INFLUENCE OF TEACHING-LEARNING RESOURCES PROVISION ON STUDENTS' RETENTION RATES IN PUBLIC SECONDARY SCHOOLS IN NAIVASHA SUB-COUNTY, KENYA

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DECLARATION

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

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DEDICATION

This project is dedicated to my mother, Rodah, who took me to school and taught me that the best kind of knowledge to have is that which is learned for its own sake. I also dedicate this work to my dear husband, Moses, for his financial support and whose constant encouragement has made sure that I give it all it takes to finish that which I had started. To my children, Margaret, Symons and Barbara, who have been affected in every way possible by this quest for knowledge. My appreciation goes to my sister, Damaris, who took care of my children during my study. Thank you. My love for you all can never be quantified. God bless.

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May God bless you all!

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ABBREVIATIONS AND ACRONYMS

BOM	Board of Management
GoK	Government of Kenya
HoD/HOD	Heads of Departments
IT	Information Technology
ICT	Information and Communication Technology
KIPPRA	Institute for Policy Research and Analysis
MoE	Ministry of Education
PSS	Public Secondary Schools
TLR	Teaching-Learning Resource
UNESCO	United Nations Educational, Scientific and Cultural Organization

ABSTRACT

Education is a fundamental human right, and a key input in production and development of an economy. This explains why countries worldwide plan for and increase budgetary allocations to fund various educational programs each financial year. There is however concern on the quality of education offered and retention of students in schools. The purpose of this study was to examine the influence of Teaching-Learning Resources (TLR) provision on students' retention rates in Public Secondary Schools (PSS) of Naivasha sub-county. Four objectives were formulated to guide the study; the objectives of the study were to determine how provision of TLR in PSS influenced students' retention in schools, which was done by determining the availability and utilization of TLR in schools, the study also established how availability and use of TLR influenced students' retention, and also assessed the extent of resources TLR utilization and its effect on students' retention in PSS in Naivasha sub-county. The study used descriptive research design, and data was collected using observation schedule and three sets of questionnaires for the principal, heads of departments (HoDs) and students. The target population consisted of all the 35 PSS in Naivasha sub-county, their principals, HODs and students. The sample consisted of 10 principals, 50 HoDs and 400 students from 10 sampled PSS. Pearson Product Moment Correlation was used to analyze data using Statistical Package for Social Sciences (SPSS). Analyzed data was presented using tables and percentages. The study found out that TLR, computers, science laboratory equipment, school library and textbooks were provided and utilized in schools for teaching-learning activities but the TLRs had no influence on retention rates of students in PSS in Naivasha sub-county. Based on study findings, it is recommended that the Government of Kenya (GoK) should provide all the textbooks in all the subjects in the schools, there is need for all schools without a library to make an effort of getting a place for the students to do private studies, computers should be used more in the teaching and learning activities, and schools should improve in utilization of science laboratory equipment in classroom teaching and learning. The study also recommends that a similar research could be carried out in other parts of the country, Kenya, since different parts of the country have different characteristics

CHAPTER ONE

INTRODUCTION

1.1Background to the study

Education and training are the rule methods for making beneficial and supportable social orders. They give system of methodology to considering and taking care of issues and in addition boosting the limit with regards to accomplishing full welfare of populace (Psacharopoulus and Woodhall, 1985, and Mohanty, 2010). Learning is a mind boggling action that includes interaction of understudies' inspiration, physical offices, showing assets, and aptitudes of instructing and educational modules requests. Accessibility of educating and learning assets in this manner improves the viability of schools as they are the essential resources that realize great scholarly execution bringing about understudy maintenance. The vital resources that ought to be accessible for instructing and learning incorporate material assets, human asset, for example, educators and care staff, and physical offices, for example, science research centers, course books, libraries and PCs classrooms (Lyons (2012). Instructing and learning assets enhances get to and instructive results since students are more averse to be missing from schools that give intriguing, significant and important encounters to them. These assets ought to be given in quality and amount in schools for powerful instructing learning process.

Retention on the other hand refers to ensuring students enrolled in secondary schools remain in school until they complete their course without dropping out. Retention of students in secondary school has been quite a priority across various countries in the global scenes, for instance in America, there has been variation in student retention rates across various states. In Canada for example high school retention has been on the increase by nearly 11 percent between the years 1997 to 2010. This is because

the government in the region has put retention of students as the first priority. They have put in place a stay in school program with broader economic and social factors that can have more important implications than policy in contributing to Canada's impressive performance on retention (Conference Board of Canada, 2013). On the other hand, retention of students in some schools has been quite demanding in other parts of America. This has contributed a lot in the increased research studies in the American education (Higgins, 2012).

According to UNICEF (2012) the sub-Saharan African countries retention of students in secondary education is generally high for male as compared to female. The report indicates that 21 percent of female compared to 28 percent of male are retained in secondary schools. That reflection does not exclude Kenya as a country. There were different factors that make student remain in schools which include both home based and school based. The study will look at school based issues which include provision and use of computers, use of science laboratory equipment, use of library and provision of textbooks.

Provision and use of computers by learners during learning create an interaction of computers with traditional instructions adding digital value in thinking making learners learn more quickly because computers positively improve students' attitudes towards learning and school leading to greater retention rate in school. Computers give students an atmosphere of active learning because students are involved in learning at all times, make their own learning decisions and buy into classroom time. (Hammond, Zielezinski and Goldman, 2014).Computers provide students with

opportunities for self-learning, make learning subject matter more interesting, increase students' concentration, creativity and imagination, and improve students' school attendance and retention because students have multiple engaging modes of learning as observed in Kerala and Karnataka states of India where use of computers in teaching and learning process has increased children concentration, creativity and imagination leading to improved achievement levels and increased regular attendance in school (Gupta and Horidas, 2012, and Spring, 2012, ICT Synchronous Online Course). In Pakistan lack of TLR has contributed to 30 percent of students dropping out of school between grade 1 and grade 5 (Children of Tomorrow, 2014). The researchers have also asserted that the 30 percent attrition rate has been reduced by introduction of computers to classrooms to entice children to attend and stay in school hence increasing the retention rates. The study by Hammond, Zielezinski and Goldman, (2014) found out that students who had a high risk of dropping out of school benefited from the opportunities to learn that included one to one access to computers hence computers helped in the retention of students.

Use of science laboratory equipment during the teaching-learning of science motivates students where the real objects used in the laboratories impresses learners firmly in the mind than the objects that are merely seen from a distance or in an illustration (Yara and Otieno, 2010). Use of science laboratory equipment helps in transfer of knowledge and creating an environment that promotes learning fostering students' retention in science programs (Larose, S., Bernier, A., and Tarabulsy, G.M, 2005). In Pakistan provision of science laboratory equipment, computers and reading

materials to community schools insured students' retention rate of 92 percent (Balochistan Rural Support Program, 2013).

School libraries help teachers teach students, support school programs and teaching-learning process, provide materials that meet students' learning needs, partners in implementing strategies that improve test scores making students be academically better, and provide reading room and increase reading abilities for success of students at school (Udoh-Liomachine, 2008). The scholar also observed that school libraries provides recreational and information material to arouse students' interests. Provision of a library improves students' retention in school as seen in New York where schools that rely on library to support students' growth in information literacy, technological skills, and access to resources and equipment have experienced increased motivation, high assessment scores and ultimate higher graduation rates (New York Comprehensive Centre, 2011). The center also asserts that schools in New York that have relied on their libraries to support student growth in areas of literacy, technological skills, and access to resources and equipment, have seen increased motivation, higher assessment scores and ultimately higher retention rates leading to higher graduation rates.

Textbooks bring out the content alive and understandable to children (Obonyo, 2005). When students are provided with textbooks, the students experience several benefits which include access to information, noted and highlighted key points, guided understanding of sentences and future reference to refresh students' memories (Benefits of using textbooks, 2010).The scholar also noted that textbooks provide learners with material to be covered and the design for each lesson is spelt-out in detail, organized units of work, and a balanced chronological presentation of

information. In California students are required to gain knowledge contained in textbooks, instructional material and technology in order to meet the California Content Standards and pass the high state tests (Oakes and Saunders, 2004). They further state that the pass tests measures what the students have attained, level of mastery required for grade-to-grade promotion, retention of students and high school graduation.

Classroom teaching should include active and interactive learning through TLR as the basis for developing an understanding of core disciplinary concepts and those underpit academic success with strong implication for students' retention in education (UNESCO Education, n.d). Provision of resources such as textbooks and desks for writing space, libraries with latest journals, and science laboratory equipment remain a challenge in many countries. Teaching-Learning Resources play a huge part in the ability of an education institution to provide the support necessary to engage and retain students in school (Swail, 2004). Swail (2004) further assert that in America higher education institutions with limited resources see 75 percent of their students leave before graduation and as many as 25 percent of their students leave by the end of freshman year leading to low retention rates of students in those educational institutions.

