INFLUENCE OF PRINCIPALS’ MANAGEMENT OF RESOURCES ON STUDENTS’ PERFORMANCE AT KENYA CERTIFICATE SECONDARY EXAMINATION IN PUBLIC SCHOOLS IN SAMBURU COUNTY, KENYA

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A Research Project Submitted to the Department in Partial Fulfillment of the Requirements for the award of the Degree of Masters of Education in Educational Planning

University of Nairobi

2016
DECLARATION

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

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DEDICATION

I dedicate this work to my brother Ekwam Lomonyang, my parent; Veronica Arunye, my wife Bernaditte Akiru and children Elok, Ekal, Elimlim, Mandelina and Lin.
ACKNOWLEDGEMENT

I would like to thank the Almighty God for the care, strength and good health during my study period. I give him all glory and honor. I am very grateful to my supervisors Dr. Ibrahim Khatete and Dr. Jeremiah Kalai whose patience, dedication and encouragement made it possible for me to complete this project. Kindly accept my sincere gratitude. I also wish to extend my gratitude to my family members for their endless support throughout this period. To my friends and colleagues especially Thomas Munene and Esther Kunyiha who were very supportive to me during my study period. My gratitude goes to all the principals and teachers of the various schools where I conducted my research. I thank you very much for the support.
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<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>BOM</td>
<td>Board of Management</td>
</tr>
<tr>
<td>CDF</td>
<td>Constituency Development Fund</td>
</tr>
<tr>
<td>IGA’s</td>
<td>Income Generating Activities</td>
</tr>
<tr>
<td>KCSE</td>
<td>Kenya Certificate of Secondary Education</td>
</tr>
<tr>
<td>KEMI</td>
<td>Kenya Educational Management Institute</td>
</tr>
<tr>
<td>LATF</td>
<td>Local Authority Transfer Fund</td>
</tr>
<tr>
<td>MOEST</td>
<td>Ministry of Education Science and Technology</td>
</tr>
<tr>
<td>NACOSTIC</td>
<td>National Council for Science Technology and Innovation</td>
</tr>
<tr>
<td>NGO’S</td>
<td>Non-Governmental Organizations</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
</tr>
<tr>
<td>TSC</td>
<td>Teacher Service Commission</td>
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<td>UNESCO</td>
<td>United Nations Educational Scientific and Cultural Organization</td>
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</table>
ABSTRACT

The purpose of the study was to investigate the influence of principals’ management of resources on students performance at KCSE in Kenya with special reference to public secondary schools in Samburu County. The objectives of the study were to: determine the influence of principal’s educational personnel management on students performance in KCSE; to determine the influence of principals’ instructional materials management on student performance in KCSE; assess the influence of principal’s educational facilities management on student performance at KCSE and establish the influence of principal’s educational finances management on student performance in KCSE. The study was guided by the education production function (EPF) theory that was originally proposed by Coleman in 1966 to relate various inputs affecting students’ learning and to measure output which includes standardized test scores. The research employed a survey design targeting all public secondary schools’ principals and teachers. Data was collected in County and Sub-county public secondary schools in Samburu County. The target respondents comprised of 40 principals and 400 teachers from the 40 public secondary schools in Samburu County. Stratified sampling technique was used to select 12 principals and 120 teachers for the study. Of the targeted respondents, 90 teachers and 12 principals responded, a total of 102 respondents giving a questionnaire return rate of 87.5%. Questionnaires and an interview guide were used for data collection. Prior to the actual data collection, a pilot study was conducted to ascertain the reliability and validity of the instruments. The study gathered both qualitative and quantitative data. Quantitative data was analyzed using descriptive statistics including frequencies and percentages. Pearson Product Moment correlation coefficient, t-test and multiple linear regression were used to analyze the statistical data. Qualitative data was put under themes consistent with the research objectives t-test results revealed that, in comparison with bottom performing schools, top performing schools were putting more emphasis on the four correlates; educational personnel, Instructional materials, physical facilities and educational finance. Similarly, Pearson Correlation Coefficient analysis revealed significant positive correlations between the KCSE mean deviations (2011-2015) and the four correlates. Multiple regression analysis revealed that the four correlates of effective resource management explained 11.5% of the variation in KCSE performance among the sampled schools. The study could only be used to give recommendations that secondary schools should put emphasis on four correlates of resource management that were identified to positively influence academic performance.
CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

Education resource management is a term used to describe a universal system for management resources, inventory and assets by optimizing limited resources and maximizes educational results with destiny. Example of resources that affect educational institutions either directly or indirectly are; school resource manager, natural resources, Human resources, financials resources and physical resources (Microsoft Encarta, 2016).

According to the 2005 and 2012 Education For All (EFA) Global Monitoring Report, the quality of education remains very poor in most sub-saharan African countries, including Kenya. Performance of pupils in basic education in absolute terms is low and internal efficiency of education at secondary level requires policy intervention. (Republic of Kenya, 2012). This output (performance) is achieved after various inputs into Educational process. (Kombo, 2004).

It would be logical to use standardized students’ assessment results as the basis for judging the utilization of educational resources (input), their transformational process (teaching and learning) to produce quality output (students) that meet the set standards and expectation of the society. In Kenya the output in secondary school is performance attained at KCSE after completion of four year cycle.
According to Odubuker (2004), and Kaggwa (2003), academic performance is defined as the quality and quantity of knowledge, skills, techniques, positive attitude, behavior and philosophy that students acquire. The ability to achieve is evaluated by marks and grades obtained in a test or examination, at the end of a topic, term, year or education cycle. The authors further assert that the quality of grades and the number of candidates who pass in the various grades determine the level of academic performance of a given class or institution in a given period of a particular examination whether internal or external.

Recent research in USA revealed teacher quality as the most important variable in determining students’ achievements (Mulkeen, Chapman, Dejaeghere and Bryner, 2005). A research done by Uganda international volunteers program, Troy (2002) reported 29 schools out of 34 agreed that teachers are the most important resource that contributes to the success of their schools because of the commitment they exercise. Troy (2002) further reported that most successful schools in Mukono put more emphasis on teachers and financial resources that can be used for meeting all the capital and recurrent expenditures and enhance performance. Kaggwa (2003) emphasizes that human resource is the most important resource in a school organization and adds that teachers comprise the most important staff in the school. However, the contribution made by other staff commonly referred to as support staff such as secretaries, bursars, accounts clerk, matron, nurses,
messengers and watchmen is also important in making the organisation achieve its objectives.

