instructional role. Ngala (1997) showed that successful principals stressed staff assessment and instructional evaluation when they have visited classroom.

2.8 Computer Studies for Secondary Schools

Computer Studies is offered as an optional subject at the secondary school level of education. The syllabus was first developed in 1996 and the subject, being very dynamic, requires that the syllabus be reviewed constantly. The Computer Studies syllabus has undergone a major review to bring it up-to-date with current trends and breakthroughs in Information and Communication Technotogy (ICT). The syllabus is meant to be time-independent and to accommodate contemporary technology. This is clearly reflected in the objectives(Macharia, 2013). The aim of the Computer Studies course is to equip the learner with basic skills that will enable him/her to use a computer for accomplishing day-to-day tasks at school, home and in the world of work. It was the intention of the revised syllabus to give the learner the required knowledge, skills and attitudes to enable him/her to fit and adapt to the ever- changing computer world and appreciate the computer as a tool for tackling day-to-day problems.

The syllabus has been revised to enable the learner apply skills acquired to develop themselves mentally, morally, socially and spiritually. The learner will also appreciate career opportunities that exist in the world of Computer Studies and also have a firm foundation for further education and training.Teachers are advised to use contemporary technology, materials and resources in order to expose the learner to the advancements made in the field of computer (Githinji, 2013). The teacher should take particular note of new software and hardware developments and should keep themselves up-to-date with new innovations. The introduction of Internet Technology will be particularly useful as a source of information for issues such as HIV/AIDS, drug abuse, environmental issues, human rights, and integrity among others (Macharia, 2013).

Time allocation per topic has been suggested. It is based on three lessons per week in forms one and two and four lessons per week in forms three and four. The teacher is advised to plan his/her work to fit the allocated time in order to cover the syllabus(Macharia, 2013). In teaching the subject, a lot of creativity and innovative ideas are encouraged in-order to make the subject interesting (Githinji, 2013).. This subject was designed to enable the learner to:

i. Appreciate a computer system.
ii. Appreciate the technological development of computers.
iii. Apply basic skills in the safe use and care of a computer system.
iv. Develop skills to use application packages.
v. Appreciate the role of computer applications in carrying out day-to-day business and organizational tasks.
vi. Understand the role of information and communication technology in mental, moral, social and spiritual development,
vii. Develop abilities to interact more efficiently with the wider community.

viii. Appreciate the use of programming as a tool for problem- solving

ix. Appreciate the impact of computer technology on society

x. Acquire basic knowledge, skills and attitudes necessary for adapting to a fast changing technological world

xi. Develop a firm base for further education and training.

Schools intending to offer Computer Studies are expected to have the following minimum equipment; (Ministry of Education, Computer Studies syllabus)

i) Computer Laboratory/classroom(s)

ii) Computer desks that accommodate monitor at eye level

iii) At least one computer per every four students(1:4) in forms one and two and one computer for every two students(1:2) for form three and four students.

iv) At least one printer for every four computers

v) Printing Stationery

vi) Appropriate storage devices e.g. diskettes

vii) Storage facilities for diskettes and other consumables e.g. disk banks

viii) Appropriate software for the curriculum

ix) Relevant reference material

2.9 Related Studies

Cheruiyot (2015) carried out a study on the role of Headteachers in supervision of instruction for curriculum implementation: A study of Eldoret West District. The objectives were; Investigate the role of the head teachers in supervision for proper implementation of the curriculum, to establish the consistency of the head teacher in monitoring the important instructional instruments/documents for curriculum

implementation, to find out the role of the headteachers in the provision of important resources for curriculum implementation and to establish the relationship between headteachers administrative experience and implementation of curriculum. However, the study did not investigate instructional supervision of Computer Studies by secondary school principals. The key findings were; Headteachers did not observe teachers as they teach in class and most of them depend on the reports from the teaching documents, monitoring of professional documents was not well done by the headteachers as findings show that these duties are done through delegation to the deputy head teacher or head of department, teaching force and material resources were adequate except for the upcoming sub-county schools and all headteachers under study are trained teachers as they hold at the lowest level bachelors degree in education comparing their experience and performance in their schools which depicts the success of curriculum implementation, the hypothesis that there is no relationship between experience and implementation of curriculum is rejected and the alternative is taken.

Jepchumba (2010) carried out a research on primary school teachers perception of headteachers curriculum supervision in Emgwen Division, Nandi North District. The objectives of the study were; to establish primary school teachers perceptions on the role of headteachers in communication of the school mission, to investigate primary school teachers, perceptions on the role of headteachers in supervision of the curriculum, to determine primary school teachers' perceptions on the role of headteachers in maintaining visible presence in the school compound and to assess primary school teachers' perceptions on the role of headteachers in the provision of curriculum resources. However, the study did not focus on instructional supervision of Computer Studies curriculum by secondary school principals. The key findings were; majority of the teachers said that their headteachers never involved them in the

formulation of the missing statement, other teachers said that their headteachers checked the professional documents (schemes of work, lesson plans, records of work covered and students' progress record), the findings also implied that most headteachers were not available for consultations when required by either students or the staff. Thus they were not available to perform their roles as curriculum supervisors and majority of the respondents indicated that headteachers never allocated funds to enable them attend staff development programs. Further, majority of the respondents indicated that the headteachers ensured that they had adequate writing materials for preparing schemes of work, lesson plans and lesson notes.

Omanwa (2012) carried out a research on induction needs of secondary school leaders in curriculum supervision: A case of Kisii Central District. The objectives of the study were; to establish the effects of leaders' personal characteristics on curriculum supervision, to identify the induction needs of sec-school leaders in curriculum supervision, assess secondary school leaders skills for curriculum supervision and to establish the effectiveness of secondary school leaders in curriculum supervision. However, the study did not give focus on instructional supervision of Computer Studies curriculum by secondary school principals. The key findings of the study were; leaders' supervisory skills were sometimes practiced. The least practiced was the effectiveness in supervision, leader induction skills were prepared to be either lacking or rarely practised by secondary schools which participated in the study and it was also established that majority of the respondents perceived current practice of competencies in the area of leaders supervisory skills to be rarely occurring, whereas a few respondents considered the same competences to be oftenly practiced.

2.10 Chapter Summary

This chapter attempted to analyze literature available on instructional supervision and the teaching of Computer Studies. The literature reviewed stressed that for the principal to be an effective instructional supervisor, emphasis has to be made on the following important aspects and they include; adequate personnel who teach Computer Studies has to be provided, adequate material resources should be available for effective instructional process to take place, teachers who teach Computer Studies should be motivated and above all the principal should monitor evaluation of school programmes.

Having done or being keen on these factors, it implies that the principal is in touch with the school and can steer the school to success. On the contrary absence of these factors in the principal's daily activities may lead to failure of the school intentions. The principal as an instructional supervisor has a role of mobilizing for personnel. This is one of the responsibility that the principal has to perform. This can be achieved if the principal channels the information to other relevant authorities responsible for staffing.

The principal as the instructional and organizational leader of the school is better placed to provide the needed resources to implement curriculum and instruction in the school. The principal should be in a position to identify various resources available in the school and use that where they will be most useful to meet school goals. Teacher motivation is also a key aspect if instructional supervision is to be a success. Principals should allow their teachers to attend seminars, workshops, in-service courses and conferences so as to update their skills. Staff development should be encouraged by principals.

Fullan (1992) notes that more effective principals appear to become directly involved in instructional policy by working closely with teachers in developing and

implementing programs of curriculum and instruction. This shows the seriousness and commitment of principals and therefore, motivates and it also creates seriousness on the part of the teachers and students. Principals should ensure that teachers carry out both formative and summative evaluation to determine whether intended objectives of a curriculum have been met or not.

The literature reviewed also emphasizes on the four school variables that correlate with student performance. The schools variables include; positive learning climate, staff dedication to teaching and learning, frequent monitoring of students' progress and high expectation for students and teachers.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter discusses the research methodology that was used during research study. Methodology refers to the procedures followed in conducting research study; it includes research area, research design, target population, sampling design and procedures, data collection procedures, research instruments, validity and reliability of research instruments, data analysis techniques and interpretations to obtain solutions to the research problem.

3.2 Study Area

The study was carried out in Nakuru East Sub-County (formally Nakuru Municipality) of Nakuru County. It was limited to secondary schools offering Computer Studies. Nakuru East Sub-County was chosen because there were forty three schools offering Computer Studies within the Sub-County. This information was derived from sub county education office. The researcher's main concern was to find out instructional supervision of Computer Studies curriculum by school principals in secondary schools.

3.3 Research Design

The research design has been defined as the blue print for the collection, measurement and analysis of the data. Research design has also been described as the plan and the structure of the research process and provides the road map and the milestones to keep the researcher in the right direction (Cooper & Schindler, 2011). Finally, research design has also been described as the arrangement of condition from collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure (Mugenda, 2003).

This study utilized the descriptive research design. The descriptive research design has been described as a method of collecting both qualitative and quantitative data (mixed method) about the research phenomenon (Sekaran & Bougie, 2011). There are several advantages associated with the use of the descriptive research design and which informs its usage in this study. The descriptive research design assists in the understanding of the characteristics of a group in a given situation, or it attempts to "paint a picture" of a given situation by addressing who, what, when, where, and how questions (Mugenda & Mugenda, 1999). The descriptive research also explains the phenomenon as it is on the ground.

3.4 Target Population

The population refers to an entire group of individuals, events or objects having a common observable characteristic. The target population has also been defined as the entire group of people, events or things of interest that the researcher wishes to investigate (A Orodho & Kombo, 2002). The target population is often divided into unit of observation and unit of analysis. The unit of observation refers to the units in which the information is received and statistics are compiled or an object about which information is collected (Gall, Gall, & Borg, 2007). The unit of observation has also been defined as the identifiable organizations or physical entities which are able to report data about their activities. The unit of observation is the secondary schools while the unit of analysis is the Computer Studies teachers and principals. The population under study comprised forty three secondary schools in Nakuru East Sub-County offering Computer Studies. The target group comprised the fifty three teachers of Computer Studies within Nakuru East Sub-County and forty three principals within Nakuru East Sub-County.

3.5 Sample

A sample is a subset of the population comprising of some members selected from it or it is a part of the population (Upagade & Shende, 2012). A sample has been defined as a finite part of a statistical population whose properties are studied to gain information about the whole or universe. The sample size is dependent on sample size, purpose of study and nature of population under study. The sample of this study consisted of 53 teachers of Computer Studies in secondary schools in Nakuru East Sub-County and forty three principals within Nakuru East Sub-County. All the teachers of Computer Studies were included in the study.

3.6 Research Instruments

The data collection is the means by which information is obtained from the selected subject of an investigation.

3.6.1 Questionnaires

The study utilized the structured questionnaire for the purpose of data collection. The structured questionnaire is a series of questions in which the respondents are given options to select dependent on their opinions or status on a given aspect (Kombo & Tromp, 2009). There are several advantages associated with the structured questionnaires which advised their use in this study. These advantages include ease of distribution and data collection, ease of data analysis, standardization of the questions and cost efficiency. The questionnaire was divided into four sections that is Part A which had background information and parts B, C, and D which had the research variables. A structured questionnaire was administered to the teachers of Computer Studies.