Yara and Otieno (2010) observed that there are inadequate TLR in most Kenyan public secondary schools as students are overcrowded in classrooms and have inadequate learning facilities, textbooks and science laboratories equipment. Therefore, citizens and the Government of Kenya (GoK) are investing heavily in improving the quality of education in an effort to realize Education for All (EFA), education-related Millennium Development Goals (MDGs) and Vision 2030, increase transition rate and attain higher retention of students in secondary schools

(Ngware, Onsomu, Mutheka and Manda, 2007). The gross enrolment ratio of secondary education in Kenya has had steady expansion from 42.5 percent in 2008 to 56.2 percent in 2013 (MoEST, 2014). The information from the Education Management Information System (EMIS) at Naivasha Sub-County Education Office indicates that there are a few public secondary schools with computers, science laboratory equipment, libraries and textbooks for teaching-learning activities. The EMIS also indicate low retention rates of students in public secondary schools of Naivasha sub-county. Therefore, the study intended to establish the influence of teaching-learning resource provisions on students' retention rates in public secondary schools in Naivasha sub-county.

1.2 Statement of the problem

In Kenya financing physical and material resources in secondary schools before 2008 was based on the cost sharing policy introduced officially in 1988 which required most costs in education to be met by through partnership between public financing, non-governmental organizations, individuals, communities and the private sector (Republic of Kenya, 1988). Within this funding policy framework, the general government job included proficient advancement of educators, instructors' compensation in broad daylight organizations, organization and the management, and arrangement of bursaries and grants to destitute students. Further the parents according to this policy were responsible for providing material resources like textbooks, supplementary readers and stationary, erecting and maintaining physical facility such as science laboratory, classrooms, libraries and workshops among others. However according to Kippra (2006), the cost sharing policy led to disparities in the availability of physical and material in secondary school because of the

poverty levels among households and the dwindling economy making the government in the cost sharing policy shift the responsibility of acquiring educational resources to the local communities and schools. According to Obunya (2008), subsidized secondary education Introduced in 2008 is an intervention within which the government provides finances for the purchase of educational resources like textbooks to all public secondary schools according to their enrolment. Further the constituency development fund introduced in 2003 sponsors the development of school physical facility such as science laboratory, computer rooms and libraries among others. In 2017 the Kenya government started supplying textbooks to all public schools attaining the1:1 learner to textbook ratio, meaning that schools will no longer receive capitation funds for buying textbooks from the government (Wanjala, 2017).

Introduction of free tuition in public secondary schools in 2008 has influenced enrolment of students overstretching the available facilities, infrastructure and learning resources such as textbooks, science laboratory equipment, libraries and computers and over clouding classrooms leading to high wastage rates through dropout repetition of students (Frederiksch, 2013, Gachie, 2012, Maitima, 2012, and Yara and Otieno, 2010). According to Republic of Kenya (13 and 15) in 2008 to 2012 there has been a gradual increase in number of secondary schools, secondary school enrolment and Kenya Certificate of Secondary Education (KCSE) candidature in Kenya but the completion rates of students in public secondary schools has been below 100 percent of the total students enrolment as show in the table 1.1 below.

Table 1.1: A summary of number of students, enrolment of students in public secondary schools, KCSE candidature, and completion rates of students in public secondary schools in 2008, 2009, 2011 and 2012.

	2008	2009	2011	2012
Number of secondary school	6566	6971	7297	8197
Enrolment of students in secondary schools in '000	1382.2	1507.5	1767.7	1914.8
KCSE candidature	301400	333816	410586	432443
Completion rates of students in public secondary schools (%)	79.8	83.2	74.6	80.3

Despite the GoK providing TLR to public secondary schools, and a gradual increase in enrolment of students in public secondary schools, the completion rates of student are still below 100 percent. The research study shall attempt to assess provision of Teaching-Learning Resources (TLR) in public secondary schools and retention rates of students in public secondary schools. The research study shall also attempt to determine whether provision of TLR for teaching and learning process has an influence on retention rates of students in public secondary schools in Naivasha sub-county.

1.3 Purpose of the study

The purpose of the study was to determine the influence of provision of teaching-learning resources on students' retention rates in public secondary schools.

1.4. Objectives of the study

The objectives to guide the study are

i. To assess how provision of computers for classroom teaching affects students' retention rates in public secondary school in Naivasha Sub-county.

ii. To examine how provision of science laboratory equipment for classroom teaching affects students retention rates in public secondary schools in Naivasha Sub-county.

iii. To determine how provision of textbooks for classroom teaching influence students' retention rates in public secondary schools of Naivasha Sub-county.

iv. To analyze the effect of the provision of school library for classroom teaching on students' retention rates in public secondary schools of Naivasha Sub-county.

1.5 Research questions

i. To what extent does the provision of computers for classroom teaching influence students' retention rates in public secondary schools in Naivasha Sub-county?

ii. To what extent does the provision of science laboratory equipment for classroom teaching influence students' retention rates in public secondary schools in Naivasha Sub-county?

iii. How does the provision of textbooks for classroom teaching influence students' retention rates in public secondary schools in Naivasha Sub-county?

iv. To what extent does the provision of school library for classroom teaching influence the students' retention rates in public secondary schools in Naivasha Sub-county?

1.6 Significance of the study

The study is hoped to generate information regarding influence of the provision of TLR for teaching and learning process on retention rates of students in the education system. The information obtained may be used in the formulation of educational

policies and for making decisions at both sub-county and school levels on provision of TLR so as to improve the retention rates of students in education system. The findings may be used to sensitize the various stakeholders, such as Board of Management, (BOM), and Parent-Teachers Association, (PTA), on the importance of providing TLR in schools as they make rational decisions during formulation, adoption and implementation of school plan or budget. The findings may help to inform on how to improve the utilization of TLR by teachers and students for the purpose of improving the quality of education hence increasing retention rates of students in public secondary schools.

1.7 Limitation of the study

An impediment or limitation is a part of research that may impact the outcomes contrarily yet over which the researcher has no control (Mugenda and Mugenda, 2003). The sample of the study shall comprise a specific group of people, principals, heads of departments and students, and might have to access to only certain documents, class registers, for certain data, in public secondary schools in Naivasha Sub-county. The classroom teachers collect and record information in the class registers on daily basis limiting the researcher from getting consolidated data and trends in retention of students in public secondary schools in Naivasha Sub-county. However, the observations made by the researcher can be used to determine the retention rates of students in the sampled schools in Naivasha Sub-county. The finding could be applied to schools in similar environmental characteristics as those public secondary schools in Naivasha Sub-county.

1.8 Delimitation of the study

Delimitations are the boundaries of the study (Orodho, 2008). The study was restricted to the influence of teaching- learning resource provisions on retention rates of students in public secondary schools in Naivasha Sub-county. The Sub-county Education Office and principals, class teachers and students in all public secondary schools in Naivasha Sub-county provided information to the study.

1.9 Assumptions of the study

The study assumed that:

i. Provision of the TLR influences retention rates of students in public secondary schools in Naivasha Sub-county.
ii. Accurate information on provision of TLR and students' retention should provide by the Sub-county Education Office, and principal, class teachers and students of public secondary schools in Naivasha Sub-county.
iii. The class teachers have been keeping track of their students' school attendance through class registers and provision of TLR so as to provide accurate data to the researcher for the study.

1.10 Definition of significant terms

This section attempted to give the operational definitions of the terms used in this study proposal.

Computer refers to an electronic device that takes input, data, such as numbers, text, sound, image, animations, and video, and converts it as output, information. It is used by teachers and students as a TLR during teaching.

Learner /student refer to someone who attends an educational institution for the purpose of studying.

Library refer to a physical building or room in an educational institution with an organized collection of books, periodicals, newspapers, manuscripts, films, maps, videotapes, prints, documents, compact discs, cassettes, e-book, audiobooks and data bases made accessible to learners for reference or borrowing.

Public secondary school refers to an educational institution that provides secondary education after primary school and before higher education.

Retention rate refer to a measure of the percentage of students who continue in the school system and do not dropout.

Science laboratory equipment refers to a collection of instruments, apparatus and chemicals stored in a room in an educational institution used by teachers to teach science courses/subjects.

Teaching-learning resources refer to educational material and media that teachers use in classroom to support the teaching and learning of specific concepts as set out in the lesson plan.

Textbook refer to a printed and bound manual of instruction for each year, subject or course of study specially made by a corporation to follow a set standards for an education system.

1.11Organization of the study

The study was organized in five chapters. Chapter one lay emphasis on the basis of the study and covers background of the study, statement of the problem, research objectives and research questions. It has also covered the significance of the study, limitation of the study, delimitation of the study and definition of significant terms. Chapter two contained the review of literature. In the reviewed literature, the

following issues are to be addressed; influence of TLR on students' retention in education system, influence of provision of the computers on students retention, influence of provision of science laboratory equipment to students' retention, influence of provision of school libraries to retention of students in school, and relevance of provision of textbooks on students' retention in school. Chapter three described the research design and methodology the researcher shall use to conduct the study. It also covers the target population, sampling techniques, research instruments, reliability and validity of the instrument, data collection procedure and data analysis. Chapter four consists of data presentation summary, description and interpretation of the results. Chapter five dealt with the discussion of the results, findings, conclusions and recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter on literature review outlined the following subheadings; influence of TLR on students' retention in education system, influence of provision of computers on students' retention in education system, relevance of provision of science laboratory equipment to students' retention in education system, influence of provision of school library to retention of students in education system, and relevance of provision of textbooks on retention of students in school. The section ends with the discussion on the theoretical framework and the conceptual framework.