The head teachers’ responsibility in human resource management involves: Leading and motivating staff; delegating responsibilities effectively; and conflict management. These enable effective teaching and learning that impacts on students’ academic performance. With increased number of students, teacher-students’ ratio is likely to be high, leading to increased workload for teachers. Inadequate teachers in schools increase teachers teaching load where teachers are not able to effectively teach and which ultimately leads to poor performance at KCSE. (Muhiire, 2002). As a human resource manager, the head teachers need to ensure that there are adequate teachers in the school for effective teaching and learning process which improves students’ academic performance. This includes hiring BOM teachers in cases where there are inadequate teachers. Kimani (2012) did a study on the relationship between human resources management variables and students’ academic performance in secondary schools in Nairobi County, Kenya. The study showed that staff workload had a negative correlation with students’ performance while human resources planning, staff supervision and staff evaluation had a positive correlation to students’ academic performance.

Bitamazire, (2005) showed that instructional materials improved student performance and made ideas concrete and easier to understand they are any form
of material used to facilitate teaching and learning process in school setting include textbooks, visual aids, scholastic equipment. Effective use of these materials facilitate learning, they can attract and hold students’ attention, increase retention and enhance understanding of the abstract concepts thus, improving students’ performance at KCSE. (Ajuago, 2002). Lockheed in Aganze (1998) advances scholastic materials to include blackboards and chalk. Availability of scholastic materials like textbooks and space determine performance. Locally, studies that have been done include Wanjiku (2009) who did a study on availability and utilization of educational resources in influencing students’ performance in secondary schools in Mbeere South, Embu County, Kenya. The study found out that the text books were not sufficient but there was no acute shortage since a text book could be shared by a considerable number of students in all categories of schools. This implies that the government subsidized secondary education had contributed towards availability of text books.

Learning is a complex activity that puts students’ motivation and physical condition to the test (Lynn, 2014). It has been a long-held assumption that curriculum and teaching have an impact on learning. However, it is becoming more apparent that the physical condition of our schools can influence student achievement. Earthman, Cash and Van Berkum (1996) found that 11th grade students in above standard buildings scored higher as measured by the Comprehensive Test of Basic Skills than did their counterparts attending class in
substandard facilities. The National Priorities Project (2000) report indicates that Texas students follow the trend found in the study conducted by Earthman et al. (1996) developed research that examined the impact of various factors of building condition on student achievement in a manner that controlled for socio-economic status of the students. They found that when socio-economic factors were constant, facility condition had a significant correlation with student achievement. The status of air conditioning, absence of graffiti, condition of science laboratories, locker accommodations, condition of classroom furniture, wall colour and acoustic levels correlated with student achievement at a significant level when controlling for socio-economic status of students.

Finances are needed for capital development and recurrent costs such as for constructions and staff salaries. According to Ankomah, Koomson, Bosu and Oduro (2005), finances are categorized into capital and recurrent expenditure. Schools need sufficient money for buying textbooks, paying teachers salaries, buy science equipment, construct new buildings, and maintain other educational services. Higwira (1993) stated availability of funds enables the principals to create a suitable climate and tone conducive to produce positive and desirable results. Wanjiko (2009) advanced that academic performance in schools in Embu County was influenced by principal’s management of education finances which are used for attracting good teachers, good infrastructure and good instructional materials.
The launch of subsidized secondary school education in 2008, increased demand for education in Samburu county leading to the Establishment and Registration of New Secondary Schools. The number of public secondary schools which presented candidates for KCSE increased from 12 in 2008 to 29 in 2015. This registered a 105.8% increase. The schools being a communally initiative means that they have not fully developed in terms of human resources, instructional facilities, physical facilities and other educational resources critical for good performance at KCSE.

Results on poor students’ performance at KCSE examinations are evidenced in Table 1.1.

Table 1.1: Student’s KCSE Performance in Samburu County

<table>
<thead>
<tr>
<th>Year</th>
<th>Subject</th>
<th>Entry</th>
<th>C-</th>
<th>D+</th>
<th>D</th>
<th>D-</th>
<th>E</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>English</td>
<td>1228</td>
<td>189</td>
<td>117</td>
<td>325</td>
<td>54</td>
<td>1</td>
<td>686</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>Chemistry</td>
<td>1127</td>
<td>108</td>
<td>110</td>
<td>329</td>
<td>334</td>
<td>26</td>
<td>907</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>Biology</td>
<td>1066</td>
<td>174</td>
<td>101</td>
<td>214</td>
<td>146</td>
<td>28</td>
<td>663</td>
<td>63</td>
</tr>
<tr>
<td>2013</td>
<td>English</td>
<td>1276</td>
<td>176</td>
<td>137</td>
<td>317</td>
<td>78</td>
<td>3</td>
<td>711</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>Chemistry</td>
<td>1129</td>
<td>115</td>
<td>115</td>
<td>329</td>
<td>307</td>
<td>63</td>
<td>929</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>Biology</td>
<td>1052</td>
<td>138</td>
<td>119</td>
<td>248</td>
<td>138</td>
<td>29</td>
<td>672</td>
<td>64</td>
</tr>
<tr>
<td>2014</td>
<td>English</td>
<td>1443</td>
<td>238</td>
<td>138</td>
<td>326</td>
<td>91</td>
<td>10</td>
<td>803</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>Chemistry</td>
<td>1256</td>
<td>117</td>
<td>134</td>
<td>315</td>
<td>283</td>
<td>80</td>
<td>929</td>
<td>74</td>
</tr>
<tr>
<td></td>
<td>Biology</td>
<td>1184</td>
<td>125</td>
<td>120</td>
<td>263</td>
<td>123</td>
<td>26</td>
<td>657</td>
<td>56</td>
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Source: County Education Officer Samburu County (2015)
1.2 Statement of the Problem

The Kenya’s education system is dominated by examination oriented teaching where by passing examinations is the only benchmark for performance as there is no internal system of monitoring learning achievements. In Samburu County, performance in K.C.S.E examination has remained poor with a majority of the students scoring D - in English language and sciences which are core subjects thus contributing to very low district mean grade of D-. This is a poor grade as it bars students from entry into science based degree and diploma courses that are of great demand in skilled labour such as agriculture, energy, building and construction that will provide labour force and alleviate poverty. Many educational stakeholders such as MOEST, CDF, religious organizations and parents are concerned that despite them providing funds to schools performance at KCSE is still low. Most headteachers have undergone management induction courses provided by organizations such as KEMI yet performance in schools are still low. Even though many studies done to determine factors influencing poor performance of students in KCSE examinations have indicated inadequate teaching learning resources as one of the variables, there was little or no study on principal management of educational resources have been carried out in Samburu County.