3.6.2 Interview Guides

The interview as a data collection instrument refers to the extraction of information from key informants on the subject matter through a discussion with them and documenting their responses (Kombo & Tromp, 2009). The advantage of an interview is the ability to extract very rich information on the research interest from key informants. Interview schedules were administered to school principals.

3.6.3 Observational Checklist

The observational checklist refers to the researcher visiting the study location and making observation of the study phenomenon in its natural environment (Orodho, 2008). In this context, the researcher visited selected schools for the purposes of making observations in relations to the availability and adequacy of diverse resources for computer instruction purposes. The advantage of observation checklist includes the lack of bias as the researcher is able to make direct observation of the state of affairs on the ground.

In this study, observation guide was used to collect data on the availability of resource materials thus assisted in achieving the second objective.

3.7 Validity of the Research Instruments

Validity is the degree to which results obtained from the analysis of the data actually represents the phenomenon under study (Orodho, 2008).It has to do with how accurately data obtained in the study represents the variables of the study. If such data is a true reflection of the variables, then inferences based on such data will be accurate and meaningful. Validity therefore refers to the extent to which an instrument can measure what it is ought to measure. Validity is the accuracy and meaningfulness of inferences, which are based on research results.

The instruments were rated in terms of how effectively they sampled significant aspects of the purpose of the study. The content validity of the instruments was determined in two ways. First, the researcher discussed the items in the instruments with the supervisors in the department of Curriculum Instruction and Educational Media, colleagues who were students in the department and lecturers in the School of Education, Moi University. Advice given helped the researcher determine the validity of the research instruments. The advice included suggestions, clarifications and other inputs. These suggestions were used in making necessary changes.

Secondly, content validity of the instruments was determined through piloting which was done in Nyahururu Sub-County in a school which was not selected for the study**.** The results of piloting were used to improve on the research instruments. For a research instrument to be considered valid, the content selected and included in the interview schedule and the questionnaire must be relevant to the variable being investigated (Kombo & Tromp, 2009).

3.8 Reliability of Research Instruments

Reliability is a measure of the degree to which a research instrument yields consistent results after repeated trials (Upagade & Shende, 2012). According to Mugenda & Mugenda (1999); the reliability of an instrument is the measure of the degree to which a research instrument yields consistent results or data after repeated trials (Orodho & Kombo, 2002); postulate that reliability can be enhanced by careful piloting of research instruments and coding of responses. According to Saunder, Lews, & Thornhill, (2007), to achieve reliability the research instruments should be structured with similar format and sequence of words and questions for each respondent. To achieve reliability in this research: A pilot study was conducted in Nyahururu Sub- County to ensure that the

research instruments are appropriate, exhaustive, unambiguous and effectively operational for the research. The reliability of the questions was examined through use of the cronbach alpha coefficient. According to Orodho & Kombo (2002), a cronbach alpha coefficient of a threshold of above 0.7 should be maintained for the study results to be reliable.

3.9 Ethical Considerations

The ethical consideration in the research aspects involves the consideration of acceptable research behavior in the conduct of the researcher, the treatment of the respondents, the handling of the collected data, the independence of the researcher, and the integrity of the sources in the development of the work (Upagade & Shende, 2012). A number of ethical issues can arise during the academic research, writing and publishing process. These include plagiarism, fabrication or falsification of data, conflicts of interest, confidentiality, treatment of human subjects and animals in research and authorship issues.

In this study, the following ethical considerations were made. The respondents were assured of confidentiality and anonymity of the information they avail. The researcher kept promise and agreements, acted with sincerity and strove for consistency of thought and action in the entire data collection process. Secondly, data was honestly reported. Results, methods & procedures were also honestly reported where; there was no fabrication, falsifications or misrepresentations of data. Thirdly, the researcher strove to avoid biasness in data analysis, data interpretation and other aspects of research where objectivity is required.

3.10 Data Collection Procedures

Collection of data began after getting permission from relevant authorities which included The National Council for Science Technology and Innovation (NACOSTI), Nakuru County Commissioner, Nakuru County Director of Education, Nakuru East Sub-County Education Officer and Moi University school of Education. Questionnaires were administered to teachers of Computer Studies by the researcher and principals were interviewed. An observation checklist was also used for the purposes of making observations in relations to the availability and adequacy of diverse resources for computer instruction process.

3.11 Data Analysis Procedures

The raw data was collected, compiled and tabulated to facilitate easy interpretation. The data collected was subjected to the SPSS computer programme for analysis. Descriptive statistics such as mean, frequencies and standard deviation were used for describing and for explanation of research findings. Inferential statistics (principal component factor analysis) was also used which enhanced interpretation of research findings.

3.12 Chapter Summary

Chapter three describes the methodology which was used in carrying out the research study i.e. finding out the extent of instructional supervision of Computer Studies curriculum by school principals in public secondary schools. This chapter explains the research setting, the study design, the sample size, the research instrument, the procedure followed in obtaining information, data analysis for research findings interpretations and the ethical issues.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS, INTERPRETATION AND DISCUSSION OF FINDINGS

4.1 Introduction

This study examines the research results and data analysis of the study. The research results were presented using frequency distributions, means and standard deviations. The data analysis was undertaken using inferential statistics. The inferential statistics that were used include the correlation analysis and the multiple linear regression analysis.

4.2 Data Presentation and Discussion from Questionnaire

4.2.1 Response Rate

The sample size of 53 respondents that comprised computer teachers was used for the study. Therefore, 53 questionnaires were distributed to the respondents of which 48 questionnaires were returned making a response rate of 90.7%. The response rate of 90.7% was deemed sufficient as it was above the 70% response rate recommended by Mugenda &Mugenda (1999). The returned questionnaires had 6 questionnaires being rejected due to having identifiers. Therefore, 42 questionnaires comprising 79.24% of the respondents were analyzed. The high response rate was attributed to the reminders of the respondents using both telephone calls and Short Text Messages in order to enhance the response rate.

Table 4.1: Response Rate

Sample Size	Returned Questionnaires	Response Rate (%)	Rejected Questionnaires	Analyzed Questionnaires
53	48	90.7%	6	42

4.2.2 Respondent's Characteristics

The respondents' characteristics were analyzed using the gender distribution, education level, and length of worked period.

4.2.2.1 Gender Distribution

The results for the gender distribution results were illustrated in table 4.2 below.

Table 4.2: Gender Distribution

Gender	Frequency	Percentage
Male	28	66.7
Female	14	33.3
Total	**42**	**100.0**

The gender distribution indicated that 66.7% of the respondents were male while 33.3% of the respondents were female.

4.2.2.2 Education Level

The results for the education level of the respondents were illustrated in table 4.3 below:

Table 4.3: Education Level

Education Level	Frequency	Percentage
College	3	7.1
Graduate Level	22	52.4
Post Graduate Level	17	40.5
Total	**42**	**100.0**

In the context of the education level, 7.1%, 52.4%, and 40.5% of the respondents had college, graduate level and post graduate education levels. The low number of college level computer teachers is attributed to the high literacy levels in the country especially with teachers undertaking school based degree programs. This also explains the high number of respondents with graduate and post graduate education levels. The relative high number of respondents with post graduate level education is attributed to the propensity of teachers within secondary school and larger educations sector to go back to school for higher education levels.

4.2.2.3 Length of Worked Period

The results for the length of period worked was illustrated in table 4.4 below.

Table 4.4: Length of Worked Period

	Frequency	Percentage
0-5 Years	21	50.0
6-10 Years	14	33.3
11-15 Years	7	16.7
Total	**42**	**100.0**

The results indicated that 50.0%, 33.3%, and 16.7% of the respondents had worked for 0-5 years, 6-10 years, and 11-15 years respectively. The high number of respondents that had worked for 0-5 years is attributed to the rising usage of computer into a wide

variety of areas in the society leading to an interest among many schools to offer the subject. This leads to a relatively a young workforce teaching Computer Studies in high schools.

4.2.3 Personnel Mobilization and its Influence in Instructions of Computer Studies

The personnel mobilization effect on optimum instruction of Computer Studies was examined using five metrics; Sufficient number of teachers of Computer Studiesdependent on student population, sufficient number of teachers of Computer Studiesdependent on different form levels, sufficient technicians to work on faulty computers, staff to monitor students during student own practice sessions, and formally trained computer teachers to undertake Computer Studies.

4.2.3.1 Frequency Distribution of Personnel Mobilization

The frequency distribution for the personnel mobilization were presented using table 4.5 below:

Table 4.5: Personnel Mobilization

The principal in my school mobilizes the following personnel/human resources to ensure optimum instruction of Computer Studies;	**SD**	**D**	**U**	**A**	**SA**
4) Sufficient number of teachers of Computer Studies dependent on student population	26.2%	23.8%	21.4%	16.7%	11.9%
5) Sufficient number of teachers of Computer Studies dependent on different form levels	23.8%	26.2%	19.0%	14.3%	16.7%
6) Sufficient technicians to work on faulty computers	9.5%	14.3%	19.0%	23.8%	33.3%
7) Staff to monitor students during student own practice sessions	31.0%	26.2%	16.7%	19.0%	7.1%
8) Formally trained teachers of Computer Studiesto undertake Computer Studies	21.4%	19.0%	7.1%	28.6%	23.8%

The personnel mobilization by the principal was examined using five metrics; sufficiency of teachers of Computer Studies based on student population, sufficiency of teachers of Computer Studies based on different classes, sufficiency of technicians to work on faulty machines, staff monitoring of students during student own practice sessions, and formal training of teachers of Computer Studies in undertaking of studies. The likert scale of five metrics that is Strongly Agree (SA), Agree (A), Uncertain (U) , Disagree (D), and Strongly Disagree (SD).The results for sufficiency of computer teachers based on student population was 26.2%, 23.8%, 21.4%, 16.7%, and 11.9% for strongly disagree, disagree, uncertain, agree and strongly agree respectively. On the other hand, the results for sufficiency of teachers of Computer Studies based on

different classes were 23.8%, 26.2%, 19.0%, 14.3%, and 16.7% for strongly disagree, disagree, uncertain, agree and strongly agree respectively.

The results for sufficiency of technicians to work on faulty machines were 9.5%, 14.3%, 19.0%, 23.8%, and 33.3% for strongly disagree, disagree, uncertain, agree and strongly agree respectively. The results for Staff to monitor students during student own practice sessions were 31.0%, 26.2%, 16.7%, 19.0%, and 7.1% for strongly disagree, disagree, uncertain, agree and strongly agree respectively. On the other hand, the results for formally trained teachers of Computer Studies to undertake Computer Studies were 21.4%, 19.0%, 7.1%, 28.6%, and 23.8% for strongly disagree, disagree, uncertain, agree and strongly agree respectively.