2.2 Influence of Teaching-Learning Resource on students' retention in education system

Teaching-learning resources are educational material and media that teachers use in classrooms to support the teaching and learning of specific concepts as set out in the lesson plans (UNESCO Education, n.d). The use of TLR increases students' motivation resulting into high assessment scores and retention rates hence higher graduation rates as observed in Harvard and Massachusetts Institutes of Technology where all students graduates because organizations give exceptional resources to guarantee that students have every one of the instruments to advance through advanced or higher education (Swail, 2004). Swail (2004) also observed that in America higher education institutions with limited TLR do not retain and graduate all the students as 75 percent of their students leave before graduation and as many as 25 percent of their students leave by the end of freshman year leading to low

retention rates of students in those institutions. Teaching and learning resource have an influence on students' retention in schools. Sharing of teaching and learning materials limits students' accessibility to the resources when at home and many have to do their homework early in the morning the next day in school.

2.3 Use of computers in teaching-learning process

Integration of computers during teaching and learning process motivate students to learn, makes tedious tasks easier, activate students and improve students' imagination during the lesson, make learning relevant and enjoyable hence high retention rates (Melville, 2000-2005). Shabiralyani, Hasan, Hamad and Iqbal (2015) noted that computer as a visual aid tool helps to make an issue or lesson clearer or less demanding to comprehend and know. Visual guides excite the enthusiasm of students and help the instructors to clarify the ideas effectively. Visual aiding a computer is an educational motion picture or filmstrip that appeals to vision and it is used in class to encourage teaching-learning process. Introduction of computers to classrooms in Pakistan enticed grade 1 and grade 5 children and made them stay in school hence increasing the retention rates by 30 percent (Children of tomorrow, 2014). Use of computers as teaching tools provide simulations and real world experiences to develop cognitive thinking and extend learning through internet giving access to a wider range of resources thus making teaching more effective and students are retained in schools (Johnstone and Barker, 2002).

Higgins and Katsipataki (2012) found out that computers can be as powerful as short focused intervention to improve learning particularly when there is regular and frequent use. This would also increase the remedial and tutorial particularly for lower attaining students in providing intensive support to enable them to catch up

with their peers. Shabiralyani, Hasan, Hamad and Iqbal (2015) found out that lack of computer affected both teaching and learning hence students would drop out of school for lack of interest. They also indicated that availability of computers would help the learners understand what the teachers taught them and would have an individual initiative to read what they learn in order to improve their own understanding towards the lesson. As of late, access to PCs and web has produced enthusiasm for the arrangement of e-materials for teaching-learning exercises, however where the web isn't accessible, unreliable, or/and excessively expensive, the advancement of neighborhood school systems and arrangement of e-materials to schools on minimal plates and glimmer circles can bolster e-learning by means of school servers and systems (World Bank, 2001). World Bank (2001) likewise seen that e-learning in many creating nations and transitional economies have ended up being over the top expensive in provision.

In Kenya, a study by Mogire (2013) on factors affecting use of computers in teaching and learning mathematics in secondary schools in Kisii Central Sub County, found out that integration of computer in the teaching and learning of Mathematics in the sub-county suffered from inadequate computer infrastructure in schools, ill equipped and overburdened teaching force, and overstretched school budgets incapable of sorting out the financial challenges that the schools face relative to computer integration in the teaching and learning process resulting in low student retention. This study wished to identify the effect of provision of computers for classroom teaching on students' retention rates in public secondary school in Naivasha Sub-county.

2.4 Use of science laboratory equipment in teaching-learning process

Use of science laboratory equipment by teachers during teaching-learning process helps in making abstract knowledge concrete creating an environment that promotes learning of science concepts in science courses hence fostering students' retention in science programs (Larose et al, 2005). When students are engaged in a practical lesson using science laboratory equipment, learning of science is enhanced as scientific discoveries motivates a positive attitude towards science, improve students' academic performance in science courses, and make students come and get retained in school leading to higher graduation rates (Hofsten and Lunetta, 2004). Use of science laboratory equipment during teaching-learning process of science courses insures the retention of learners in education institutions as observed in Pakistan where 92 percent of students are retained in education institutions till graduation due to provision of science laboratory equipment together with computers and reading materials (Balochistan Rural Support Program, 2013).

According to a study by Okoth (2011) good performance in high school science subjects depends on many things which include coverage of course content, availability of apparatus for laboratory experiments, clear philosophy and workable plan for meeting students' needs. Laboratory resources are vital in providing the student with the exposure to experiments that are vital in understanding what has been theoretically learnt and encouraging high enrolment and retention in the subjects. This study sought to identify whether the use of laboratory equipment has an effect on students' retention in secondary school in Naivasha sub-county.

2.5 Use of school library in teaching-learning process

School library assets are viewed as all information sources which are used in the library so as to give great instructing and learning condition for the two instructors and students in accomplishing instructive set objectives. Library satisfies its capacities among which data assets essential for the schools' instructive program and to help in enhancing and rising the perusing aptitudes and learning propensities for understudies consequently lessening the number of dropouts because of absence of showing learning materials (Arua and Chinaka, 2011). Absence of a school library influences students' performance and retention in the education system.

School academic libraries are very important in teaching and learning process because they provide materials that meet needs of students, partner in implementing strategies that improve test scores, provide reading room and increase reading abilities for success of students at school, and provide recreational and information material to arouse students' interest in learning and remaining in school leading to high students' retention rates (Udon-Liomechine, 2008). Students prefer studying in the school library because libraries provide quieter and spacious rooms and places than the students' homes (Arua and Chinaka, 2011).Provision and use of libraries in schools improves the retention rates of students in education system as observed in New York where there has been an expansion in students' inspiration, appraisal scores and ultimate graduation rates in light of the fact that the schools depend on libraries to help students' development in regions of education, technologic aptitudes and access to assets and hardware (New York Comprehensive focus, 2011).

A study by (2014) on the assessment of access and use of school library information resources by secondary schools students in Morogoro Municipality, Tanzania, found out that lack of sufficient library premises with insufficient space, shelving furniture,

equipment of security may contribute to poor access resulting in some students dropping out school. This study wishes to identify whether the provision and use of school library in teaching-learning process has an effect on students retention in school.

2.6 Use of textbooks in teaching-learning process

Provision of textbooks to learners during teaching-learning process is very important because textbooks provide access to information, spell out the material to be covered and the design for each lesson in detail, guide understanding of sentences, and forms future reference to refresh students' memories (Benefits of using textbooks, 2010). Rawat, Gopang, Hamid and Simon (2012) observed that provision of textbooks to learners raises enrolment, increases the rate of passing exams, improves daily attendance and increases the retention rates of students in school. In California students are required to gain knowledge contained in textbooks, instructional material and technology in order to meet the California Content Standards and pass the high state tests (Oarkes and Saunders, 2004). Oarks and Saunders (2004) also assert that the pass tests are used to measure what the students have attained, level of mastery required for grade-to-grade promotion, retention of students and high school graduation.

According to Department For International Development (DFID) in (Guidance note, a DFID practice paper, 2007) research evidence confirms that the most consistent characteristics in improving students' performance are the availability of textbooks and supplementary TLR, well trained, prepared, supervised and motivated teachers, and adequate physical facility such as science laboratory equipment, library and computer.

Juma (2011) argues that textbooks are linked to good performance in examinations and that students from poor backgrounds perform poorly in examinations because they lack textbooks in area where schools are seriously deprived of vital facility, inculcating an attitude of helplessness into children forcing them to drop out of school. Provision and utilization of educational facility is the responsibility of stake holders, teachers and students, in education. African countries like Malawi and Zimbabwe continues with monopolistic state primary textbook provision via Malawi Institute of Education, with the active support of donor community, and Tanzania on the other hand is on the verge of reintroducing sole source textbook supply from the private sector and perhaps recreating a new state textbook provision system (DFID, 2007).

In Kenya, the government is considering a proposal from Kenya Institute of Curriculum Development (KICD), formally Kenya Institute of Education (KIE), to form itself into an educational publishing parastatal as sole source supply is often justified on the basis of lower costs and has on the other hand strongly contributed to complaints by schools with regard to poor quality textbooks and irregular, inaccurate and ineffective books distribution (DFID, 2007).Kenya has managed to emerge from state textbook provision era with a strong wholesale and retail bookshop network which has been proven to be more than capable of undertaking the supply of TLR even in the most remote areas of the country (DFID,2007).Education CS Fred Matiang'i states that textbooks will be directly distributed to public secondary schools by the GoK in order to attain 1:1 learner to textbook ratio, meaning that public schools will no longer receive capitation funds for buying textbooks at the onset of free day secondary school education and the new curriculum (Wanjala,

2017).This study wished to establish the effect of use of textbooks in teaching-learning process in secondary schools in Naivasha.

2.7 Summary of Literature Review

The literature reviewed have emphasized on TLR which include computers, science laboratory equipment, libraries and textbooks as primary tools that schools use to provide students with access to knowledge, skills and attitudes they are expected to learn (Oakes and Saunders, 2004). Teaching-learning resources enable an education institution to provide the support necessary to engage and retain students in school as TLR increase students' motivation, assessment scores and retention rates leading to high graduation rates (Swail, 2004). From the literature review it is clear that the Government of Kenya has made effort in provision of teaching-learning resources in the education sector, and yet the completion rates of students in public secondary schools are below 100 percent of the total number of students enrolled in public secondary schools. Kenya is yet to achieve full retention rate of students in public secondary schools. This study therefore aims at putting measures in place to check on availability of teaching-learning resources so as to improve students' retention rates in public secondary schools in Naivasha sub-county.