Therefore to the best of the researchers’ knowledge there exist scarce research on education resources management and student performance at KCSE in Kenya. It
is against this background that this study embarked to investigate the influence of principals’ management of teaching resources on student performance at KCSE in Kenya with special reference to public secondary schools in Samburu County and fill the existing knowledge gap.

1.3 Purpose of the Study

The main aim of this study was to investigate the influence of principals’ management of resources on student KCSE performance at Kenya with special reference to public secondary schools in Samburu County.

1.4 Research Objectives

The study was guided by the following objectives:

i. To determine the influence of principals’ educational personnel management on student performance at Kenya Certificate of Secondary Examination.

ii. To determine the influence of principals’ instructional materials management on student performance at Kenya Certificate of Secondary Examination.

iii. To assess the influence of principals’ physical facilities management on student performance at Kenya Certificate of Secondary Examination.

iv. To establish the influence of principals’ educational finances management on student performance at Kenya Certificate of Secondary Examination.
1.5 Research Questions

The study sought answers to the following questions:

i. What is the influence of principals’ educational personnel management on student performance at Kenya Certificate of Secondary Examination.?

ii. What is the influence of principals’ instructional materials management on student performance at Kenya Certificate of Secondary Examination.?

iii. What is the influence of principals’ physical facilities management on student performance at Kenya Certificate of Secondary Examination.?

iv. What is the influence of principals’ instructional materials management on student performance at Kenya Certificate of Secondary Examination.?

1.6 Significance of the Study

The study sought to confirm that principals’ role in the management of resources had an influence on student’s performance at KCSE in secondary schools in Samburu County, Kenya. The findings of this study therefore would be of significance in various ways: First on the theoretical value, the study would provide greater in sight to the administrators and managers of schools into the role of principals in student academic performance in schools in Samburu County. Second on the practical value, the findings served as reference points for school principals of schools in Samburu County management skills that would lead to improvement of students’ performance in national examinations. Besides, the
findings also enlighten school principals in order to address the problem of how to improve students’ achievement in national examinations.

1.7 Limitations of the Study

Limitation is a variable where the researcher had no control over. The study was limited to only four independent variables: The researcher was unable to control the respondents’ attitude towards responding to the questionnaires. However the researcher assumed the responsibility of confidentiality of their identity and the responses provided by responding to the research instruments. The researcher relied on respondents opinions with expectations that all responses gave to the best of respondents’ knowledge.

1.8 Delimitation of the Study

According to Mugenda and Mugenda (1999) there are boundaries to any study. The researcher did not consider all the educational resources in the teaching learning process. This study was confined to human resource management, school fund management, learning material management and physical facilities management. Private secondary schools were precluded as they do not enjoy government funding in acquisition of educational resources. The study was carried out in Samburu County because of persistent poor performance at K.C.S.E examinations.
1.9 Assumptions of the Study

Basic assumptions of the study were that:

i. Head teachers ensure that human and material resources are provided for and effectively used for teaching.

ii. Head teachers supervise and provide for academic and professional guidance to the teachers.

iii. All secondary schools in Samburu County offer similar curriculum as required by the Ministry of Education.

1.10 Definition of Significant Terms

**Educational Finance**: Refers to all capital or recurrent funds received in the school in order to facilitate purchase of good or services required in teaching and learning. It includes grants from government, school fees and donations from well-wishers.

**Educational Personnel**: Refers to all person who contribute in directly or indirectly to teaching and learning in an educational institution. Example teachers, accounts clerks and laboratory technicians.
Performance: Refers to Academic achievement in a school as measured by the mean mark or grade attained at KCSE, which is a national examination administered for completion of secondary education in Kenya.

Material Resources: Refers to Items and substances needed for teaching and learning purposes and include textbooks, chalk, laboratory chemicals, stationary etc.

Internal Efficiency: Refers to the ability of a school system to utilize the available educational resources to improve students’ performance at KCSE.

Physical facilities/resource: Refers to school plant, machinery and equipment such as classrooms, laboratories, libraries and other equipment.

Principal: Refers to a qualified trained teacher appointed by TSC charged with the overall responsibilities of running a secondary school.

Public school: Refers to a school in which the government meets teachers’ salaries and provides tuition fees for the students.
1.11 Organization of the Study

The study was organized in five chapters. Chapter one comprised of the introduction which have the background to the study, statement of the problem, purpose of the study, research objectives, research questions, significance of the study, limitations and delimitations of the study, basic assumptions of the study, definitions of the significant terms and organization of the study. Chapter two discussed literature reviewed related to the management of resources and student performance, theoretical framework and conceptual framework. Chapter three described the research methodology that was used including research design, target population, sample size and sampling techniques, instrumentation, validity and reliability of the instruments, data collection procedures and data analysis techniques. Chapter four focused on data analysis and interpretation while chapter five presented the summary of the study, research findings, conclusion, recommendations and suggestion for further research.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter brought together relevant literature on the concept of teaching resources management. In this chapter, relevant literature is reviewed in consonance with the objectives of the study. The review started with a discussion on teaching resources management, the theoretical framework and ends with a conceptual framework.

2.2 Management of Educational Personnel and Students’ Performance

Management is a process of working with and through people to achieve organizational goals. It involves planning activities to achieve set objectives (Mafabi, Higwiri, Osire, and Agwai 1993). It describes what managers do, which involves organizing, supervising, and controlling (Hanagan 2002).