4.2.3.2 Means and Standard Deviations of Personnel Mobilization

The means and standard deviations of personnel mobilization were examined using table 4.6 below:

Table 4.6: Means and Standard Deviations of Personnel Mobilization

	N	Min	Max	Mean	Std. Dev.
Sufficient number of teachers of Computer Studies dependent on student population	42	1.00	5.00	2.4429	1.3582
Sufficient number of teachers of Computer Studies dependent on different form levels	42	1.00	5.00	2.4381	1.4152
Sufficient technicians to work on faulty computers	42	1.00	5.00	3.5714	1.3460
Staff to monitor students during student own practice sessions	42	1.00	5.00	2.4524	1.3104
Formally trained computer teachers to undertake Computer Studies	42	1.00	5.00	3.1429	1.5233
Valid N (listwise)	42				

The means and standard deviations of the personnel mobilization were calculated. The means for sufficiency of teachers of Computer Studies based on student population, sufficiency of teachers of Computer Studies based on different form levels, and sufficiency of technicians to work on faulty machines were 2.4429, 2.4381, and 3.5714 respectively. This means that the respondents on average disagreed in respect to sufficiency of teachers of Computer Studies based on student population, sufficiency of computer teachers based on different classes due to means of 2.4429 and 2.4381 respectively. On the other hand, the sufficiency of technicians to work on faulty machines had a mean of 3.5714 meaning that the respondents on average were uncertain. On the other hand, the staff monitoring of students during student own practice sessions, and formal training of teachers of Computer Studies in undertaking of studies had means of 2.4524 and 3.1429. This implied that in respect to the staff monitoring of students during student own practice sessions indicated that on average disagreed on the metric due to a mean of 2.4524. On the other hand, the respondents indicated that on formally trained computer teachers to undertake Computer Studies, the respondents on average tended to be uncertain due to a mean of 3.1429.

4.2.3.3 Principal Component Factor Analysis for Personnel Mobilization

The principal component factor analysis was used for the analysing of the personnel mobilization with a view of understanding the common underlying dimensions. The Kaiser's Jeffy criteria of factor extraction with eigenvalue of greater than one were used. In this context, two factors were extracted with eigenvalues of 1.645 (factor 1) and 1.257 (factor 2) explaining 32.898% and 25.146% of the variance in the personnel mobilization.

Table 4.7: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.645	32.898	32.898	1.645	32.898	32.898
2	1.257	25.146	58.043	1.257	25.146	58.043
3	.988	19.753	77.796			
4	.768	15.355	93.151			
5	.342	6.849	100.000			

Extraction Method: Principal Component Analysis.

To enable further examination of the factors 1 and 2 in relations to their components, the factor loading of the components under factors 1 and 2 were examined. The factor loading is the degree in which the different components are correlated with that extracted factor. The factor loadings vary from -1.00 to +1.00 in which only the factor loading above 0.3 are considered. In this context, factor 1 had two components that is staff to monitor students during student own practice sessions and formally trained teachers of Computer Studies to undertake Computer Studies with factor loading of 0.830, and 0.575 respectively. On the other hand, factor 2 had three components that is sufficient number of computer teachers dependent on student population, sufficient number of teachers of Computer Studies dependent on different form levels, and sufficient technicians to work on faulty computers with factor loading of 0.803, 0.593, and 0.403 respectively.

In conclusion of this section, the findings indicated in order of decreasing significance (importance) of the different metrics of the personnel mobilization were as follows; Staff to monitor students during student own practice sessions; Sufficient number of teachers of Computer Studies dependent on student population; Sufficient number of

teachers of Computer Studies dependent on different form levels; Formally trained teachers of Computer Studies to undertake Computer Studies; and Sufficient technicians to work on faulty computers. This is in line with the strength of their factor loading of 0.830, 0.803, 0.593, 0.575, and 0.403 respectively. Therefore, staff to monitor students during student owns practice sessions and sufficient number of teachers of Computer Studies dependent on student population were the most important factors.

Table 4.8: Component Matrix

	Component	
	1	2
Sufficient number of teachers of Computer Studiesdependent on student population		.803
Sufficient number of teachers of Computer Studies dependent on different form levels		.593
Sufficient technicians to work on faulty computers		.403
Staff to monitor students during student own practice sessions	.830	
Formally trained computer teachers to undertake Computer Studies	.575	

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

The principals of selected schools were interviewed of diverse aspects relating to the instructional supervision of Computer Studies. In the context of the sufficiency of teachers to undertake the Computer Studies based on the student population, the principals noted that there were diverse challenges in this aspect. The principals noted that the Computer Studies being optional subject at KCSE and in competition with other optional options, the subject sometimes fail to attract student numbers that is economical to maintain a fully-fledged computer department. The principals noted that in most schools the teachers of Computer Studies were occupied with the form one and

two students owing to extremely small numbers in form three and four levels. In the context of the availability of sufficient technicians, most principals noted that they depended on outsourced technicians on a need to basis to address faulty computers. In most cases it was not viable to maintain an in house permanent employee to be working on the computers. However, some of the principals also noted that they relied on diverse staff within the school who addressed the computer challenges in addition to their day to day functions. In this arrangement, the external help was only sought in cases where the internal staff were unable to address a given challenge.

The availability of staff to monitor the students during the undertaking of the computer practices during their free time was a noted challenge. The principals indicated that in most cases the computer department was extremely small to have staff that was consistently available to guide the students during their free time. However, the teacher on duty was in most cases advised to also ensure that there is order in the computer laboratory but with limited capabilities to assist in case of challenges.

4.2.4 Material Mobilization and Its Influence on Instructions for Computer Studies

The material mobilization aspects were examined using availability of computer laboratory computers, printers, printing stationery for practical, storage devices (flash disks or compact diskettes), Computer Studies course books, teacher guides, and internet connection.

4.2.4.1 Frequency Distribution for Material Mobilization

The results for frequency distribution of material mobilization were illustrated in table 4.9 below:

Table 4.9: Frequency Distribution of material mobilization

The principal in my school mobilizes the following material resources to ensure optimum instruction of Computer Studies;		**SD**	**D**	**U**	**A**	**SA**
9)	Computer laboratory	28.6%	21.4%	14.3%	16.7%	19.0%
10)	Computers	19.0%	23.8%	21.4%	19.0%	16.7%
11)	Printers	23.8%	33.3%	26.2%	7.1%	9.5%
12)	Printing stationery for practical	19.0%	14.3%	19.0%	23.8%	23.8%
13)	Storage devices (flash disks or compact diskettes)	11.9%	16.7%	16.7%	26.2%	28.6%
14)	Computer Studies course books	33.3%	16.7%	14.3%	16.7%	19.0%
15)	Teacher guides	14.3%	11.9%	11.9%	28.6%	33.3%
16)	Internet connection	14.3%	19.0%	23.8%	26.2%	16.7%

The results for material mobilization were examined using computer laboratory, computers, printers, printing stationery for practicals, storage devices, Computer Studies course books, teacher guides and internet connection. The likert scale of five metrics that is Strongly Agree (SA), Agree (A), Uncertain (U), Disagree (D), and Strongly Disagree (SD) were used for the study. The results for the availability of computer laboratory were 28.6%, 21.4%, 14.3%, 16.7%, and 19.0% for strongly disagree, disagree, uncertain, agree and strongly agree respectively. The results for the availability of computers were 19.0%, 23.8%, 21.4%, 19.0%, and 16.7% for strongly disagree, disagree, uncertain, agree and strongly agree respectively. The results for availability of printers were 23.8%, 33.3%, 26.2%, 7.1%, and 9.5% for strongly disagree, disagree, uncertain, agree and strongly agree respectively. Printers are key accessories of the computer classes especially in assignments that need to be undertaken and printed assignments presented. The results for availability of printing stationery for

practical were 19.0%, 14.3%, 19.0%, 23.8%, and 23.8% for strongly disagree, disagree, uncertain, agree and strongly agree respectively. The results for storage devices were 11.9%, 16.7%, 16.7%, 26.2% and 28.6% for strongly disagree, disagree, uncertain, agree and strongly agree respectively. The results for Computer Studies course books were 33.3%, 16.7%, 14.3%, 16.7%, and 19.0% for strongly disagree, disagree, uncertain, agree and strongly agree respectively.

The results for Teacher guides were 14.3%, 11.9%, 11.9%, 28.6%, and 33.3% for strongly disagree, disagree, uncertain, agree and strongly agree respectively. The teacher guides are critical in ensuring that the teachers have professionally designed teaching materials to guide them in their teaching. Finally, the results for internet connection were 14.3%, 19.0%, 23.8%, 26.2%, and 16.7% for strongly disagree, disagree, uncertain, agree and strongly agree respectively.

4.2.4.2 Means and Standard Deviations for Material Mobilization

The means and standard deviations for the material mobilization were examined using table 4.10 below:

Table 4.10: Means and Standard Deviations of Material Mobilization

	N	Min	Max	Mean	Std. Dev.
Computer laboratory	42	1	5	2.4619	1.5110
Computers	42	1	5	2.9048	1.3759
Printers	42	1	5	2.4524	1.2137
Printing stationery for practical	42	1	5	3.1905	1.4523
Storage devices (flash disks or compact diskettes)	42	1	5	3.4286	1.3818
Computer Studies course books	42	1	5	2.7143	1.5505
Teacher guides	42	1	5	3.5476	1.4348
Internet connection	42	1	5	3.1190	1.3104
Valid N (listwise)	**42**				

The means and standard deviations of material mobilization were calculated. The means of using computer laboratory, computers, printers, printing stationery for practicals, storage devices, Computer Studies course books, teacher guides and internet connection were 2.4619, 2.9048, 2.4524, 3.1905, 3.4286, 2.7143, 3.5476, and 3.1190 respectively. The means indicated that the respondents on average disagreed that there were sufficient computer laboratory, and printers. On the other hand, the respondents on average agreed that there were sufficient teacher guides to take Computer Studies.

4.2.4.3 Principal Factor Analysis for Material Mobilization

The principal component factor analysis was used for the analysing of the material mobilization with a view of understanding the common underlying dimensions. The Kaiser's Jeffy criteria of factor extraction with eigenvalue of greater than one were used. In this context, three factors were extracted with eigenvalues of 2.750 (factor 1), 1.771 (factor 2), and 1.123 (factor 3) explaining 34.376%, 22.140%, and 14.044% of the variance in material mobilization respectively.

Table 4.11: Total Variance for Material Mobilization Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.750	34.376	34.376	2.750	34.376	34.376
2	1.771	22.140	56.516	1.771	22.140	56.516
3	1.123	14.044	70.560	1.123	14.044	70.560
4	.817	10.212	80.771			
5	.663	8.283	89.054			
6	.475	5.941	94.994			
7	.295	3.691	98.685			
8	.105	1.315	100.000			

Extraction Method: Principal Component Analysis.

To enable further examination of the factors 1, 2 and 3 in relations to their components, the factor loading of the components under factors 1, 2 and 3 were examined. The factor loading is the degree in which the different components are correlated with that extracted factor. The factor loadings vary from -1.00 to +1.00 in which only the factor loading above 0.3 are considered. In this context, the availability of computers was discarded as it didn't have a factor loading of at least 0.3. Factor 1 had four components that is computer laboratory, printers, storage devices, and Computer Studies course books with factor loadings of 0.629, 0.637, 0.579, and 0.673 respectively. On the other hand, factor 2 had only one component that is internet connection with factor loading of 0.416. Finally, factor 3 had two components that is printing stationery for practical and teacher guides with factor loading of 0.414 and 0.669 respectively.