2.8 Theoretical Framework

The Black Box Model of systems, process and dynamics which was first recorded and used by Royal Air Force (ARF) in 1947 to describe the sealed containment used for apparatus of navigation is the model on which the study was based. A Black Box is viewed solely in terms of its inputs, outputs and transfer characteristics without any knowledge of its internal working.

Wanjala (2002) identifies the stages of Black Box Model in an education system as follows: inputs which includes the educational facilities and equipment such as instructional material, computer, science laboratory equipment, library, textbooks, teachers and students, process of teaching and learning is not analyzed as it is complex and opaque, outputs include the learning years of education, graduates, research knowledge and social service, the outcomes or effects include the products, earnings, technology or scientific, and political or social development. She also assert that schooling is a process that convert inputs such as TLR, students and teachers' skills into attitudes, values, improved performance and graduates.

Provision and use of TLR such as computers, science laboratory equipment, library and textbooks facilitate teaching-learning process and may lead to improved students' enrolment, daily attendance, improved passing rate in examinations and their education retention rate in school (Rawat, Gopang, Hamid and Simon, 2012). The study entailed influence of TLR provisions on students' retention rates in education system. According to Wanjala (2002) Black Box Model of an educational system process can be illustrated as shown in the figure below.

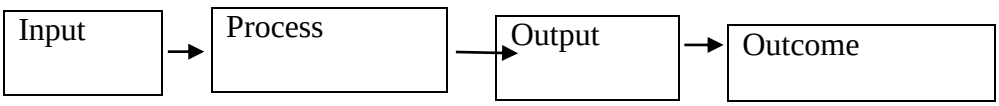

Figure2.1: Black Box Model.

2.9 Conceptual framework

The conceptual framework of this study was based upon the notion that the dependent variables (students' retention in public secondary schools) depends upon provision and utilization of various independent variables (teaching and learning

resources) which include computers, library, laboratory and textbooks. The relationship is summarized in figure 2.2 below.

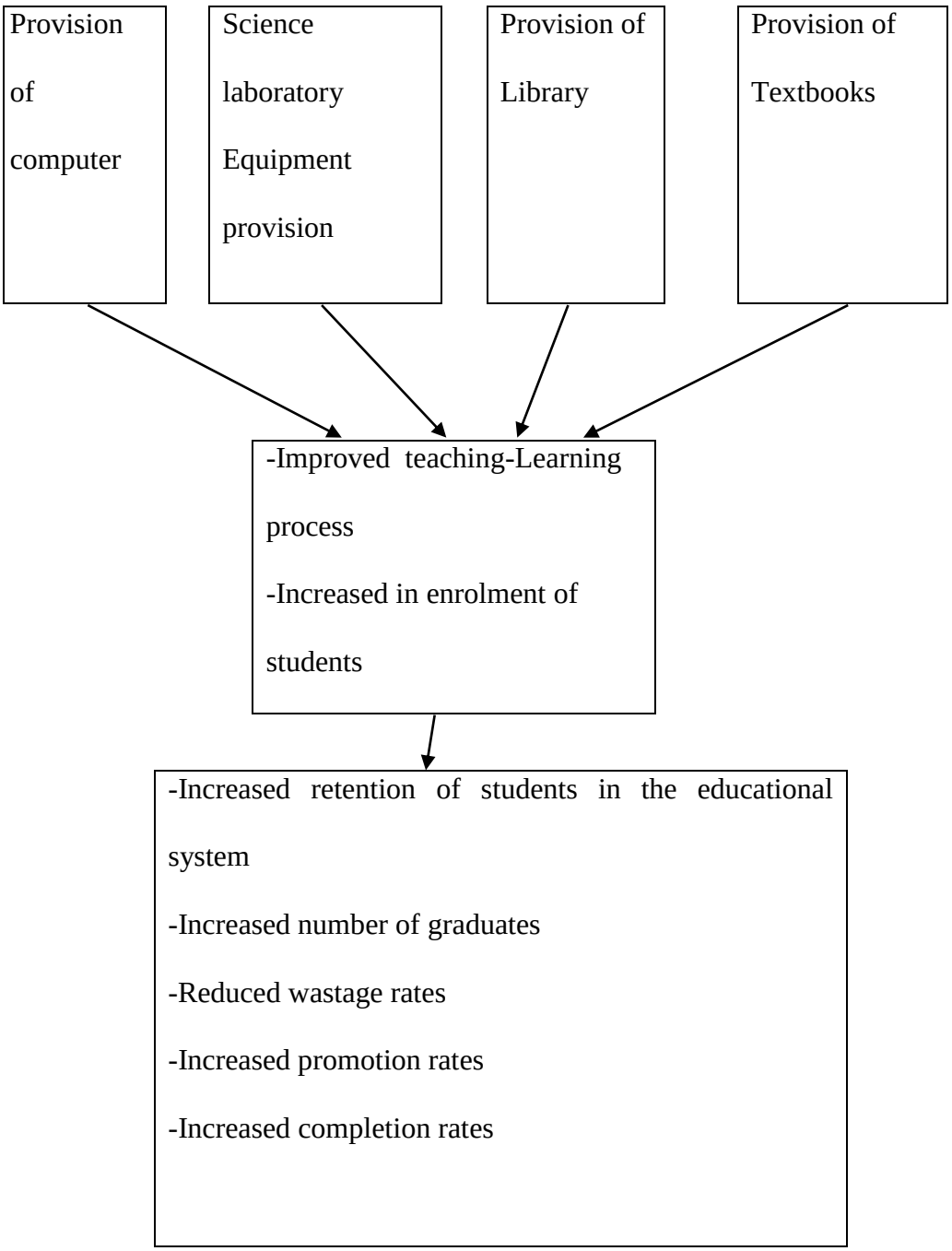

Figure 2.2: Relationship between Teaching-Learning resources and students' retention in public secondary schools

As it is conceptualized in the figure, the student's retention in public secondary schools is dependent on provision of teaching-learning resources which include computers, laboratories and laboratory equipment, library and textbooks. This means that if these TLR are not adequately provided for teaching-learning process in schools then it will lead to student dropout and repetition hence reduced retention in education system. If the availability of teaching-learning resources is complemented with a good enrolment, students centered approaches and enhanced students' engagement, students' retention rate would be high leading to a higher number of graduates in education institutions.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology that was used for the study. It highlights the research design, target population, sample size and sampling techniques, research instruments, instruments' validity and reliability, data collection procedure and data analysis techniques.

3.2 Research design

A research design is a conceptual structure within which research is to be conducted (Orodho, 2008). The researcher employed descriptive research design. A descriptive research is a process of collecting data in order to answer questions concerning the current status of the subjects in the study (Mugenda and Mugenda, 2003). Descriptive research design enabled the researcher to collect descriptions of the existing phenomena with the intent of employing data to justify current conditions and practices or make more intelligent plans for improving them (Koul, 1984). The researcher preferred descriptive research design because the research intended to produce statistical data on the current status on how the provision of TLR is affecting retention rates of students in public secondary schools in Naivasha Sub-county.

3.3 Target population

Target population constitutes all the items or people under considerations in any field of inquiry (Orodho, 2008). The target population of this study comprised of all the 35 secondary schools in Naivasha sub-county, their principals, heads of departments and students. There are 35 principals, 210 heads of departments and 15,354 students

in Naivasha sub-county and the study targeted all of them (DEO, Naivasha sub-county).

3.4 Sample size and sampling procedure

A sample is a smaller group obtained from the accessible population while sampling is the process of selecting a number of individuals in such a way that they represent the large group from which they are selected (Mugenda and Mugenda, 2003). Since it was not plausible to solicit pertinent information from all schools in the Naivasha sub-county, a few schools were selected. Krejcie, Morgan and Daryle, (1970) suggest that a population of less than 10,000 requires at least a sample size of 30 percent of the total population. In this case a total population of 35 public secondary schools in Naivasha sub-county yielded a sample size of 10 schools.

There are 4 county and 31 sub-county public secondary schools in Naivasha sub-county. Among the 31 sub-county schools, one school is a mixed day and boarding and the other 30 schools are mixed day secondary schools. Census sampling was applied when selecting county and mixed day and boarding sub-county secondary schools. The four county and the one mixed day and boarding secondary schools were selected and participated in the study.

A simple random sampling technique was applied to select a sample of 5 from the 30 mixed day sub-county secondary schools in Naivasha sub-county. A list of all the 30 mixed day secondary schools in Naivasha secondary schools was obtained and the names of the schools were written on pieces of papers, rolled and dropped into a box labeled mixed day sub-county secondary schools. A sample was drawn from the box by picking one piece of paper at a time and recording the name of the school picked

before the next pick was repeated until a sample of 5 schools was achieved. In each of the 10 sampled schools the principal participated in the study because they were likely to have information on provision of TLR and students retention in school.

The Heads of Departments, HoDs, in each of the 10 sampled schools participated in the study. Five HoDs from each school were selected to participate in the study through purposive sampling because they were likely to have more information on provision of TLR and retention of students in school. Students were also included in the study where form one, form two, three and four classes were sampled. One form 1 class, one form 2 class, one form 3 class and one form 4 class in every school were sampled. In schools with more than one stream the researcher sampled by simple random in order to obtain a class for each of the form1, 2, 3 and 4respectively.In each sampled school 10 form one ,10 form two, 10 form three and 10 form four students who were admitted in form one and had been in their current school to the day of study were selected to participate in the study through purposive sampling from their respective sampled classes. The sample size was 10 principals, 50 HoDs and 400 students.