Many scholars found that among other factors that enhance pupils’ good academic performance in schools, effort exerted by head teachers, teachers, and parents are a major contributing factor (Nambuba-Namusole 2005). According to Musaazi (2006), educational personnel are administrators, teachers and support staff. However, the roles of a head teacher have direct influence on managing teaching and learning process. According to Nambuba-Namusole (2005), the roles are; being custodian of good education standard in his or her school, aiming
at high educational standards and ensuring observation of punctuality for teachers, pupils and others. These roles were stipulated mainly for primary school head teachers but they also apply to secondary school heads.

To exhibit these roles a head teacher should have been adequately trained in educational planning, management and administration. Unfortunately Mulkeen et al. (2005), Colby, Witt et al. (2000), and Mafabi, et al. (1993) concur that in developing countries, Uganda in particular; few head teachers have been trained. They may lack academic and instructional leadership, time management, school vision and mission, tradition of performance, learning environment and school and community relations (Ankomah, et. al., 2005). This could render the head teacher ineffective in exercising his role. Wanda (1995) affirms that if management was equipped with skills, the work of administering and guiding the decision makers of the school on how to achieve an optimal mix of inputs would be smooth; because management motivates both staff and students to work (Aganze 1998:2, Musaazi 1982).

However, Nsubuga (2003) reported that most head teachers work hard, with average working week of over 65 hours, less than 20% received any induction management training, efforts have been made to train all head teachers in management and administrative skills and all newly appointed head teachers get induction in management training. Despite training efforts, the researcher
wonders why performance in some schools especially Samburu remain low. The researcher disagrees with Nsubuga (2003) that induction in management training does not make a person professional in management; it is inadequate. Therefore, the researcher believes that besides induction, head teachers need training and should practically apply managerial skills acquired that will effect on performance.

Researches across the world indicate that school head teachers are the main determinants of overall quality and effectiveness of schools (Mulkeen, et. al., 2005). However, many head teachers neglect instructional supervision and support of staff (Colby, Witt and Associates June 2000, Nsubuga 2003). Yet one of their major tasks is management of curriculum, ensuring effective instruction within the school by checking schemes of work, listening to teachers discussion of school curriculum, coordinating with the Ministry for supply of textbooks, chalk, science equipment and among others (Musaazi 1982). This enhances improved performance. The researcher agrees with the view of Musaazi (1982), because in some schools head teachers do not supervise their teachers. The researcher wished to find out whether it was the head teachers’ low level of professionalism that affected students’ academic performance or not.

Recent research in USA revealed teacher quality as the most important variable in determining student achievement (Mulkeen et al., 2005). A research done by
BYU Uganda International Volunteers Program, Troy (2002) reported 29 schools out of 34 agreed that teachers are the most important resource that contributes to the success of their schools because of the commitment they exercise. Ankomah, et. al., 2005) advanced that teacher performance is affected through inadequate number of teachers, pupil - teacher ratio, academic qualification, pedagogical training, content knowledge, ability, and experience. Kinungu-Kirindiriza (1989:3) reported teacher competence to include; lesson preparation, proficiency in subject instruction, maintaining order in classroom, encouraging pupil participation in the lesson, punctuality, discipline, participation in extra-curriculum activities, integrity, and participation in community affairs.

Poor working conditions cripple secondary schools teachers in Uganda, no incentives and career structure, only grade V upgrade and 1.8 attended refresher courses since 1993 (Ward, Penny, and Read 2006, Bitamazire 2005, Colby, Witt and Associates June 2000, Nsubuga 2003). Mulkeen et al (2005) confirmed that 15% are unqualified, and 28% have a bachelor's degree. However, Nsubuga (2003), argued that there was improvement in secondary school teachers' qualification and experience profile but some schools are ineffectively managed others have poor working conditions resulting in decline in overall quality of teaching in many secondary schools.
International studies also showed that opportunity to learn and time on the task enhances student performance. However, most teachers face transport and housing problems, do not get to school on time and stay until school hours are over, others hold second jobs, sometimes absent from school (Colby, Witt, and Associates June 2000). In Uganda and Zambia, World Bank (2004), reported teacher absenteeism rate at 26% and 17% respectively. Ankomah, et. al. (2005:15-16) supports this view. Similarly, Mulkeen et al., 2005), and Nsubuga (2003) affirm that this reduces teaching hours, which are low in Sub Saharan Africa by international standards. Thus reduce performance due to unscheduled school closing and teacher and student absences, less classroom time and irregular homework, (Aganze 1998), because real quality improvement depends on what happens in the classroom (De Grauwe & Naidoo 2004). Time management is crucial and in the researchers view, if performance in Samburu secondary schools is to improve then teachers should spend more time in classroom activity.

Mulkeens et al., (2005) further observes that there is positive correlation between teachers’ knowledge of their subject and impact in the classroom. Some teachers may have little knowledge of the subject content to be taught thus practice remote teaching whereby they write notes on the board or use a class prefect to readout of a textbook while absent and this impedes good teaching. Nsubuga (2003) confirmed that teachers are not regularly appraised and schools are not adequately inspected. School head teachers do not supervise their teachers in class. Thus,
teachers may become reluctant in teaching. If teachers are reluctant in teaching what should make a school healthy, alive and a positive place of learning? According to the researcher, the most critical issues for a vibrant place of learning have to do with spirit, commitment, the challenge of being a teacher, reverence and awe for the privilege of being called to teach. If teachers do not love what they do, how they hand on excitement about learning? Teachers cannot pass on joy about learning unless they posses it. No one can give what he or she does not have. It should be noted that review above offered literature on role of head teachers, training, and supervision.

2.3 Management of Instructional Materials and Students’ Performance

Secondary schools in Uganda lack quality and quantity of instructional materials. Wanda (1995) cited World Bank Staff working paper (1988), “without some basic revitalizing of inputs particularly textbooks and instructional materials almost no learning can be expected to occur”. These are any form of material used to facilitate teaching and learning process in school setting (Bitamazire 2005). They include; textbooks, visual aids, scholastic equipment (Musaazi 1982). Aganze (1998) stated scholastic materials to include blackboard and chalk.