In conclusion of the this section, the findings indicated in order of decreasing significance (importance) of the different metrics of the material mobilization were as follows; Computer Studies course books, teacher guides, printers, computer laboratory, storage devices, internet connection and printing stationery for practicals. This is in line with the strength of their factor loading of 0.673, 0.669, 0.637, 0.629, 0.579, 0.416, and 0.414 respectively. Therefore, Computer Studies course books, and teacher guides were the most important factors.

Table 4.12: Component Matrix of Material Mobilization

	Component		
	1	**2**	**3**
Computer laboratory	.629		
Printers	.637		
Printing stationery for practical			.414
Storage devices (flash disks or compact diskettes)	.579		
Computer Studies course books	.673		
Teacher guides			.669
Internet connection		.416	

Extraction Method: Principal Component Analysis.
a. 3 components extracted.

In relations to the observed challenges on the computers and computer laboratory adequacy, the interviewed principals noted that there were challenges in allocating scarce resources to acquisition of sufficient computer infrastructure. This was due to the low number of students especially at the form three and four levels who undertook the study. In this context, it became a challenge to dedicate substantive resources to the department.

In relation to the availability of material resources, an observation guide was used. The following aspects were examined across the 43 secondary schools that were examined in the study; availability and adequacy of computers, computer laboratories, printers, printing stationery, and storage devices. The results indicated in table 4.21 indicate that there were challenges of computer and computer laboratories which impact on the ability of the teachers to adequately prepare their students in Computer Studies.

Table 4.13: Observation Guides Results

Materials and Resources for Computer Studies	Available & Adequate	Available & Not Adequate	Not Available	Total Number of Schools
Computers	15 Schools	28 Schools	-	43 Schools
Computer Laboratories	13 Schools	30 Schools	-	43 Schools
Printers	32 Schools	11 Schools	-	43 Schools
Printing Stationery	35 Schools	8 Schools	-	43 Schools
Storage Devices	37 Schools	6 Schools	-	43 Schools

4.2.5 Teacher Motivation and Its Influence in Instructions for Computer Studies

Teacher motivation aspects were examined using the following metrics; Monetary compensation for the teachers, receipt of non-monetary gifts for work teaching Computer Studies, exemption from teacher duties such as dorm masters/mistress, class teacher as result of extra work load in Computer Studies, and receive verbal appreciation for work well done before peers in meetings. Other metrics aspects include receives recommendations to attend self-development opportunities such as trainings, seminars, conferences etc, and receives recommendations for promotional opportunities.

4.2.5.1 Frequency Distribution of Teacher Motivation

The frequency distribution of the teacher motivation was presented in the Table 4.13 below.

Table 4.14: Frequency Distribution of Teacher Motivation

The principal in my school motivates the computer teachers in the following manner;	**SD**	**D**	**U**	**A**	**SA**
17) Monetary rewards for the teachers	38.1%	19.0%	11.9%	16.7%	14.3%
18) Receipt of non-monetary gifts for work teaching Computer Studies	26.2%	14.3%	19.0%	14.3%	26.2%
19) Exemption from teacher duties such as dorm masters/mistress, class teacher as result of extra work load in Computer Studies	33.3%	23.8%	19.0%	14.3%	9.5%
20) Receive verbal appreciation for work well done before peers in meetings	21.4%	14.3%	26.2%	23.8%	14.3%
21) Receives recommendations to attend self-development opportunities such as trainings, seminars, conferences etc.	28.6%	26.2%	16.7%	16.7%	11.9%
22) Receives recommendations for promotional opportunities	28.6%	21.4%	16.7%	14.3%	19.0%

The teacher motivation was examined using monetary rewards, receipt of non-monetary gifts, exemption from teacher duties, verbal appreciation work well done, recommendations to attend self-development opportunities, and receipt of recommendations for promotional opportunities. The likert scale of five metrics that is Strongly Agree (SA), Agree (A), Uncertain (U), Disagree (D), and Strongly Disagree (SD) were used for the study. The results for monetary compensation for teachers were 38.1%, 19.0%, 11.9%, 16.7%, and 14.3% for strongly disagree, disagree, uncertain, agree and strongly agree respectively. The results for receipt of non-monetary gifts for work teaching Computer Studies were 26.2%, 14.3%, 9.0%, 14.3%, and 26.2% for

strongly disagree, disagree, uncertain, agree and strongly agree respectively. On the other hand, the results for exemption from teacher duties such as dorm masters/mistress, class teacher as result of extra work load in Computer Studies were 33.3%, 23.8%, 19.0%, 14.3% and 9.5% for strongly disagree, disagree, uncertain, agree and strongly agree respectively.

On the other hand, the results for receipt of verbal appreciation for work well done before peers in meetings were 33.3%, 23.8%, 19.0%, 14.3%, and 9.5% for strongly disagree, disagree, uncertain, agree and strongly agree respectively. The results for receipt for recommendations to attend self-development opportunities such as trainings, seminars, conferences etc. were 28.6%, 26.2%, 16.7%, 16.7%, and 11.9% for strongly disagree, disagree, uncertain, agree and strongly agree respectively. Finally, the results for receipt of recommendation's for promotional opportunities were 28.6%, 21.4%, 16.7%, 14.3%, and 19.0% for strongly disagree, disagree, uncertain, agree and strongly agree respectively.

Table 4.15: Means and Standard Deviation of Teacher Motivation

	N	Min	Max	Mean	Std. Dev.
Monetary rewards for the teachers	42	1	5	2.4984	1.5020
Receipt of non-monetary gifts for work teaching Computer Studies	42	1	5	3.0000	1.5617
Exemption from teacher duties such as dorm masters/mistress, class teacher as result of extra work load in Computer Studies	42	1	5	2.4286	1.3460
Receive verbal appreciation for work well done before peers in meetings	42	1	5	2.9524	1.3606
Receives recommendations to attend self-development opportunities such as trainings, seminars, conferences etc	42	1	5	2.5714	1.3818
Receives recommendations for promotional opportunities	42	1	5	2.7381	1.4989
Valid N (listwise)	**42**				

The means and standard deviations of material mobilization were calculated. The means of monetary compensation, receipt of non-monetary gifts, exemption from teacher duties, verbal appreciation work well done, recommendations to attend self-development opportunities, and receipt of recommendations for promotional opportunities were 2.4984, 3.0000, 2.4286, 2.9524, 2.5714, and 2.7381 respectively. The respondents on average tended to disagree in relations to monetary rewards for teachers, and exemption from teacher duties such as dorm mistress, class teachers etc.

4.2.5.2 Principal Component Factor Analysis of Teachers Motivation

The principal component factor analysis was used for the analysing of the teachers' motivation with a view of understanding the common underlying dimensions. The Kaiser's Jeffy criteria of factor extraction with eigenvalue of greater than one were

used. In this context, three factors were extracted with eigenvalues of 2.171 (factor 1), 1.363 (factor 2), and 1.151 (factor 3) explaining 36.18%, 22.718%, and 19.182% of the variances in teachers' motivation respectively.

Table 4.16: Total of Teachers' Motivation Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.171	36.180	36.180	2.171	36.180	36.180
2	1.363	22.718	58.898	1.363	22.718	58.898
3	1.151	19.182	78.080	1.151	19.182	78.080
4	.705	11.751	89.831			
5	.515	8.583	98.414			
6	.095	1.586	100.000			

Extraction Method: Principal Component Analysis.

To enable further examination of the factors 1, 2 and 3 in relations to their components, the factor loading of the components under factors 1, 2 and 3 were examined. The factor loading is the degree in which the different components are correlated with that extracted factor. The factor loadings vary from -1.00 to +1.00 in which only the factor loading above 0.3 are considered. Factor 1 had two components that is receipt of non-monetary gifts for work teaching Computer Studies and exemption from teacher duties such as dorm masters/mistress, class teacher as result of extra work load in Computer Studies with factor loading of 0.939 and 0.849 respectively. Factor 2 had only one component that is receipt of recommendations to attend self-development opportunities such as trainings, seminars, conferences etc with a factor loading of 0.862. Finally, factor 3 had three components that is monetary compensation for teachers, receipt of

verbal appreciation for work done, and receipt of recommendation for promotional activities with factor loadings of 0.510, 0.444, and 0.802 respectively.

In conclusion of the this section, the findings indicated in order of decreasing significance (importance) of the different metrics of the material mobilization were as follows; receipt on non-monetary gifts, recommendations for self-development opportunities, exemption from teachers' duties such as dorm master, receipt of promotional opportunities, monetary compensation for teachers, and receipt of verbal appreciation for work well done. This is in line with their factor loading of 0.939, 0.862, 0.849, 0.802, 0.510, and 0.444 respectively. Therefore, receipt on non-monetary gifts, and recommendations for self-development opportunities were the most important attributes.

Table 4.17: Component Matrix of Teachers' Motivation

	Component		
	1	**2**	**3**
Monetary rewards for the teachers			.510
Receipt of non-monetary gifts for work teaching Computer Studies	.939		
Exemption from teacher duties such as dorm masters/mistress, class teacher as result of extra work load in Computer Studies	.849		
Receive verbal appreciation for work well done before peers in meetings			.444
Receives recommendations to attend self-development opportunities such as trainings, seminars, conferences etc		.862	
Receives recommendations for promotional opportunities			.802

Extraction Method: Principal Component Analysis.
a. 3 components extracted.

The interviewed principals noted that there were diverse ways in which the teachers were motivated including monetary rewards for good performance, and receipt of non-

monetary gifts in case of good performance. These reward schemes were often implemented in high performing schools.

4.2.6 Monitoring & Evaluation of Computer Studies and Its Influence in Instruction for Computer Studies

The monitoring and evaluation of Computer Studies were examined using examination of teacher of Computer Studies schemes of work, interviewing students randomly, checking students' instruction materials and notes, random visits to the computer laboratory during computer lessons and occasional interviewing of the teacher to ensure teaching takes place.

4.2.6.1 Frequency Distribution of Monitoring & Evaluation of Computer Studies

The results for the frequency distribution of the monitoring and evaluation of Computer Studies are illustrated through table 4.17 below.