3.5 Research instrument

Mugenda and Mugenda (2003) see that the utilization of questionnaires is a prevalent technique for information gathering in education as a result of the general simplicity of cost adequacy with which they are built and controlled to the extensive samples. Questionnaires and observation list were used to collect data collection. The researcher observed on provision and use of TLR, computers, science laboratory equipment, library and textbooks, in teaching and learning process. The questionnaires were filled by the principals, heads of departments and students of

form one, form two, form three and four classes. The questionnaires for principals and heads of departments were divided into three sections; A, B and C. Section A focused on respondents' demographic information, section B was solicit on information on provision of teaching-learning resources to school, and section C cite information on retention of students in school.

The questionnaire for the students was divided into three sections; A, B and C. Section A focused on respondents' demographic information, section B was solicit on information on provision of teaching-learning resources to school, and section C cite information on retention of students in school.

Theobservation schedule and questionnaires were structured in a simple and understandable language. Theycontainedquestions that werestructured in both closed-ended format to elicit unnecessary response and open-ended format that left benign room for respondents to any additional information that wasparamount for the study yet not captured by the researcher.

3.5.1 Validity of the instrument

Validity measure of the extent to which an instrument measures what it is supposed to measure and perform as it is designated to perform (Kombo and Tromp, 2009). The instrument, principal, H.O.D's and student's questionnaires were evaluated for content validity on the extent to which the questionnaire was representative of the domain of content. The questionnaire content was read and examined by the experts and the supervisors, on the clarity of items. This ensured appropriate use of vocabulary, sentence structure and that the questions were suitable for the level of the intended respondents. This was done by holding discussions between supervisors

and researcher, making relevant comments/suggestions which assisted in the development and revision of the research instrument.

3.5.2 Reliability of the instrument

Reliability is the measure of the degree to which a research instrument yields consistent results (Mugenda and Mugenda, 2003). In the study test-retest method was used to test the reliability of the research instruments. The test-retest method of assessing reliability of the instruments involved administering the same questionnaire twice to the same principals, heads of departments and students in three schools identified for pilot study. The three schools were not in the study sample. The researcher made observations on the state and utilization of the teaching-learning resources provided in the three schools identified for pilot study. The researcher put a tick, (✓), when the aspect to be observed was present and a cross, (×), when the aspect to be observed was absent, in the provided spaces. The instruments in this category were the same for piloting and actual study. Test-retest was conducted in the piloting schools in a span of two weeks apart, a correlation coefficient between the first and second results were computed using the Pearson Product Correlation Coefficient which was generated using the Statistical Package for Social Sciences (SPSS) software to determine reliability. According to Nachmias and Nachmias (2009) positive coefficient of over 0.7 is considered to be reliable, and the higher the coefficient the more reliable the instrument. The computation showed the correlation coefficient (r) as 0.76, 0.80 and 0.85 for the principals', heads of departments' and students' questionnaires respectively, hence showing the instrument were reliable tools.

$$r = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{[N\sum X^2-(\sum X)^2][N\sum Y^2-(\sum Y)^2]}}$$

Where x = test score

Y= retest scores

X= sum of the X scores

Y= sum of the Y scores

X= sum of the squared X scores

Y= sum of the squared Y scores

XY= sum of the products of paired X and Y scores

N= number of paired scores

The coefficient ranges from - 1 to 1. An estimation of 1 demonstrates that linear equation portrays the relationship splendidly and decidedly, with all information focuses lying on a similar line and with Y expanding with X. A score of - 1 demonstrate that all information focuses lay on a solitary line yet that Y increments as X diminishes. An estimation of 0 appears there is no straight connection between the factors. The specialist considered a coefficient estimation of 1 proper for the study.

3.6 Data collection procedure

Permission and authority to conduct the research was sought from the National Council for Science, Technology and Innovation, Naivasha Sub-county Director of Education and Naivasha Sub-County Commissioner and all the principals of the schools included in the study. The researcher administered and collected questionnaires on the same day to ensure that respondents neither discussed nor modified their responses. Questionnaires were administered to principals, heads of departments and students to fill in the information needed for the study. The researcher assured the respondents of their confidentiality and security for the purpose of unbiased response where the questionnaire was anonymous. There was

informed consent where the respondents agreed to take part in the research on the basis of knowledge of what the study was about.

3.7 Data analysis procedure

Data analysis is the process of bringing order, structure and meaning to the mass of information collected (Mugenda and Mugenda, 2003). Data analysis process was started by editing and coding the collected data. Data was fed into the computer in SPSS version IBM 20. Pearson Product Moment Correlation showed a linear relationship between provision of TLR and retention rates of students in public secondary schools. The possible values for the Pearson correlation between two variables were between +1 and -1 inclusive, where +1 was total positive correlation, 0 was no correlation, and -1 was total negative correlation between provision of TLR and retention rates of students in public secondary schools in Naivasha sub-county.

3.8 Ethical considerations

The researcher explained to the respondents about the research and that the study was for academic purposes only. It was made clear that the participation was voluntary and that the respondents were free to decline or withdraw any time during the research period. Respondents were not coerced into participation in the study. The participants had informed consent to make the choice to participate or not. They were guaranteed that their privacy was protected by strict standard of anonymity.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter will contain the data analysis, presentation, interpretation and observations made and were guided by the objectives of the study. These are: to assess how provision of computers; to examine how provision of science laboratory equipment; to determine how provision of textbooks and to analyze the effect of the provision of school library for classroom teaching on students' retention rates in public secondary schools in Naivasha Sub-county.

4.2. Questionnaire response rate

Questionnaire response rate refers to the number of respondents who returned completed instruments for the study out of the number issued for the study (Mugenda and Mugenda, 2003). The questionnaires were administered to the principals, HODs and the students. The response rate is as shown in Table 4.1.

Table 4.1: Response rate

	Sampled	Return	Percent
Principal	10	10	100
Head of Department	50	47	94
Students	400	231	58.0

All the principals sampled returned their questionnaires while 94.0% of the HODs and 58.0% of the students returned their questionnaires. The total population that

responded to the questionnaires was 288 respondents. Data analysis and interpretations was based on these returns. Mugenda and Mugenda (2003) observed that a 50 percent response rate is adequate for analysis and reporting. A 60 percent to 100 percent response rate is very good for the research. This means since the response rate was above 50 percent the information provided was sufficient to answer the research questions.

4.2.1 Demographic Data

The principals and HODs were asked to indicate their gender, highest academic qualifications, number of years they have served in their current station. The study sought from the students, heads of departments and the principals their gender. The results are as shown in Table 4.2.

Table4. 2: Gender of respondents

Category	Male		Female		Total	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Students	130	56.3	101	43.7	231	100.0
HOD	25	53.2	22	46.8	47	100.0
Principals	8	80.0	2	20.0	10	100.0

From the table 4.2 it is clear that there were more male students, heads of departments and principals who respondents to the questionnaires than females. This shows gender disparities among the respondents which could be contributed by gender ratios and many of the schools are mixed day schools. The heads of

departments, principals were to indicate their level of academic qualifications. Table 4.3 shows the results.

Table 4.3: Results on academic qualifications for HOD's and Principals

Academic Qualifications	**HOD**		**Principals**	
	Frequency	**Percent**	**Frequency**	**Percent**
Masters	4	8.5	4	40.0
B/ED	36	76.6	5	50.0
BA/BS with PGDE	6	12.8	1	10.0
Diploma	1	2.1	0	0
Total	**47**	**100.0**	**10**	**100.0**

From table 4.3 it is clear that majority of HODs had attained a Bachelor of Education Degree and 40 percent of the principals had a Master of Education Degree. The analysis in table 4.3 indicated that both principals and heads of departments were qualified at their respective levels. The achievement of the respondents would help them to retain students in school because they are qualified and competent to help the students remain in school learning.

The study also sought to know the number of years the HOD's and the principals had remained in their current stations. The results are as shown in Table 4.4.

Table 4.4: Number of years for HODs and principals in current station

Years in current station	HODs		Principals	
	Frequency	**Percent**	**Frequency**	**Percent**
0-4	23	49.0	6	60.0
5-8	18	38.3	3	30.0
9-12	5	10.6	0	0
13-16	1	2.1	0	0
17-20	0	0	1	10.0
Total	**47**	**100.0**	**10**	**100.0**

Table 4.4 indicates that the majority of the principals (60.0%) and 49.0 percent of the HOD's had been in their current work station for between 0-4 years This paints a picture of how the principals had taken a short period of time in the schools they are currently heading and this could either have a negative or positive impact on the retention of students in their current stations. Only one principal and one HOD had been in their current station for more than thirteen years.

4.3 Assessing how provision of computers for classroom teaching affects students' retention rates in public secondary school.

The use of computers in the classroom teaching may have a positive impact on student's retention rates. This study sought to establish first whether there were computers and if they were being used during teaching and learning activities. The students' results are as shown in Table 4.5

Table 4.5: Use of computers during teaching and learning activities

	Frequency	Percent
Yes	148	64.1
No	76	32.9
No Response	7	3.0
Total	**231**	**100.0**

Table 4.5 shows that majority of the students (64.1 %) indicated that there was use of computers in their school during teaching and learning activities. Majority of the principals (80%) and 74 percent of the HODs indicated that they used computers in teaching and learning activities. The researcher observed that many of the schools (80%) had access to computers which were not being used for teaching and learning activities. This implies that the student, HODs and principals concurred on the use of computers in teaching and learning in all the secondary schools sampled. The results agree with those of Melville (2000-2005) who noted that integration of computers during teaching and learning process helps inspire the students to become more creative during the lesson leading to higher retention rates.