Ajuago (2002) reported that availability of textbooks and other instructional materials have a positive correlation on students’ performance because they facilitate understanding of abstract concepts, help in class control and others. She
affirmed that a research done between 1979 and 1981 reported 68 types of different teaching aids supplied by government of Nigeria were never utilized. The researcher concurs with Ajuago (2003), but adds that it is not utilization alone rather teachers’ commitment to professionalism; schemes of work, lesson planning, creative mind and interest in students’ learning and performance, by having in mind what they want their students to achieve at the end of an education cycle that will propel teachers to make proper use of teaching aids.

According to Ward, Penny, and Read (2006), secondary schools in Uganda consider textbooks essential for performance but only few schools have satisfactory levels, many have none. Sources of subject information to students are from blackboard or dictated notes, teachers’ past notes as secondary school student, pamphlets amongst others. Libraries too are short of relevant books, there is a general undeveloped reading skills and capacity to research and access information. Nsubuga (2003), asserted that the shortage of textbooks and other instructional materials is a major factor contributing to the poor quality of education in some secondary schools in Uganda. Surely, quantity and quality of textbooks is important but one thing to be added to it is that, a smartly laid out library with relevant books and control system is not a guarantee for good performance if the books are not read. This is where the researcher agrees with Ward, Penny and Read (2006), and argues that students need to cultivate reading
culture by developing personal initiative driven by goal orientation, what one wants to be after school that makes them read and perform.

The above review considers literature about availability and use of instructional materials. It does not bring out the link between management of instructional materials and students’ performance. This research study will investigate this missing link.

2.4 Management of Educational Facilities and Students’ Performance

According to Muguluma (2004), many scholars who have researched on determinants of educational performance show that an increase in the amount of resources used does not lead to an increase in educational performance. In USA, there was lack of strong and systematic relationship between resources and performance. While Latin America established a positive relationship between infrastructure indicators including buildings, furniture, access to electricity or water and academic performance - they provide for teachers and students a good environment for learning. However, buildings have to be accompanied by other practices for performance to be good, they have to be maintained to provide conducive environment for teaching and learning.

Education Standards Agency list for school infrastructure are; playground, head teachers’ office, staffroom, classroom, library, and toilet (Muguluma 2004).
Aganze (1998) added laboratories and staff houses. Ankomah, et. al., (2005) included; boards, furniture, water, standards of construction, conditions of facilities and specialized rooms. Many school in Uganda and Samburu in particular lack these resources. In (Monitor 26th Jan. 2006), Bukenya lamented that 31.5% of Uganda Certificate of Education (UCE) centers have no functional laboratories, basic equipment, and chemicals which was the cause of poor performance in science subjects. The same paper reported Bitamazire stating construction of 54 laboratories countrywide by African Development Bank (ADB) to improve performance. In Samburu County, the researcher observed that in 2005, the Chief Administrative Officer (CAO) closed seven secondary schools that never met the minimum standards. Among others were; Samburu comprehensive, Okusijoni, Opejo, Loa, Trinity College that could not provide learning environment for students. The available literature review is about educational facilities. No research has investigated the management of educational facilities and students’ performance in Samburu County. Hence, the need for this research study.

2.5 Management of Educational Finances and Students Performance

Financial constraints are experience by both government aided and private schools. Finances are needed for capital development and recurrent costs such as for constructions and staff salaries. Troy (2002) reported that most successful schools in Mukono put more emphasis on teachers and financial resources that
can be used for meeting all the capital and recurrent expenditures and enhance performance. However, Ward, Penny, and Read (2005) revealed that government financial support for aided secondary schools in form of salaries, maintenance grants and development grants was merely 30% of the annual operational budget. Parents fund most of the operational and development costs in aided and private schools as the fee levels are similar. Samburu being a rural county, parents' contributions are limited; fee defaulters are common so most schools prioritize their budgets for tuition costs and boarding, excluding textbooks and libraries.

Nsibuga (2003) affirms that textbooks account for less than 2% of total expenditure for most secondary schools. Government contributes less than one third of it. The researcher agrees with the findings of Nsibuga (2003) and Ward, Penny and Read (2005), and believes that parents in Samburu need sensitization, to develop a positive attitude and interest towards the education of their children, have initiative and awareness of their role to educate them. There is a saying that where there is will, there is way. So they need to plan for school fee and other educational requirements as priority, exploit government loan schemes for small-scale investments to generate income for education purposes and find other alternatives for school fee as well.

Inadequate finances need to be properly managed for effective performance. Itaaga (1995) stated there are many variations in the nature of financial
management in grant aided secondary schools such that set plans cannot be implemented because of inflation, inadequate funds, and inefficiency of budgetary control agents that result into most secondary schools running in financial deficits at the end of the year. Higwira (1993) concurs with Itaaga (1995) that most head teachers operate within tight budgetary controls, which influence the pattern of delegation, participation and accountability by heads of departments.

Higwira (1993) further advocated for a clear system for reaching decisions over priorities, methods of distribution, responsibility for ordering, the keeping of stock records and the justification of expenditure. This brings about transparency and accountability that enhances good performance. The researcher agrees with the issues of variation in financial management raised by Itaaga (1995), that brings about financial deficits and Higwira (1993) stating inadequate finances affecting management and therefore advocating for a clear system of financial management but adds that, one may have a perfect record of finances yet use the system to defraud the accounts. Thus, it is important for one to have the desire and willingness to be self-monitoring for effective performance. This research study will investigate the management of educational finances and students' performance.

All in all, the literature review echoed that management of processes that transform inputs into outputs, namely operational management (Okumbe 1999)
affected students academic performance. Management by educational personnel, instructional materials, facilities are related to students’ academic performance (Okumbe 1999). For instance, good academic performance required inputs to undergo a process of management like teacher pupil interaction in class management and control, daily time on task with the class, regularity and punctuality of teachers for instructional activities, head teachers supervising school activities. However, few head teachers and teachers are adequately trained thus negatively affecting head teachers’ supervisory roles of promoting teacher performance, competence, quality, conditions of service, and knowledge of subject. In the same vein, provision of and maintenance of facilities and proper management of inadequate funds by making clear decisions over priorities, method of distribution, delegation, responsibility for ordering, keeping stock records, justification of expenditure without using the system to defraud accounts are being compromised.