Table 4.18: Frequency Distribution Monitoring & Evaluation of Computer Studies

The principal in my school monitors and evaluates Computer Studies implementation in the following manner;	**SD**	**D**	**U**	**A**	**SA**
23) Examining the teachers of Computer Studiesschemes of work	35.7%	21.4%	11.9%	16.7%	14.3%
24) Interviewing students randomly	7.1%	16.7%	28.6%	23.8%	23.8%
25) Checking students instruction materials and notes	23.8%	19.0%	7.1%	26.2%	23.8%
26) Random visits to the computer laboratory during computer lessons	9.5%	14.3%	23.8%	26.2%	26.2%
27) Occasional interviewing of the teacher to ensure teaching takes place	33.3%	26.2%	7.1%	16.7%	16.7%

The monitoring and evaluation of Computer Studies was measured using examination of teachers of Computer Studies schemes of work, interviewing students randomly, random visits to computer laboratory, and occasional interviewing of teachers to ensure teaching takes place. The results for the examination of teachers of Computer Studies schemes of work were 35.7%, 21.4%, 11.9%, 16.7%, and 14.3% for strongly disagree, disagree, uncertain, agree and strongly agree respectively. The results for Interviewing students randomly were 7.1%, 16.7%, 28.6%, 23.8%, and 23.8% for strongly disagree, disagree, uncertain, agree and strongly agree respectively. The results for Checking students instruction materials and notes were 23.8%, 19.0%, 7.1%, 26.2%, and 23.8% for strongly disagree, disagree, uncertain, agree and strongly agree respectively. The results for random visits to the computer laboratory during computer lessons were

9.5%, 14.3%, 23.8%, 26.2%, and 26.2% for strongly disagree, disagree, uncertain, agree and strongly agree respectively. Finally, the results for occasional interviewing of the teacher to ensure teaching takes place were 33.3%, 26.2%, 7.1%, 16.7% and 16.7% for strongly disagree, disagree, uncertain, agree and strongly agree respectively.

4.2.6.2 Means and Standard Deviations of Monitoring and Evaluation

The means and standard deviation were calculated as illustrated in Table 4.18 below.

Table 4.19: Means and Standard Deviations of Monitoring & Evaluation

	N	Min	Max	Mean	Std. Dev.
Examining the teachers of Computer Studies schemes of work	42	1	5	2.5238	1.4855
Interviewing students randomly	42	1	5	3.4048	1.2308
Checking students instruction materials and notes	42	1	5	3.0714	1.5522
Random visits to the computer laboratory during computer lessons	42	1	5	3.4524	1.2916
Occasional interviewing of the teacher to ensure teaching takes place	42	1	5	2.5714	1.5164
Valid N (listwise)	**42**				

The examination of teachers of Computer Studiess schemes of work, interviewing students randomly, random visits to computer laboratory, and occasional interviewing of teachers to ensure teaching takes place had means of 2.5238, 3.4048, 3.0714, 3.4524, and 2.5714. The respondents on average were uncertain in respect to the given metrics.

4.2.6.3 Principal Component Factor Analysis of Monitoring and Evaluation

The principal component factor analysis was used for the analysing of monitoring and evaluation with a view of understanding the common underlying dimensions. The Kaiser's Jeffy criteria of factor extraction with eigenvalue of greater than one were used. In this context, two factors were extracted with eigenvalues of 2.454 (factor 1)

and 1.653 (factor 2) explaining 49.073% and 33.054% of the variances in monitoring and evaluation respectively.

Table 4.20: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.454	49.073	49.073	2.454	49.073	49.073
2	1.653	33.054	82.127	1.653	33.054	82.127
3	.400	7.995	90.122			
4	.252	5.044	95.166			
5	.242	4.834	100.000			

Extraction Method: Principal Component Analysis.

To enable further examination of the factors 1, and 2 in relations to their components, the factor loading of the components under factors 1, and 2 were examined. The factor loading is the degree in which the different components are correlated with that extracted factor. The factor loadings vary from -1.00 to +1.00 in which only the factor loading above 0.3 are considered. Factor 1 had three components that is examining the teachers of Computer Studies schemes of work, checking students instruction materials and notes, and occasional interviewing of the teacher to ensure teaching takes place with factor loading of 0.909, 0.896, and 0.887 respectively. The factor 2 had two components that is interviewing students randomly and random visits to the computer laboratory during computer lessons both with factor loading of 0.902.

In conclusion of the this section, the findings indicated in order of decreasing significance (importance) of the different metrics of the monitoring and evaluation were as follows; examination of the teachers of Computer Studies schemes of work,

interviewing students randomly, checking students instruction materials and notes, random visits to the computer laboratory during computer lessons, and occasional interviewing of the teacher to ensure teaching takes place. Therefore, examination of the teachers of Computer Studies schemes of work, and interviewing students randomly were the most important attributes.

Table 4.21: Component Matrix of Monitoring and Evaluation

	Component	
	1	2
Examining the teachers of Computer Studies schemes of work	.909	
Interviewing students randomly		.902
Checking students instruction materials and notes	.896	.
Random visits to the computer laboratory during computer lessons		.902
Occasional interviewing of the teacher to ensure teaching takes place	.887	

The interviewed principals noted that schemes of work prepared for one year were checked once in year by the principals. On interviewing the students, majority of the principals noted that they randomly interview students to get their views on how learning takes place. A few principals noted that they do carry random visits to the computer laboratory during computer lessons to observe how teaching and learning takes place.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMEDATIONS

5.1 Introduction

This chapter presents summary of the main findings of the study, conclusions and recommendations. Suggestions for further research too are included in this chapter.

The chapter is based on the findings of the preceding chapter, objectives of the study and the research questions that were to be answered by the research.

5.2 Summary of Findings

The main purpose of the current research study was to establish instructional supervision of Computer Studies curriculum by secondary school principals. The research study sought to address the following objectives; to determine how mobilization of personnel influences instruction in Computer Studies, to determine how the principals mobilize material resources for instruction in Computer Studies, to establish how teacher motivation influences instruction in Computer Studies and to establish how principals monitor evaluation in Computer Studies.

5.2.1 Personnel Mobilization and Its Influence in Instruction for Computer Studies

The personnel mobilization by the principal was examined using five metrics; sufficiency of teachers of Computer Studies based on student population, sufficiency of computer teachers based on different classes, sufficiency of technicians to work on faulty machines, staff monitoring of students during student own practice sessions, and formal training of teachers of Computer Studies in undertaking of studies. The results for sufficiency of teachers of Computer Studies based on student population indicated that close to half of the respondents disagreed on availability of sufficient staff.

Similarly, close to half of the respondents were in disagreement when asked on sufficiency of teachers of Computer Studies based on different classes. The results for sufficiency of technicians to work on faulty machines had a majority of the respondents agreeing.

5.2.2 Material Mobilization and Its Influence in Instruction for Computer Studies

The results for material mobilization were examined using computer laboratory, computers, printers, printing stationery for practical, storage devices, Computer Studies course books, teacher guides and internet connection. The results for the availability of computer laboratory had half the respondents indicating that they disagreed on sufficiency of computer laboratory availability. Similarly, the results for the availability of computers indicated that half the respondents disagreed that there were sufficient computer resources. Other pending aspects include insufficient printers, storage devices and teacher guides. Finally, the results for internet connection had half the respondents disagreeing on the availability of sufficient internet connection.

5.2.3 Teacher Motivation and Its Influence in Instruction for Computer Studies

The teacher motivation was examined using monetary compensation, receipt of non-monetary gifts, exemption from teacher duties, verbal appreciation work well done, recommendations to attend self-development opportunities, and receipt of recommendations for promotional opportunities. Amongst the teacher motivation schemes that were seen to be effective include monetary rewards, receipt of non-monetary gifts, exemption from teacher duties such as dorm masters/mistress, class teacher as result of extra work load in Computer Studies and receipt of verbal appreciation for work well done before peers in meetings.

5.2.4 Monitoring & Evaluation of Computer Studies and Its Influence in Instruction for Computer Studies

The monitoring and evaluation of Computer Studies was measured using examination of teachers of Computer Studies schemes of work, interviewing students randomly, random visits to computer laboratory, and occasional interviewing of teachers to ensure teaching takes place. Amongst the components that had majority disagreement include examination of teachers of Computer Studies schemes of work, the results for checking students instruction materials and occasional interviewing of the teacher. Amongst aspects in which a majority of respondents agreed included interviewing students randomly and random visits to the computer laboratory during computer lessons.

5.3 Conclusions

The conclusions of the study were based on the four research objectives;

1. The study concluded that in order of decreasing significance (importance) of the different metrics of the personnel mobilization were as follows; Staff to monitor students during student own practice sessions; Sufficient number of teachers of Computer Studies dependent on student population; Sufficient number of teachers of Computer Studies dependent on different form levels; Formally trained teachers of Computer Studies to undertake computer studies; and Sufficient technicians to work on faulty computers.
2. The study concluded that in order of decreasing significance (importance) of the different metrics of the material mobilization were as follows; Computer Studies course books, teacher guides, printers, computer laboratory, storage devices, internet connection and printing stationery for practicals. Within the material mobilization aspects the provision of the Computer Studies course

books is therefore the most important aspect that the schools should consider on with a view of improving the teaching process of computer studies.

3. The study concluded that in order of decreasing significance (importance) of the different metrics of the material mobilization were as follows; receipt on non-monetary gifts, recommendations for self-development opportunities, exemption from teachers' duties such as dorm master, receipt of promotional opportunities, monetary rewards for teachers, and receipt of verbal appreciation for work well done. In the context of the teachers' motivation, the receipt of the non-monetary gifts and recommendations for the self-development aspects are the most important aspects that would lead to an improvement in the teaching process of Computer Studies.
4. The study concluded that in order of decreasing significance (importance) of the different metrics of the monitoring and evaluation were as follows; examination of the teachers of Computer Studies schemes of work, interviewing students randomly, checking students instruction materials and notes, random visits to the computer laboratory during computer lessons, and occasional interviewing of the teacher to ensure teaching takes place. The monitoring and evaluation had the examination of the teachers of Computer Studies schemes of work and the interviewing of students randomly being the most critical aspects of improving teaching process.

5.4 Recommendations

From the findings obtained and conclusions arrived at, the following recommendations were made:

1. The principals ought to mobilize sufficient number of teachers of Computer Studies dependent on student population; sufficient number of teachers of Computer Studies dependent on different form levels; formally trained computer teachers to undertake Computer Studies; and sufficient technicians to work on faulty computers with a view of improving performance.
2. The principals ought to mobilize sufficient material resources for effective teaching and learning to take place. Such materials include: Computer Studies course books, teacher guides, printers, computer laboratory, storage devices, internet connection and printing stationery for practical. Within the material mobilization aspects the provision of the Computer Studies course books is therefore the most important aspect that the schools should consider on with a view of improving the teaching process of Computer Studies.
3. In the context of the teachers' motivation, the receipt of the non-monetary gifts and recommendations for the self-development aspects are the most important aspects that would lead to an improvement in the teaching process of Computer Studies.
4. The monitoring and evaluation by school principals was found to be equally a critical aspect in instructional supervision. The principals ought to check teachers of Computer Studies schemes of work and interview students randomly with the aim of improving teaching and learning process.

5.5 Suggestions for Further Studies

The study recommends further research on the following areas:

1. Principal's knowledge of computer aspects and how it impacts on the instructional process of Computer Studies in the school.
2. Students attitude towards Computer Studies as an optional subject and how it affects performance
3. A similar research should be conducted on a larger scale to determine instructional supervision of Computer Studies by secondary school principals in other Sub-Counties.