The study also sought to know how often the computers are used in teaching and learning activities in class. The results are as shown in Table 4.9

Table 4.6: Times computers are provided for teaching and learning in class

	Frequency	Percent
Very often	32	13.9
Often	39	16.9
Sometimes	108	46.8
Never	49	21.2
No Response	3	1.3
Total	**231**	**100.0**

It is clear from Table 4.6 that computers are provided for teaching and learning in class sometimes with (46.8%) of the respondents noting this. This shows that there is still a gap on the use of computers during lessons. Majority of the principal (80%) and 74 percent of the HOD's also agreed that computers are used for teaching and learning process sometimes. The results agree with those of Kamene (2014) who found out that teachers did not use computers in teaching and learning. She noted that the teachers lacked literacy on the use of computers in their teaching and teachers were not taught how to use computers as teaching resource. The researcher correlated the variables to establish the relationship between availability and use of computers for teaching and learning process to student retention in class. The results are as shown in Table 4.7.

Table 4.7: Correlation of research variables

		Number of students who joined the class from other schools	Number of students transferred to other schools	Effect of the use of computers for class teaching and learning to retention of students in class
Number of students who joined the class from other schools	Pearson Correlation	1	.068	.064
	Sig. (2-tailed)		.303	.331
	N	231	231	231
Number of students transferred to other schools	Pearson Correlation	.068	1	.188**
	Sig. (2-tailed)	.303		.004
	N	231	231	231
Effect of the use of computers for class teaching and learning to retention of students in class	Pearson Correlation	.064	.188**	1
	Sig. (2-tailed)	.331	.004	
	N	231	231	231
**. Correlation is significant at the 0.01 level (2-tailed).				

Correlation estimates the strength of the linear relationship between two variables. The correlation coefficient between students who joined the class from other schools

and the effect of the use of computer for class teaching and learning to retention of students in class was a correlation of .064. The significant level of the variables transfer from the class to other school and the effect of the use of computer for class teaching and learning to retention of students was at 0.01 (.188**). This means there is a positive correlation between computer use in class for teaching and learning and the transfer of students. These reasons as indicated by the students include transfer of parents' at work place to another place, indiscipline cases, distance from home, lack of laboratory equipment, textbooks, computers and other learning and teaching resources would have warranted their transfer.

4.4 Examination on how provision of science laboratory equipment for classroomteaching affects student's retention rates

Availability of science laboratory equipment promotes learning of science concepts in sciences courses hence fostering retention is science programs. This is because when students are engaged in scientific experiment using science laboratory equipment they develop a positive attitude towards the subject, and experience improved student's academic performance. Studies done elsewhere such as one by Hofsten and Lunetta (2004) indicated that use of laboratory equipment helped in the retention of the students. Hence this study sought to identify whether there were science laboratory equipment, the results are in table 4.8.

Table 4.8: Availability of science laboratory equipment

	Frequency	Percent
Yes	226	97.8
No	5	2.2
Total	**231**	**100.0**

From table 4.8, majority of the student respondents 97.8 percent indicated availability of science laboratory equipment. This shows that the students were able to learn practical lesson through class demonstration and also the practicing on what the teacher showed them. All the HODs and the principals also agreed on the availability of science laboratory equipment. The researcher observed that there was science laboratory equipment that allows the students to learn more during a practical lesson. The results are in agreement with those of Balochistan Rural Support Program (2013) which said that students in Pakistan were retained until graduation since there were provisions of science laboratory equipment.

The researcher then sought to understand the utilization of the science laboratory equipment in the teaching and learning process. The results are as shown in Table 4.9.

Table 4.9: Utilization of science laboratory equipment for teaching and learning provided in class

	Frequency	Percent
Very often	89	38.5
Often	40	17.3
Sometimes	77	33.3
Rarely	12	5.2
Never	13	5.6
Total	**231**	**100.0**

With reference to table 4.9, most of the students (38.5%) indicated that the utilization of science laboratory equipment was very often provided for teaching and learning in class. These results show that in most of the schools the science laboratory equipment was utilized in teaching and learning. All the HODs and the principals also concurred that the science laboratory equipment were well utilised since this had helped in the improved of the subjects that were required to use the laboratory. The researcher observed a practical going on in some of the laboratories and found that the students enjoyed during demonstration and when the teacher let them practice what they had observed during the practical lesson. They were willing to demonstrate what they had gained. This prompted the researcher to enquire the effects of the use of science laboratory equipment for teaching and learning on the retention.

Correlation gives a picture of the relationship between variables. The results are as displayed in the Table 4.10 on the correlations of the transfer from the class to other

school and the effect of the use of science laboratory equipment for teaching and learning to retention of students in class. The results are as shown in the table 4.10.

Table 4.10: Correlation of research variables

		Transfer from the class to other school	The effect of the use of science laboratory equipment for teaching and learning to retention of students in class
Transfer from the class to other school	Pearson Correlation	1	-.342**
	Sig. (2-tailed)		.000
	N	231	231
The effect of the use of science laboratory equipment for teaching and learning to retention of students in your class	Pearson Correlation	-.342**	1
	Sig. (2-tailed)	.000	
	N	231	231

Referring to the table 4.10, the two variables had a negative correlation at -.342 at significance level of 0.01 on the effect of use of science laboratory equipment and transfer from the class to other school. This means there is no relationship between availability of science laboratory equipment and transfer of students. Hence there were other reasons that made students transfer from the school to other schools.

4.5To determine how provision of textbooks for classroom teaching influence students' retention rates in public secondary schools

Provision of textbooks in teaching and learning process is very important because textbooks provide access to information, spell out the material to be covered and the design for each lesson, guides understanding of sentences, and forms future reference to refresh student memories. Table 4.10 results show the availability of textbooks during teaching and learning activities.

Table 4.11: Use of textbooks during teaching and learning activities

	Frequency	**Percentage**
Yes	229	99.1
No Response	2	.9
Total	**231**	**100.0**

From table 4.11, 99.1 percent indicated that textbooks are used during teaching and learning activities. This means there was availability of textbooks. All the HODs and the principals noted that there was availability of the textbooks for the core courses such as the Biology, Chemistry, Physics, Maths, English and Kiswahili. The government of Kenya distributed textbooks to all public schools attaining the 1:1 learner to textbook ratio (Wanjala, 2017). The researcher observed that students had moved from private schools to public schools due to lack of textbooks. The results concur with those of Gopang, Hamid and Simon (2012) who noted that provision of textbooks to learners raised students' enrolment.

The study sought to establish if textbooks were available and provided for teaching and learning process. The results are as shown in Table 4.12.

Table 4.12: Availability and provision of textbooks for teaching and learning process

		Availability of textbooks provided for teaching and learning in class					
		Very often	**Often**	**Sometimes**	**Rarely**	**Never**	**Total**
F1	Count	37	6	0	6	3	**52**
	%	71.2%	11.5%	0.0%	11.5%	5.8%	**100.0%**
F2	Count	49	4	0	0	0	**53**
	%	92.5%	7.5%	0.0%	0.0%	0.0%	**100.0%**
F3	Count	41	47	4	0	0	**92**
	%	44.6%	51.1%	4.3%	0.0%	0.0%	**100.0%**
F4	Count	25	4	5	0	0	**34**
	%	73.5%	11.8%	14.7%	0.0%	0.0%	**100.0%**
Total	**Count**	**152**	**61**	**9**	**6**	**3**	**231**
	%	**65.8%**	**26.4%**	**3.9%**	**2.6%**	**1.3%**	**100.0%**

The table 4.12 shows that majority of the students from form one class, (71.2%), form two class, (92.5%), and form four class, (73.5%), felt that provision and availability of textbooks for teaching and learning process was very often while majority of students in form three class, (51.1%) felt that availability and provision of textbooks for teaching and learning process was often. The results concurred with those of the principals and the HODs who noted that textbooks were used in teaching and learning activities. The researcher also observed that there were books in the classes during the different lessons that were observed. The result from table 4.12 shows that only a few form one students indicated rarely using and never use of

textbooks. From the observation list it is clear that schools have been supplied with textbooks by the government however a few subjects such as history, geography, business studies and agriculture have lacked enough textbooks. The researcher correlated the variables to establish the relationship between availability and use of textbooks in teaching and learning process to retention of students in class. The results are as shown in the table 4.13.

Table 4.13: Correlation of research variables

		The effect of the textbooks for classroom teaching and learning to retention of students in current class	Transfer of students from the class to other schools
The effect of the textbooks for classroom teaching and learning to retention of students in current class	Pearson Correlation	1	-.285**
	Sig. (2-tailed)		.000
	N	231	231
Transfer of students from the class to other schools	Pearson Correlation	-.285**	1
	Sig. (2-tailed)	.000	
	N	231	231
**. Correlation is significant at the 0.01 level (2-tailed).			

From the correlation of research variables in table 4.13 the results shows a negative correlation between the variables and that the correlation coefficient is very highly significant different from P< 0.001. This means that the provision of textbook for class teaching and learning to retention of students in school variation is explained in transfer from the class to other schools.