2.6 Summary of Literature Review

The section had presented the literature review of the study and established that head teachers ensured that good storage and maintenance of instructional materials and provision of teaching aids positively affected teachers hence improved students’ performance at KCSE others were presence of well-equipped laboratory. Majority of principals did not involve teachers in financial budgeting of their schools, failed to account for any school funds to BOM and lastly the
school finances budget allocation for instructional activity was not easily done and all these negatively affected students’ performance.

The study sought to find what else the principal did not do well that if it was done accordingly would lead to good students’ performance at KCSE. The researcher disagreed with Nsubuga (2003) that induction in management training did not make a person professional in management. The researcher believed that, head teachers needed training in management skills and practically applied management skills acquired that affected performance.

2.7 Theoretical Framework

Theoretical framework is a collection of interrelated concepts, theories, models etc. it guides the research in determining what things you will measure and what statistical relationship will be measured (Microsoft Encarta, 2008). This study was guided by education production function theory. The theory was proposed by Coleman (1966). An education production function is an application of the economic concept of a production function to relate various inputs affecting a student’s learning (schools, families, peers and neighbourhoods) to measure outputs which includes standardized test scores. He pointed out that the marginal effect of various school inputs in students achievement was small compared to the impact of families and friends. It was further developed by Hanushek (1986) who
introduced the structure of production to the consideration of students learning outcomes.

Education is a production process using scarce human resources, instructional materials, physical facilities and educational finance they interact mutually in the production of educated persons. Since those resources have alternative uses, economic concepts of production theory can be applied to its operational and planning. Thus, in resource allocation at macro and micro levels, efficiency should be deliberately pursued to enable the maximization of the consumption and the investment objectives of education. An input-output relationship which is also referred to Education Production Function (EPF) was used in this study. The applicability of the theory in the study can be seen in the fact that all the theoretical concepts inputs, process and output/outcomes, have a bearing students’ performance. Using the theory, the study sought to investigate the influence of principals’ management of resources such as Education personnel, instructional materials, physical facilities and educational finance and how it affects the desired output (students’ performance at KCSE) in public secondary schools.

2.8 Conceptual Framework

Conceptual framework is a research tool intended to assist a researcher to develop awareness and understanding of the situation under scrutiny and to communicate this. It assists a researcher to organize his thinking and complete an investigation
successfully (Kombo and Tromp, 2006). Figure 2.1 displays the relation between educational personnel management, instructional materials, physical facilities and educational finance and student performance at KCSE.

**Figure 2.1: Conceptual Framework**

The conceptual framework figure 2.1 relates independent variables to dependent variables. Variables are of great influence to students’ performance at KCSE. The output is influenced by how educational input interacts through teaching and learning process. It shows that educational inputs in the school system such as personnel (head teachers and teachers), instructional materials, physical facilities and educational finances, interact and determine the quality of teaching and
learning processes whereby effective interaction may lead to good performance at KCSE and vice versa. Kombo (2004), points out that if the interact is healthy, then the output (performance) should also be good. For instance, teachers’ effective interaction requires availability of instructional materials, physical facilities and finances that can be used for effective teaching. Managing and controlling the class, and teachers punctuality and regularity for instructional activities throughout the school schedule in the term would enhance performance. The opposite is also true if the teacher is ineffective.

The extraneous or intervening variables in this study were socio–economic status, quality of admission and family background. These were controlled as follows. Students’ socio–economic status was controlled by admitting students who are able to pay school fees. Quality of admission was controlled by admitting students with 250 marks and above and with comparable language in understanding happenings in schools and controlling family background by admitting students with both parents since parent ensure students did not miss classes because of indiscipline cases or being out of general because of lacking school fees.
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presented the research design, target population, sample size and sampling procedures, research instruments, data collection procedures and data analysis technique and ethical considerations.

3.2 Research Design

The researcher used a cross-sectional survey design. A cross-sectional survey design involves obtaining information from a wide section of respondents at once without need to follow up the respondents for further information (Amin, 2005). The design is appropriate for the study because data collection was done over a short period. Quantitative and qualitative approaches were used with the view of triangulation as being appropriate for the study.

3.3 Target Population

According to Mugenda and Mugenda (1999) target population is an entire group of individuals’ events or objects having common characteristics. It is the sum total of all that conforms to a given specification. Thus the population should fit a certain specification, which the researcher will be studying and the population should be homogenous. Samburu County has 40 public secondary schools.
Selected schools are from both town and rural setting. The target respondents comprised of 40 principals and 400 teachers as shown in Table 3.1.

### 3.4 Sample Size and Sampling Procedure

According to Orodho (2012), sampling is the process of collecting a number of individuals or objects from a population such that the selected group contains elements representative of the characteristics found in the entire group. Stratified sampling technique was used to select a sample size equivalent to 30 percent of the targeted respondents. According to Mugenda and Mugenda (2003) a sample of between 10 and 30% is adequate for a population of below 1000, for this study. 30 percent was used to sample the teachers and principals since the population was large.

**Table 3.1: Sample Size**

<table>
<thead>
<tr>
<th>Category</th>
<th>Population</th>
<th>Percentage</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principals</td>
<td>40</td>
<td>30</td>
<td>12</td>
</tr>
<tr>
<td>Teachers</td>
<td>400</td>
<td>30</td>
<td>120</td>
</tr>
<tr>
<td>Total</td>
<td>440</td>
<td></td>
<td>132</td>
</tr>
</tbody>
</table>
3.5 Research Instruments

The main tools of data collection for this study were questionnaires, interview schedules and observation check lists. The researcher designed questionnaires for teachers and in addition to questionnaires, interview schedules and checklist was designed for principals. (Mugenda & Mugenda, 2003). Questionnaires give the researcher comprehensive data on a wide range of factors. Both open-ended and closed ended items were used. Questionnaires allow greater uniformity in the way questions are asked, ensuring greater compatibility in responses.