REFERENCES

Aderonmu, W. O., & Ehlemetalor, E. T. (1985). *Introduction to administration of school in Nigeria*. Ibadan: Evans Brother Nigeria Ltd.

Ajani, T.B. (2001). Educational Administration and Supervision*:* The challenges of the 21st century. *Journal of curriculum studies.* 2(3): 16-31.

Calabrese, R., & Tucker –Ladd (1991). The Principal and assistant principal: a mentoring relationship. *NASSP Bulletin*, 75,1991.

Celiktein, M. (1998). *The instructional leadership tasks of high school assistant principals and factors that enhance or inhibit the enactment of these tasks.* Unpublished doctoral dissertation, university of Wisconsin, Madison, Madison.

Canner, (1987). *Inspecting and the inspectorate.* Routledge and Kegan Panl ltd.

Cooper, R. D., & Schindler, P. S. (2011). *Business Research Methods* (11th ed.). New York, United States: McGraw-Hill Publications.

Cheruiyot, T. J. (2015). *Role of Head teachers in supervision of instruction for curriculum implementation: A study of Eldoret West district:* Unpublished M. Phil thesis, Moi University.

Deberoise, W. (1984). Synthesis of research on the princal as an instructtional leader. *Education leadership*, 15,15-20.

Eme, O., Emmanuel, M., & Ernest, O. (2015). Computer Studies and Its impact in Secondary Schools in Umuahia-North Local Government Area of Abia State, *Nigeria.International Journal of Modern Education and Computer Science*, 7(2), 16–23. https://doi.org/10.5815/ijmecs.2015.06.03

Eya, P.E. & Leonard, C.C. (2012). Effective supervision of instruction in Nigeria secondary schools: Issues in quality assurance. *Journal of Qualitative Education* & (1).

Fieldler, F. E. (1964). *A Contingency Model of Leadership Effectiveness Advances in Experiment Social Psychology:* L. Berkowis (ed), vol 1. Academic Press.

Fielder, F. E. (1967). *A Theory of Leadership Effectiveness. Advances in Experimental Social Psychological*. L. Berkowiz (ed), vol, 1, Academic Press.

Fullan M. (1992). *Successful School Improvement.* Celtic court 22 rallmoor, Buckingham. Open University Press

Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An Introduction*. Boston: Pearson Education.

Gaston, D. W. (2005). *Defining the roles and responsibilities of public school assistant principals in Virginia*. unpublished doctoral dissertation, college of William and Mary, Willimasburg, V.A.

Githinji, J. (2013). Cost Benefit Analysis in Implemenbtation of Computer Studies and It's Implications to Learning in Gatanga Muranga County.*International Journal of Education and Research*, 2(3), 45–54.

Goldhammer, et al (1980). *Clinical Supervision:* (2nd ed), New York: Holt, Rinehard and Winston.

Glatthorn, A. A. & Newsberg, N. A. (1982). *Instructional leadership* (Research report). Philadelphia, P.A: Pennsylvania university.

Glickman, C. D.; Gordon, S.P. & Ross Gordon, J.M (2001). *Supervision and instructional leadership.* Needhan Height, MA Allyn and Bacon.

Greenfield, W. D. (1985a). Developing and instructional role for the assistant principal. *Education and urban society*, 18(1),85-95.

Greenfield, W. D. (1985b). *Studies of the assistant principalship education and urban society*, 18, 7-27.

Gwiyo, J. S. (2014). Impact of principals' leadership styles on kcse performance in public secondary schools in tana river county (Kenya*).Journal of Management and Business Studies*, 2(3), 25–27.

Hazi, T.Y. (2004). *Theory and practice of educational administration.* A new approach. Boston: Orientate and Co.

Ilahuyah, I. J. (2014). *Determinants of teachers' job satisfaction in public day Secondary Schools in Sabatia district, Vihiga county-Kenya.*

Jepchumba, V. (2010). *Primary school teachers perception of Head teachers' curriculum in Emgwen Division, Nandi North district:* Unpublished M. Phil thesis, Moi University.

Joseph, A., & John, O. (2015). Effect of Gender on Students ' Academic Performance in Computer Studies in Secondary Schools in New Bussa , Borgu Local Government of Niger State*.Journal of Education and Practice*, 6(33), 1–7.

Kamene, B. (2014). Availability and Utilization of Computers in Teaching and Learning of Business Studies in Secondary Schools: Westlands District Nairobi County, Kenya. *IOSR Journal of Education*, 2(3), 54–60.

Kathleen, M. O. (2006). Changing school culture through staff decisions development. *Association for supervision and curriculum development* 3(1):10-22.

Kefa, G. (2014). Challenges of Implementation of Strategic Plans in Public Secondary Schools in Limuru District, Kimabu County.*International Journal of Humanities and Social Sciences*, 2(3), 26–30.

Kiadese, A. L. (2000). Instructional supervision in business education in Nigeria. *Journal of Vocational Education* (I):28-45.

Kithungu, R. (2015). Factors Influencing Students' Choice of Computer Studies in Public and Private Secondary Schools in Machakos Sub County, Machakos County Kenya.*IOSR Journal of Education*, 2(3), 47–52.

Kombo, D. K., & Tromp, D. L. A. (2009). *Proposal and Thesis Writing: An Introduction.* Nairobi, Kenya: Paulines Publications Africa, Don Bosco Printing Press.

Kuria, M. (2013). Influence of Principals' Leadership Styles on Students' Performance in Kenya Certficate of Secondary Education in Kangema District, Murang'a County, Kenya. *Journal of Economic Research*, 1(3), 27–32.

Macharia, M. (2013). Issues and Challenges in the Implementation of Computer Studies Curriculum in Public Secondary Schools in Kahuro District , Murang ' a County, Kenya. Mwangi Timothy Macharia E55 / Ce / 10096 / 2008 a Research Project Submitted To the School of Education I. *Journal of Education*, 2(3), 74–79.

Marshall, C. (1992b). The assistant principalship: A career postition or a stepping stone to prinipalship*? NASSP Bulletin*, 76 (540), 80-88.

Ministry of Education and Human Resource Development, Kenya. (1999). *School Management Guide.* Kenya. Jomo Kenyatta Foundation.

Mogire, W. (2015). Factors Affecting Use of Computers in Teaching and Learning Mathematics in Secondary Schools in Kisii Central District, Kisii County, Kenya. *Education Journal*, *1*(2), 84–89. https://doi.org/10.1017/CBO9781107415324.004

Mugenda, O. (2003). *Research Methods: Quantitative and Qualitative Approaches*. Nairobi: Acts Press.

Mugenda, O., & Mugenda, A. (1999). *Research Methods;Quantitative and Qualitative Approaches.* Nairobi: Acts Press.

Muthike, J. (2014). Relationship Between Leadership Style and Perfromance of Public Secondary Schools in Makueni County, Kenya. *Journal of Business and Management*, 1(2), 17–24.

Naisiae, K. (2013). Influence of Principals' Leadership Styles on Students' Kenya Certificate of Secondary Examination Performance in Kajiado North District, Kajiado County, Kenya.*International Journal of Business, Humanities and Technology*, 2(3), 89–95.

Ngala, F. (1997). *Management of teachers by headteachers and its influences on pupil academic achievement.* A case of primary schools in Eldoret Municipality, Kenya. Unpublished M, Phil thesis, Moi University, Eldoret.

Nkirote, J. (2013). Influence of Secondary School Principals' Leadership Styles on Students' Perfroamnce in Kenya Certificate of Secondary Education in Nairobi County, Keny*a.Journal of Modern Accounting and Auditing*, 1(2), 28–35.

Nwankwo, O. C. (1984). *An introduction to educational administration, planning and supervision.* Onitsha: Joja Educational Research and publisher limited.

Nzomo, L. N. (2012). *Relationship Between Principals ' Emotional Intelligence and Students' Learning Achievements in Public Secondary Schools in Nairobi County,* a Thesis Submitted To the School of Education in Fulfilment of the Requirements for the Award of the Degree of Doctorate, (October).

Obama, M., Akinyi, L., & Orodho, J. (2015). Effect of Principals' Leadership Styles on Students Academic Performance in Public Secondary Schools in Homa-Bay County, Kenya. *Journal of Humanities and Social Science,* 20(3), 51–60. https://doi.org/10.9790/0837-20375160

Obilade, S.O. (1989). *Introduction to education administration Ibadan*: Odusote Books Ltd.

Odera, F. (2012). A Study of Computer Integrated Education in Secondary Schools in Nyanza Province, Kenya.*International Journal of Education and Research*, 2(3).

Ogunsaju, S. (1983). *Educational Supervision. Perspectives and practices in Nigeria.* Ile-ife: university press ltd.

Okumbe, J.A. (1999). *Educational Management, Theory and Practice*. Nairobi: Nairobi University Press.

Okwako, A. (2013). Strategic Planning and Performance of Public Secondary Schools in Rarienda District, Kenya.*Journal of Management Research*, 2(4), 67-72.

Olaniyan, Z.T. (1996). *Instructional Improvement: principal and processes.* Journal of Educational Studies. (3(4): 58-71.

Olembo, J. O., Wanga, P. E., & Karagu, N.M. (1992). *Management in Education.* Nairobi: Education Research and Publication.

Olonunfemi, D. O. (2008). Challenges of Instructional supervision in the new millennium: implication for effective planning. *Journal of multidisciplinary studies*. 3(2):68-80.

Omanwa, R. (2012). *Induction needs of secondary school leaders in curriculum supervision: A case of Kisii Central district:* Unpublished M. Phil thesis, Moi University.

Orodho, A. (2008). *Techniques of Writing Research Proposal & Reports in Educational and Social Sciences.*

Orodho, A., & Kombo, D. (2002). *Research Methods*. Nairobi: Kenyatta University, Institute of Open Learning.

Paraskeva, F., Bouta, H., & Papagianni, A. (2008). Individual characteristics and computer self-efficacy in secondary education teachers to integrate technology in educational practice.*Computers and Education*, 50(3), 1084–1091. https://doi.org/10.1016/j.compedu.2006.10.006

Patrick, E.M & Dawson, J.A (1985). *Case studies of fire teacher supervision/evaluation systems.* (report No. ED 376615). Harrsburg, P.A: Pennsylvania Department of Education.

Pugh, D. S. (1990). *Organizational Theory.* New edition, London: Penguin Group.

Saunder, M., Lews, P., & Thornhill, A. (2009). *Research Methods for Business Students* (4th ed.). Harlow: Prentice Hall Financial Times.

Sekaran, U., & Bougie, R. (2011). *Research Methods for Business: A Skill Building Approach* (5th ed.). Delhi: Aggarwal printing press.

Sergiovanni, T. J., and Starrat, R. J. (1995). *Supervision Human Perspectives*. New York: Mc Graw-Hill.

Toili, W., & Mutsotso, S. (2013). Effect of General Computer Use on Secondary School Students ' Performance in Biology Students ' Performance in Biology. *Greener Journal of Computer Sciences*, 1(1), 16–30.