4.6 To analyze the effect of the provision of school library for classroom teaching on students' retention rates in public secondary schools

A school library is important in provision of good learning environment for students and teachers to achieve their educational goals. This study sought to establish whether there was library use during teaching and learning process from the students, HODs and the principals as well. The results of the students are as shown in Table 4.14.

Table 4.14: Availability of school library for teaching and learning activities

	Frequency	**Percentage**
Yes	162	70.1
No	59	25.5
No Response	10	4.3
Total	**231**	**100.0**

Table 4.14 indicate that majority of the students (70.1%) stated that there was a library in their schools that was used during private studies and teaching and learning process while 25.5 percent of the student stated that library was not available for both private studies and during teaching and learning process, and 4.3 percent of students gave no response on whether or not a library is available for teaching and learning in their respective schools. The results concur with 80 percent of the principals and 74.5 percent of the HODs who noted that in their respective schools there was a library that was readily available. The principals and HODs noted that the lessons were held in classrooms other than English and Kiswahili lessons that

were taken to the library. The researcher observed that majority of the sampled schools, (80%), had a library while 20 percent of the sampled schools had books stores that were neither used for private studies nor for teaching learning process.

Table 4.15: The effect of the use of the library for class teaching and learning to retention of students in current class

	Frequency	**Percentage**
Very effective	42	18.2
Effective	30	14.1
Sometimes effective	33	23.2
Rarely effective	126	54.5
Total	**231**	**100.0**

Table 4.16 shows that slightly above half of the respondents, (54.5%), indicated that there was rare effectiveness of the use of library for class teaching and learning to the retention of student in the current class. About 74.5 percent of the HODs and the 80 percent of the principals felt that library was not utilised in all subjects that were taught in class. This was because there were lessons that students attended in the science laboratory, computer laboratory and classroom for teaching and learning to be effective. They also noted that the lessons that were taught and learnt in the library were English and Kiswahili since there a day for introduction on how to use the library. The research correlated the variables to establish the relationship between retention and availability and use of library in teaching and learning. The results are as shown in Table 4.17.

Table 4.16: Correlation of research variables

		Use of library for teaching and learning process	Provision of library for teaching and learning process	Transfer from the class to other school	Effect of use of library for class teaching and learning process to retention of students in class
Use of library for teaching and learning process	Pearson Correlation	1	.308**	-.110	.315**
	Sig. (2-tailed)		.000	.097	.000
	N	231	231	231	231
Provision of library for teaching and learning process	Pearson Correlation	.308**	1	-.031	.181**
	Sig. (2-tailed)	.000		.643	.006
	N	231	231	231	231
Transfer from the class to other school	Pearson Correlation	-.110	-.031	1	-.021
	Sig. (2-tailed)	.097	.643		.753
	N	231	231	231	231
Effect of use of the library for class teaching and learning process to retention of students in class	Pearson Correlation	.315**	.181**	-.021	1
	Sig. (2-tailed)	.000	.006	.753	
	N	231	231	231	231
**. Correlation is significant at the 0.01 level (2-tailed).					

From the results of the correlation coefficient in table4.17, correlation was at the 0.01 level which is significantly different from zero hence there is evidence of an association between the two variables. There is then the underlying assumption that

the data is from a normal distribution sampled randomly. It is interesting to note the large samples, a low strength of correlations, r =.308 can be highly statistically significant p>0.001 provision of library for teaching and learning process in your class. There is a negative correlation between transfer from the class to other schools r=.-110 and the p=0.097<0.001 level of significance hence there is significance difference where there is a library and the transfer of students. The other variable was the effect of the use of library for class teaching and learning to retention of students in current class with correlation (r=.315) with a significance level of p>0.001 meaning there is a difference between the availability of library and effect of use of library for teaching and learning process. This means there were other reasons other than the library that made students transfer from one school to another other than the availability and use of the library for teaching and learning.

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter contains the summary of the study, summary of findings, conclusions drawn from the findings and the recommendations. It also contains suggestions for further research.

5.2 Summary of findings

Assessing how provision of computers for classroom teaching affects students' retention rates in public secondary school

The findings of the study revealed that 64.1 percent of the students indicated that there was use of computers in school. This was supported by 80 percent of the principals and 74.5 percent of the HODs who indicated that they used computers for teaching and learning process. The study revealed that 46.8 percent of the students indicated that computers were used sometimes. The principals and HODs also noted that computers were used sometimes during teaching and learning lesson. The correlations showed that computer availability and use for class teaching and learning to retention of students in class was correlation of r=.064 this was a positive correlation at the significance level of 0.001 indicating that there was no significance difference between the variables hence computers did not affect students retention in school but there could be other reasons that made the students transfer from school..

Examine how provision of science laboratory equipment for classroom teaching affects student's retention rates

The findings of the study revealed that 97.8 percent of the students agreed that there was availability of science laboratory equipment in school. The study also revealed that all the principals and HODs said there was availability of science laboratory equipment in school. The observation sheets confirmed that there was availability of computers in the sampled schools. The study sought to know the utilization of science laboratory equipment in the teaching and learning process with 38.5% of the students reporting utilization of the laboratory materials very often and 33.3% sometimes. All the HODs and the principals concurred that there was utilization of the science laboratory equipment during practical lessons very often, often and sometimes respectively. From the correlation tables on the relationship between the variables, there is a negative correlation r=-.342 at significance level of 0.01 indicating there is no relation between student transfer from class to other school and effect of use of science laboratory equipment for teaching and learning process.

To determine how provision of textbooks for classroom teaching influence students retention rate in public primary school

The findings of the study revealed that 99.1 percent of the students agreed there was availability of textbooks for teaching and learning, 10 percent of the HODs and the Principal also indicated that textbooks were available in their schools. From the tabulation of table the result of students remained high with 92.5 percent of the form two class, 73.5percent of the form fourclass, 71.2 percent of the form one class and 51.1 percent of the form three class revealing availability of textbooks for teaching and learning activities. All the principals and the HODs also revealed that there was

availability of textbooks in schools according to their forms and subjects. The correlation was at r=.285 and significance level of 0.001 meaning there is no significant difference between the provision of textbooks for classroom teaching and learning, and students retention in school.

To analyze the effect of the provision of school library for classroom teaching on students' retention rates in public secondary schools

The findings of the study revealed that 70.1 percent of the students agreed on the availability of a library in school, and 80 percent of the principals and 74.5 percent of the HODs also said there was library readily available in the school. About 44.6 percent of the students indicated to have never used a library. All the principals and the HODs said the subjects that were sometimes taught from the library included English and Kiswahili. On the effect of the use of library for class teaching and learning to retention of students in current class, 54.5 percent of the students noted it was rarely effective. 74.5 percent of the HODs and the 80 percent of the principals felt that library was not utilised in all subjects that were taught in class. From the correlation results there was a negative correlation between transfer of students from the class to other school r=.-110 and the p=0.097<0.001 level of significance hence there is a significance difference between availability of library and the transfer of students to other schools.

5.3 Conclusion of the study

The following conclusions were drawn from the study:

i. The availability of computers in schools has no effect on retention rates of students in school. The computers were sometimes used during teaching and learning process.

ii. There was a negative correlation between the variables on a significant level of 0.001 which means there is no relationship between the provision of science laboratory equipment and students retention rates.

iii. There was a positive correlation r=.285 at a significant level of 0.001 meaning there was no significant difference in provision of textbooks and students retention rates.

iv. The study has established there was provision of school library for classroom teaching and learning process but there was a negative correlation between provision of school library and retention rates of students in schools.

5.4 Recommendation of the study

- There is need to use computers more in teaching and learning activities although there are other reasons for students retention.
- There is provision for science laboratory equipment to classroom teaching and learning. There is need for the improvement of utilization of the science laboratory equipment for class teaching and learning in schools.
- There is need for the government to provide all the textbooks in all the subjects in schools.
- There is need for all the schools without a library to make an effort of getting a place for the students to do private studies.

5.5 Suggestion for further study

a. A similar study should be carried out in other areas of the country to enable the results be generalized to those areas.

b. A comparative study should be carried out on the effects of discipline to retention rates of students in school.

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APPENDICES

APPENDIX 1: LETER OF INTROUCTION TO INSTITUTION

UNIVERSITY OF NAIROBI,

P.O. BOX 30197,

NAIROBI.

10TH OCTOBER, 2018

Dear Sir/Madam,

RE: REQUEST TO FILL THE QUESTIONNAIRE FOR RESEARCH PURPOSES

I am a postgraduate student from University of Nairobi pursuing a Master of Education Degree course. I kindly request you to fill the attached questionnaire as sincerely as possible.

I am carrying out a research entitled "Influence of teaching-learning resource on students' retention rates in public secondary schools in Naivasha sub-county Kenya".

I intend to find out how the provision of computers, science laboratory equipment, library and textbooks affect retention of students in public secondary schools.

You are assured that the information you will provide shall be used only for the purpose of research. Thank you very much for co-operation and time.

Yours faithfully,

……..

Ng'aru, Wangeci Florence.

APPENDIX 2: QUESTIONNAIRE FOR PRINCIPAL

This questionnaire seeks to gather general information to be used in a study of the provision of teaching-learning resources and retention rates of students in public secondary schools in Naivasha sub-county. You are kindly requested to fill in the questionnaire. Your responses shall be used for the purposes of the study only. Please do not write your name or the name of your school anywhere on the questionnaire. Kindly answer all the questions. The questions shall require you to respond by ticking the spaces (✓) the option or just filling in the spaces provided.