The questionnaires were in two parts; part A and part B. Part A comprised of personal data such as teachers details, details on the gender, age and teaching experience; Part B comprised of contextual data with open ended questions which sought information on the concept of teaching resources management and student performance in KCSE these questions were expressed on five point scale on their opinions towards teaching resources management. The five point Likert scale points were; strongly agree (5), agree (4), undecided (3), disagree (2), strongly disagree (1). The questionnaires were modified from instruments developed by Mugenda and Mugenda, (2003), with some modification and additions guided by the review of the literature and the researcher’s experience with the context of the study.
3.5.1 Validity of Research Instruments

Validity of the instruments is the degree to which results obtained from the analysis of the data actually represents the phenomena under study (Mugenda and Mugenda, 2003). According to Borg and Gall (1989) content validity of an instrument is improved through expert judgment. The researcher sought assistance from supervisors to enhance content validity of the instrument. Their corrections were incorporated. The instruments were further piloted in three schools which were not included on the study. Some items which were found to be ambiguous or not necessary were discarded or restructured to gather the right information as per the study objectives.

3.5.2 Instrument Reliability

Mugenda and Mugenda (1999) define reliability as a measure of the degree to which a research instrument yields consistent results or data after repeated trials. In order to improve the reliability of the instrument, an assessment of the consistency of the responses on the pilot questionnaires was made to make a judgement on their reliability (Amin, 2005). Test-retest technique of reliability testing was employed whereby the pilot questionnaires were administered twice to the respondents, with a one week interval, to allow for reliability testing. The scores from the test were correlated to get the coefficient of reliability using Pearson’s product moment formulae as follows:

Pearson’s coefficient of correlation $r$, 
\[ r = \frac{n \sum xy - \sum x \sum y}{\sqrt{(n \sum x^2 - (\sum x)^2) (\sum y^2 - \sum y^2)}} \]

Where \( n \) = Number of respondents

\( x \) = Scores from the first test

\( y \) = Scores from the second test

A reliable instrument therefore, is the one that consistently produces the similar results. The value \( r \) lies between +1, the closer the value will be to +1 the stronger the congruence. If the instrument produces reliability coefficient of 0.7 and above, the toll is considered reliable otherwise it is revised (Mugenda & Mugenda, 2003). The reliability coefficient for the teachers’ questionnaire and the principal questionnaire was 0.86 and 0.84 respectively for the present study.

3.6 Data Collection Procedures

Kombo and Tromp (2006) define data collection as gathering of information to serve or prove some facts. After the defense and approval of the proposal, the researcher issued a letter from the University to seek a research permit from the National Commission for Science Technology and Innovation (NACOSTI). After obtaining the permit, the researcher made preliminary arrangements with the school principals two weeks before the material day, in order to create sufficient rapport with the respondents, raise their confidence and awareness as to the nature
and purpose of the study, as well as inform them of their freedom to make informed choice. The selected school was visited and the questionnaires administered to the respondents as the researcher waited. The respondents were assured that strict confidentiality was maintained in dealing with their identities. The completed questionnaires were collected the same day they were administered.

3.7 Data Analysis Techniques

This study generated both qualitative and quantitative data; hence both qualitative and quantitative techniques were used to analyze the data obtained. Quantitative data were analyzed using descriptive and inferential statistics. Mugenda and Mugenda (1999) assert that the purpose of descriptive statistics is to enable the researcher to meaningfully describe a distribution of scores or measurement using a few indices or statistics. Descriptive statistics involved the use of means, standard deviations, frequencies and percentages. The process of data analysis required the use of a computer spreadsheet, and for this reason the Statistical Package for Social Sciences (SPSS) was used. In order to determine the relationship between independent and dependent variables of the study, Pearson Product Moment correlation coefficient and the t-test were used at the 0.05 level of significance.
In order to establish the relative contribution of each independent variable on KCSE performance, a linear regression model was specified as depicted by the formula below:

\[ Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \]

Where:

- \( Y \) = KCSE performance (KCSE mean scores for the schools)
- \( X_1 \) = Educational personnel, \( X_2 \) = Educational finances, \( X_3 \) = Educational facilities, \( X_4 \) = Instructional materials and \( \alpha \) = Constant; and \( \beta_1...\beta_4 \) are regression coefficients.

The multiple linear regression equation above was used to examine the relationship between the two sets of variables, one of which is referred to as the predictor variable (in this case the four correlates), and the other of which is referred to as the criterion variable (in this case KCSE performance). Qualitative analysis considered the inferences that were made from the opinions of the respondents. Qualitative data were analyzed qualitatively using content analysis based on analysis of meanings and implications emanating from respondent information and comparing responses to documented data on resource management and KCSE performance. The qualitative data were presented thematically in line with the objectives of the study.
3.8 Ethical Considerations

The researcher obtained permission from the authority before going to the field to commence data collection. The researcher avoided doing anything that could cause physical or emotional harm to the subjects. The researcher ensured personal biases and opinions do not get in the way of the research. The purpose of the research was disclosed to respondents before they are requested to complete the questionnaire. When reporting the results of the study, the researcher ensured that the research report accurately represent what is observed or what is reported by the respondents after proper analysis of all the data collected.
CHAPTER FOUR
DATA ANALYSIS, INTERPRETATION AND DISCUSSION

4.1 Introduction
This chapter presents and discusses the findings of the study. The study investigated the influence of principals’ management of resources on student KCSE performance in Kenya with special reference to public secondary schools in Samburu County. Data was collected from a sample of 108 respondents who comprised of principals and teachers. The data collected on respondents’ demographic information on management of resources, principal and teachers which was complied, analyzed then interpreted to answer the reflected research objectives. Collected data was compiled into frequencies, percentages and presented in tables and pie charts.

4.2 Questionnaire Return Rate
Respondents were given questionnaires which they filled and returned to the researcher. The questionnaire return rate is as presented on Table 4.1
Table 4.1: Questionnaire Return Rate

<table>
<thead>
<tr>
<th>Category of Respondents</th>
<th>Sample</th>
<th>Questionnaire Returned</th>
<th>Percentage Return Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principals</td>
<td>12</td>
<td>12</td>
<td>100</td>
</tr>
<tr>
<td>Teachers</td>
<td>120</td>
<td>90</td>
<td>75</td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>102</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.1 Indicates that the response rate achieved for the two sets of questionnaires was 100% for principals, 75% for teachers’ questionnaires. The return rate was considered adequate in providing valid and reliable presentation of the targeted population. This was attributed to the fact that the researcher administered the questionnaires personally.