Upagade, V., & Shende, A. (2012). *Research Methodology* (2nd ed.). Ram Nagar, New Delhi: S.Chad and Company Ltd.

Wanga, P. E. & Kiragu (1984). *Supervision and Instruction: Emerging concept: Supervision and evaluation.* A class handout. Kenyatta university.

Williams, W.S. (1972). *News Dimensions in supervision:* New York: International Text Book Co.

APPENDICES

Appendix A: Consent Statement

Dear Participant,

My name is Newton Onkundi, a Master's of Education student at Moi University. You have been selected as part of the study entitled **"*Instructional supervision of Computer Studies curriculum by Secondary school principals in Nakuru East Sub-County, Nakuru County.*".** I am inviting you to participate in the research by completing the attached questionnaire.

The questionnaire will not take more than 20 minutes. The information that you will share with me will not be discussed or accessed by any other person apart from the researcher and the people directly involved in the project. Your participation is voluntary and you can withdraw at any time without penalty. Your answers will be kept confidential. There will be no financial compensation for participating in this study. The outcome of this research may be used for academic and general purposes such as research reports, conference papers, or books. By completing the questionnaire, you indicate that you voluntarily participate in this research.

In case of any questions, concerns or clarifications that you would like addressed, please contact me, Newton Onkundi, on cell phone number 0727-839320

Appendix B: Instructional Supervision of Computer Studies Curriculum by Secondary School Principals in Nakuru East Sub-County, Nakuru County

QUESTIONNAIRE FOR TEACHERS OF COMPUTER STUDIES

Instructions: Please complete the following questionnaire appropriately.

Confidentiality: The responses you provide will be strictly confidential.

No reference will be made to any individual(s) in the report of the study.

Please tick or answer appropriately for each of the Question provided.

PART A: BACKGROUND INFORMATION

1)	What is your gender?	Male	[ ]
		Female	[ ]
2)	What is your highest education level?	College	[ ]
		Graduate Level	[ ]
		Post Graduate Level	[ ]
3)	How Long have you worked as a teacher of Computer Studies?	0-5 Years	[ ]
		6-10 Years	[ ]
		11-15 Years	[ ]

PART B: PERSONNEL MOBILIZATION

For each of the following parts, please tick where applicable to the extent to which you agree using the following likert scale.

SA= Strongly Agree A=agree U=Uncertain D=Disagree SD=Strongly

	The principal in my school mobilizes the following personnel/human resources to ensure optimum instruction of computer studies;	**SD**	**D**	**U**	**A**	**SA**
4)	Sufficient number of teachers of Computer Studiesdependent on student population					
5)	Sufficient number of teachers of Computer Studiesdependent on different form levels					
6)	Sufficient technicians to work on faulty computers					
7)	Staff to monitor students during student own practice sessions					
8)	Formally trained teachers of Computer Studiesto undertake Computer Studies					

PART C: MATERIAL RESOURCES MOBILIZATION

For each of the following parts, please tick where applicable to the extent to which you agree using the following likert scale.

SA= Strongly Agree A=agree U=Uncertain D=Disagree SD=Strongly

	The principal in my school mobilizes the following material resources to ensure optimum instruction of computer studies;	**SD**	**D**	**U**	**A**	**SA**
9)	Computer laboratory					
10)	Computers					
11)	Printers					
12)	Printing stationery for practicals					
13)	Storage devices (flash disks or compact diskettes)					
14)	Computer Studies course books					
15)	Teacher guides					
16)	Internet connection					

PART D: TEACHERS MOTIVATION

For each of the following parts, please tick where applicable to the extent to which you agree using the following likert scale.

SA= Strongly Agree A=agree U=Uncertain D=Disagree SD=Strongly

	The principal in my school motivates the computer teachers in the following manner;	**SD**	**D**	**U**	**A**	**SA**
17)	Monetary reward for the teachers					
18)	Receipt of non-monetary gifts for work teaching Computer Studies					
19)	Exemption from teacher duties such as dorm masters/mistress, class teacher as result of extra work load in Computer Studies					
20)	Receive verbal appreciation for work well done before peers in meetings					
21)	Receives recommendations to attend self-development opportunities such as trainings, seminars, conferences etc					
22)	Receives recommendations for promotional opportunities					

PART E: MONITORING AND EVALUATION OF COMPUTER STUDIES IMPLEMENTATION

For each of the following parts, please tick where applicable to the extent to which you agree using the following likert scale.

SA= Strongly Agree A=agree U=Uncertain D=Disagree SD=Strongly

	The principal in my school monitors and evaluates Computer Studies implementation in the following manner;	SD	D	U	A	SA
23)	Examining the teachers of Computer Studies schemes of work					
24)	Interviewing students randomly					
25)	Checking students instruction materials and notes					
26)	Random visits to the computer laboratory during computer lessons					
27)	Occasional interviewing of the teacher to ensure teaching takes place					

Appendix C: Interview Guide for Principals

(For principals)

How do the following aspects influence the supervision of Computer Studies

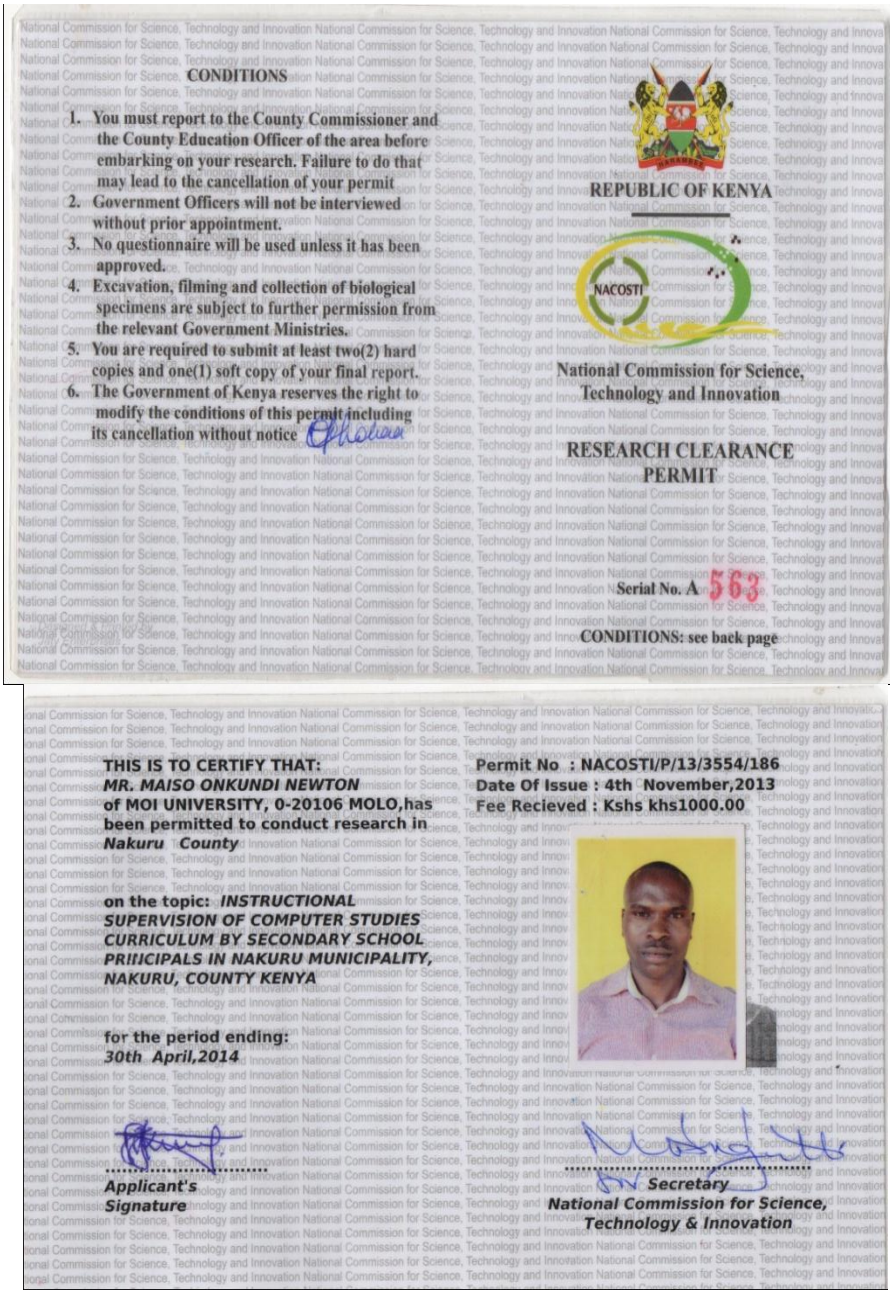
1) Sufficient number of teachers of Computer Studies dependent on student population
2) Sufficient number of teachers of Computer Studies dependent on different form levels
3) Sufficient technicians to work on faulty computers
4) Staff to monitor students during student own practice sessions
5) Formally trained teachers of Computer Studies to undertake computer studies
6) Computer laboratory
7) Computers
8) Printers
9) Printing stationery for practical
10) Storage devices (flash disks or compact diskettes)
11) Computer Studies course books
12) Teacher guides
13) Internet connection
14) Monetary rewards for the teachers
15) Receipt of non-monetary gifts for work teaching Computer Studies
16) Exemption from teacher duties such as dorm masters/mistress, class teacher as result of extra work load in Computer Studies
17) Receive verbal appreciation for work well done before peers in meetings
18) Receives recommendations to attend self-development opportunities such as trainings, seminars, conferences etc

19) Receives recommendations for promotional opportunities
20) Examining the teachers of Computer Studiesschemes of work
21) Interviewing students randomly
22) Checking students instruction materials and notes
23) Random visits to the computer laboratory during computer lessons
24) Occasional interviewing of the teacher to ensure teaching takes place

Appendix D: Observation Checklist

MATERIALS AND RESOURCES FOR COMPUTER STUDIES	**AVAILABLE AND ADEQUATE**	**AVAILABLE AND NOT ADEQUATE**	**NOT AVAILABLE**
Computers			
Computer laboratories			
Printers			
Printing stationary			
Storage devices			

Appendix E: Research Permit



CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice

REPUBLIC OF KENYA

NACOSTI

National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No. A 563

CONDITIONS: see back page

THIS IS TO CERTIFY THAT:
MR. MAISO ONKUNDI NEWTON
of MOI UNIVERSITY, 0-20106 MOLO,has been permitted to conduct research in *Nakuru County*

on the topic: *INSTRUCTIONAL SUPERVISION OF COMPUTER STUDIES CURRICULUM BY SECONDARY SCHOOL PRIIICIPALS IN NAKURU MUNICIPALITY, NAKURU, COUNTY KENYA*