Part A: Demographic information

1. Indicate your gender. Male [ ] Female [ ]
2. What is your highest level of academic qualification?

   Master [ ] B/ED [ ] BA/BSc with PGDE [ ] Diploma [ ]
3. How long have you been heading your current school? ……years.

Part B: Information on provision of teaching-learning resources to school

4. Are the following Teaching-Learning Resources available in your current school? Please tick (✓) the appropriate response.

Teaching-Learning Resources	Yes	No
Computers		
Science Laboratory Equipment		
Textbooks		
Library		

5. How are the following Teaching-Learning Resources provided for classroom teaching-learning in your school? Please tick (✓) the appropriate response.

Key: 1-Very often, 2-Often, 3-Sometimes, 4-Rarely, 5-Never

Teaching-Learning Resources	1	2	3	4	5
Computers					
Science Laboratory Equipment					
Textbooks					
Library					

6. Using the scale below, rate the effect of the provision of Teaching-Learning Resources for classroom teaching-learning to Retention of students in your current school. Please tick (✓) the appropriate response.

   Scale: A-High effect, B-Moderate effect, C-Little effect, D-No effect

   a. Computer A [ ] B [ ] C [ ] D [ ]

   b. Science Laboratory Equipment A [ ] B [ ] C [ ] D [ ]

   c. Textbooks A [ ] B [ ] C [ ] D [ ]

   d. Library A [ ] B [ ] C [ ] D [ ]

Part C: Information on retention of student in school

7. How many students are there in your current school? ……....
8. How many students, from other schools, have joined your current school? .....
9. What reasons would have made students to transfer from other schools to your current school? ……..
10. How many students from your current school have transferred to other schools.....
11. In your own opinion give reasons as to why students may have transferred from your current school to other schools …….

12. In your own opinion, how does provision of computers, science laboratory equipment, library and textbooks affect the retention of students in your current station?……

Thank you for your cooperation

APPENDIX 3: QUESTIONNAIRE FOR HEADS OF DEPARTMENTS

This questionnaire seeks to gather general information to be used in a study of the provision of teaching learning resource and retention rates of students in public secondary schools in Naivasha sub-county. You are kindly requested to fill in the questionnaire. Your responses shall be used for the purposes of the study only. Please do not write your name or the name of your school anywhere on the questionnaire. Kindly answer all the questions. The questions shall require you to respond by ticking the spaces (✓) the appropriate option or just filling in the spaces provided.

PART A: Demographic information

1. Indicate your gender. Male [ ] Female [ ]
2. What is your highest level of academic qualification?

   Master [ ] B/Ed [ ] BA/BSc with PGDE [ ] Diploma [ ]
3. How long have you been teaching in your current school? …… years

Part B: Information on provision of teaching-learning resources to school

4. Are the following Teaching-Learning Resources available in your current school? Please tick (✓) the appropriate response.

Teaching-Learning Resources	Yes	No
Computers		
Science Laboratory Equipment		
Textbooks		
Library		

5. How are the following Teaching-Learning Resources provided for classroom teaching-learning in your school? Please tick (✓) the appropriate response.

Key: 1-Very often, 2-Often, 3-Sometimes, 4-Rarely, 5-Never

Teaching-Learning Resource	1	2	3	4	5
Computers					
Science Laboratory Equipment					
Textbooks					
Library					

6. Using the scale below, rate the effect of the provision of Teaching-Learning Resources for classroom teaching-learning to Retention of students in your current school. Please tick (✓) the appropriate response.

   Scale: A-High effect, B-Moderate effect, C-Little effect, D-No effect

   a. Computer A [ ] B [ ] C [ ] D [ ]

   b. Science Laboratory Equipment A [ ] B [ ] C [ ] D [ ]

   c. Textbooks A [ ] B [ ] C [ ] D [ ]

   d. Library A [ ] B [ ] C [ ] D [ ]

PART C: Information on retention of students in school

7. How many students are there in your current school? …….....**.....**
8. How many students, from other schools, joined your current school? ……
9. What reasons would have made students to transfer from other schools to your current school…….
10. How many students from your current school transferred to other school……
11. What reasons did the students give as to why they transferred from your current school to other schools……..

12. In your own opinion, how does provision of computers, science laboratory equipment, school library and textbooks help students remain in your current school? ……

Thanks for your cooperation

APPENDIX 4: QUESTIONNAIRE FOR STUDENTS

This questionnaire seeks to gather general information to be used in a study of the provision of teaching learning resource and retention rates of students in public secondary schools in Naivasha sub-county. You are kindly requested to fill in the questionnaire. Your responses shall be used for the purposes of the study only. Please do not write your name or the name of your school anywhere on the questionnaire. Kindly answer all the questions. The questions shall require you to respond by ticking the spaces (✓) the appropriate option or just filling in the spaces provided.

PART A:Demographic information

1. Indicate your gender. Male [ ] Female [ ]
2. What is your current class?F1 [ ] F2 [ ] Form 3 [ ] Form 4 [ ]
3. In which class did you joinyour current school?

   F1 [ ] F2 [ ] F3 [ ] F4 [ ]

Part B: Information on provision of teaching-learning resources to school

4. Are the following Teaching-Learning Resources used in your class during teaching and learning activities? Please tick (✓) the appropriate response.

Teaching-Learning Resources	Yes	No
Computers		
Science Laboratory Equipment		
Textbooks		
Library		

5. How are the following Teaching-Learning Resources provided for teaching and learning in your class? Please tick (✓) the appropriate response.

   Key: 1-Very often, 2-Often, 3-Sometimes, 4-Rarely, 5-Never

Teaching-Learning Resources	1	2	3	4	5
Computers					
Science Laboratory Equipment					
Textbooks					
Library					

6. Using the scale below, rate the effect of the use of Teaching-Learning Resources for classroom teaching and learning to Retention of students in your current class. Please tick (✓) the appropriate response.

   Scale: A-High effect, B-Moderate effect, C-Little effect, D-No effect

   a. Computer A [ ] B [ ] C [ ] D [ ]

   b. Science Laboratory Equipment A [ ] B [ ] C [ ] D [ ]

   c. Textbooks A [ ] B [ ] C [ ] D [ ]

   d. Library A [ ] B [ ] C [ ] D [ ]

PART C: Information on retention of students in school

7. How many students are there in your current class? …….....
8. How many students, from other schools, joined your current class? ……
9. What do you think would have made students to transfer to your current school? Please tick (✓) the appropriate response.

   a. Provision of computers for teaching-learning activities

   b. Provision of science laboratory equipment

c. Provision of textbooks

d. Provision of a school library

10. How many students from your current class transferred to other schools?.....
11. What reasons did the students give as to why they transferred fromyour current school to another schools?.....
12. In your own opinion, how does provision of computers, science laboratory equipment, school library and textbooks affect your stay in your current school? ……

Thanks for your cooperation

APPENDIX 5: OBSERVATION SCHEDULE

The researcher will observe the following aspects in the schools visited.

1. Are the following TLR provided in the school?

TLR	Yes	No
Science laboratory		
Computer laboratory		
School library		
Textbooks		

2. Is there any evidence for the TLR being used by both teachers and students for teaching learning activities?

TLR	Yes	No
Science laboratory		
Computer laboratory		
School library		
Textbooks		

APPENDIX 6: LETTER OF AUTHORIZATION

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone:+254-20-2213471,
2241349,3310571,2219420
Fax:+254-20-318245,318249
Email: dg@nacosti.go.ke
Website : www.nacosti.go.ke
When replying please quote

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

Ref: No. **NACOSTI/P/18/21306/25376**

Date: **12th October, 2018**

Florence Wangeci Ngaru
University of Nairobi
P.O. Box 30197-00100
NAIROBI

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Influence of teaching-learning resource provisions on students' retention rates in public secondary schools in Naivasha Sub-County, Kenya"*** I am pleased to inform you that you have been authorized to undertake research in **Nakuru County** for the period ending **11th October, 2019.**

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

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

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

Copy to:

The County Commissioner
Nakuru County.

The County Director of Education
Nakuru County.

APPENDIX 7: RESEARCH PERMIT

THIS IS TO CERTIFY THAT:
MS. FLORENCE WANGECI NGARU
of UNIVERSITY OF NAIROBI, 171-20117
NAIVASHA,has been permitted to
conduct research in *Nakuru County*

Permit No : NACOSTI/P/18/21306/25376
Date Of Issue : 12th October,2018
Fee Recieved :Ksh 1000

on the topic: *INFLUENCE OF TEACHING-LEARNING RESOURCE PROVISIONS ON STUDENTS' RETENTION RATES IN PUBLIC SECONDARY SCHOOLS IN NAIVASHA SUB-COUNTY, KENYA*

for the period ending:
11th October,2019

F.W. NGARU
.....
Applicant's Signature

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

THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013

The Grant of Research Licenses is guided by the Science, Technology and Innovation (Research Licensing) Regulations, 2014.

CONDITIONS

1. The License is valid for the proposed research, location and specified period.
2. The License and any rights thereunder are non-transferable.
3. The Licensee shall inform the County Governor before commencement of the research.
4. Excavation, filming and collection of specimens are subject to further necessary clearance from relevant Government Agencies.
5. The License does not give authority to transfer research materials.
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7. The Licensee shall submit one hard copy and upload a soft copy of their final report within one year of completion of the research.
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