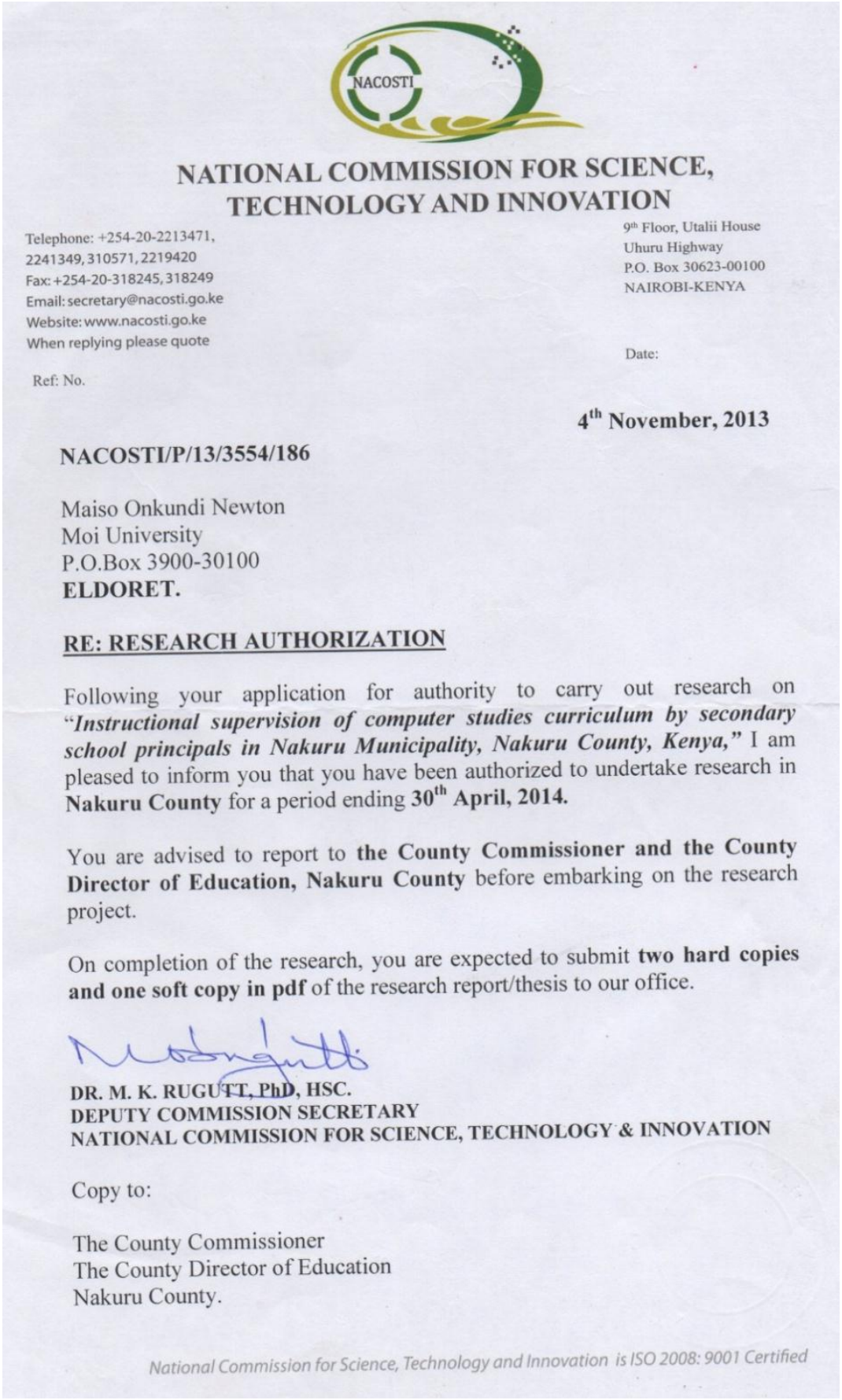
for the period ending:
30th April,2014

Permit No : NACOSTI/P/13/3554/186
Date Of Issue : 4th November,2013
Fee Recieved : Kshs khs1000.00

.....
Applicant's Signature

.....
Secretary
National Commission for Science, Technology & Innovation

Appendix F: Research Authorization from NACOSTI



NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

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

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

Ref: No.

Date:

4th November, 2013

NACOSTI/P/13/3554/186

Maiso Onkundi Newton
Moi University
P.O.Box 3900-30100
ELDORET.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Instructional supervision of computer studies curriculum by secondary school principals in Nakuru Municipality, Nakuru County, Kenya,"*** I am pleased to inform you that you have been authorized to undertake research in **Nakuru County** for a period ending **30th April, 2014.**

You are advised to report to **the County Commissioner and the County Director of Education, Nakuru 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, PhD, HSC.
DEPUTY COMMISSION SECRETARY
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Copy to:

The County Commissioner
The County Director of Education
Nakuru County.

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

Appendix G: Research Authorization from the Nakuru County Director of Education

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

Telegrams: "EDUCATION",
Telephone: 051-2216917
Fax: 051-2217308
Email: cdenakurucounty@yahoo.com
When replying please quote
Ref. NO.
CDE/NKU/GEN/4/1/21/(185)

COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY
P. O. BOX 259,
NAKURU.

2 December 2013

Sub-County Education Officer
NAKURU SUB-COUNTY

RE: RESEARCH AUTHORIZATION
MAISO ONKUNDI NEWTON – MOI UNIVERSITY

The above named is hereby given authority to undertake a research on **"Instructional supervision of computer studies curriculum by secondary school principals in Nakuru Municipality, Nakuru County, Kenya."** The research will be for a period ending 30th April, 2014.

The research must be conducted with maximum professional adherence expected in school environment.

SAMMY MALABA
FOR: COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY

Appendix H: Research Authorization from the Deputy County Commissioner Nakuru East Sub-County

OFFICE OF THE PRESIDENT
MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL GOVERNMENT

Telegram: "DISTRICTER" Nakuru
Telephone: Nakuru 051-2212515
When replying please quote

THE DEPUTYCOUNTY COMMISSIONER
NAKURU SUB COUNTY
P.O. BOX 81-20100
NAKURU.

REF: ED.12/10 VOL.VII/45 2nd December, 2013

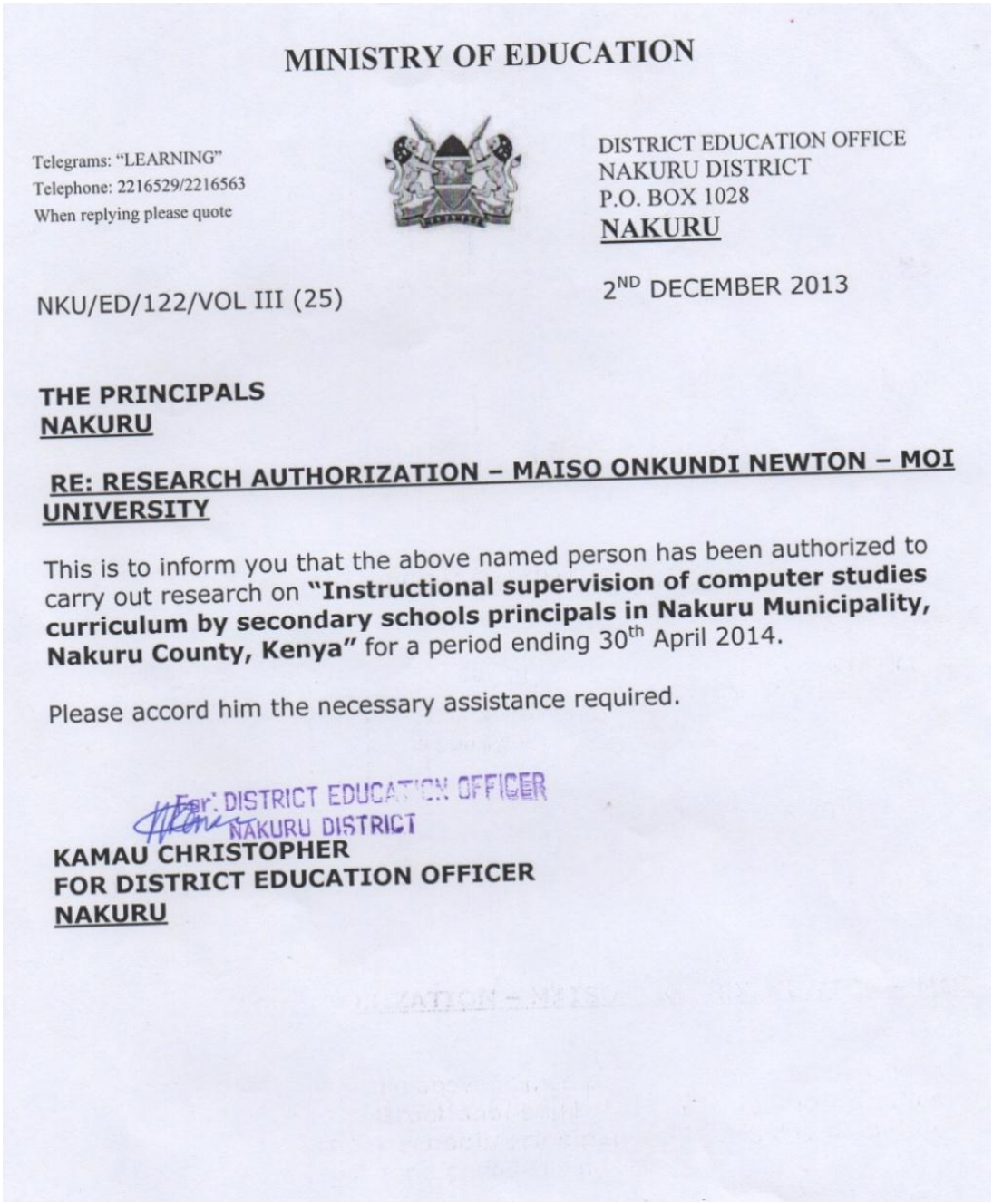
TO WHOM IT MAY CONCERN

RESEARCH AUTHORIZATION
MAISO ONKUNDI NEWTON-NACOSTI/13/3554/I86.
The above named has been authorized to carry out a research on "**Instructional Supervision of computer studies curriculum by secondary school principals in Nakuru Municipality, Nakuru county, Kenya ,"**for a period ending 30th April,2014.

.
Please accord him all the necessary assistance to facilitate his research.

J.M. MUSAU
FOR: DEPUTY COUNTY COMMISSIONER
NAKURU SUB COUNTY

Appendix I: Research Authorization From The Nakuru East Sub-County Director Of Education



MINISTRY OF EDUCATION

Telegrams: "LEARNING"
Telephone: 2216529/2216563
When replying please quote

DISTRICT EDUCATION OFFICE
NAKURU DISTRICT
P.O. BOX 1028
NAKURU

NKU/ED/122/VOL III (25)

2ND DECEMBER 2013

THE PRINCIPALS
NAKURU

RE: RESEARCH AUTHORIZATION – MAISO ONKUNDI NEWTON – MOI UNIVERSITY

This is to inform you that the above named person has been authorized to carry out research on **"Instructional supervision of computer studies curriculum by secondary schools principals in Nakuru Municipality, Nakuru County, Kenya"** for a period ending 30th April 2014.

Please accord him the necessary assistance required.

For: DISTRICT EDUCATION OFFICER
NAKURU DISTRICT

KAMAU CHRISTOPHER
FOR DISTRICT EDUCATION OFFICER
NAKURU