The response rate is considered excellent given the recommendations by Mugenda and Mugenda (1999), a response rate of 50% is adequate for analysis and reporting, a rate of 60% is generally good while a response rate of above 70% is excellent. This is also the same position taken by Mugo (2010) who adds that a response rate of above 70% is deemed to be very good. Based on these assertions, this implies that the response rate for this study was adequate.
4.3 Demographic Information of Respondents

The section included the respondent’s gender, age, academic qualification and teaching experience. This was necessary in order to understand our informants and ascertain whether they would be effective for the study.

4.3.1 Distribution of Respondents by Age

Respondents’ age was determined by asking the principals and teachers to indicate their age category in order to ascertain their maturity level in handling school affairs. The findings were indicated in Table 4.2

Table 4.2: Distribution of Respondents by Age

<table>
<thead>
<tr>
<th>Age in years</th>
<th>Principals</th>
<th></th>
<th>Teachers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>21 – 25</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>2.2</td>
</tr>
<tr>
<td>26 -30</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>2.2</td>
</tr>
<tr>
<td>31 -35</td>
<td>4</td>
<td>20</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>36 -40</td>
<td>2</td>
<td>13.3</td>
<td>13</td>
<td>14.4</td>
</tr>
<tr>
<td>41 -45</td>
<td>4</td>
<td>33.3</td>
<td>21</td>
<td>23.3</td>
</tr>
<tr>
<td>46 – above</td>
<td>4</td>
<td>33.3</td>
<td>34</td>
<td>37.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
<td><strong>100</strong></td>
<td><strong>90</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

40
From the table it can be deduced that 33.3 percent of the principals who responded to the questionnaire were in the age bracket of 41 - 45 years and 46 years and above respectively. This shows that most of the head teachers were relatively young. This proves that they have energy to manage resources in their schools. There were fewer 2.2 percent youthful at the age bracket of 26 -30 years and 21 – 25 years respectively. Most significantly in category 6, there were more teachers with 46 years and above. Most of the younger teachers were fresh graduates who have a tendency of changing employment in search of better terms of service.

4.3.2 Distribution of Respondents by Gender

Respondents’ gender representation based on their categories was analyzed and presented in Table 4.3.

Table 4.3: Distribution of Respondents by Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Principals</th>
<th>Teachers</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Female</td>
<td>4</td>
<td>33.3</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>Male</td>
<td>8</td>
<td>66.7</td>
<td>72</td>
<td>80</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>100</td>
<td>90</td>
<td>100</td>
</tr>
</tbody>
</table>
Table 4.3 shows that majority were male principals in Samburu County. On a different note majority were male teachers an indication that female teachers and principals are not attracted to work in Samburu County because of the harsh conditions in the region.

4.3.3 Distribution of Respondents by Academic Qualification

Secondary school principals and teachers provided demographic information on their academic qualification order to ascertain if they were equipped with relevant knowledge regarding effective resource management with relation to KCSE performance in their respective schools.

Table 4.4: Distribution of Respondents by Academic Qualification

<table>
<thead>
<tr>
<th>Education level</th>
<th>Principals</th>
<th></th>
<th>Teachers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Masters degree</td>
<td>5.604</td>
<td>46.7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B. Ed degree</td>
<td>3.996</td>
<td>33.3</td>
<td>38</td>
<td>42.2</td>
</tr>
<tr>
<td>Diploma in education</td>
<td>2.4</td>
<td>20</td>
<td>37</td>
<td>41.1</td>
</tr>
<tr>
<td>P1 certificate</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>16.7</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>100</td>
<td>90</td>
<td>100</td>
</tr>
</tbody>
</table>
Table 4.4 above shows that 46.7% of the sampled principals in Samburu County were Masters Holders and 33.3% are degree holders, while most of the teachers (42.2) percent were holders of bachelors’ degree in Education. The findings gave an indication that the majority of teachers had a minimum academic qualification to teach in their respective schools. The findings indicated that students in the sampled schools are taught by teachers with knowledge and skills which are instrumental in the management and teaching in the respective secondary schools.

4.3.4 Distribution of Respondents by Years of Service

Respondents’ were asked to indicate their years of service in their respective schools in order to ascertain the extent to which their responses could be relied upon to make conclusions on the study problem using their working experience. Representation based on their categories was analyzed and presented in Table 4.5.

<table>
<thead>
<tr>
<th>No. of years</th>
<th>Principals Frequency</th>
<th>%</th>
<th>Teachers Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 – 5 years</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>6– 10 years</td>
<td>6</td>
<td>53.3</td>
<td>13</td>
<td>14.4</td>
</tr>
<tr>
<td>11– 15 years</td>
<td>2</td>
<td>20</td>
<td>30</td>
<td>33.3</td>
</tr>
<tr>
<td>Over 16 years</td>
<td>3</td>
<td>26.7</td>
<td>38</td>
<td>42.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
<td><strong>100</strong></td>
<td><strong>90</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
Table 4.5 reveals that all principals had served in headship for period of 6 years and above. This shows most of the principals had a considerable experience as principal and therefore capable of managing district secondary schools effectively if availed with requisite resources and had acquired appropriate experience to lead their schools and also to manage the challenges encountered in handling of school resource in their schools.

4.3.5 Category of School

The head teachers were also asked to indicate the category of schools that they headed. The response is as shown in the Table 4.6.

**Table 4.6: Classification of Schools by Category**

<table>
<thead>
<tr>
<th>School Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>District schools</td>
<td>10</td>
<td>83.3</td>
</tr>
<tr>
<td>Day and boarding district schools</td>
<td>2</td>
<td>16.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Their responses revealed that 83.3 percent headed district schools. This could be attributed to the fact that most of the schools are supposed to serve the local community and hence most of them would be expected to be day schools other than boarding schools.
4.4 Management of Educational Personnel and Students’ Performance

The first objective of the study was to determine the influence of principals’ educational background on personnel management on student performance at KCSE. The principals were asked to indicate whether they had enough teachers in their schools. All the head teachers indicated that schools did not have adequate teachers for all lessons. They also reported that they had untrained teachers in their schools. Asked for the reasons for having untrained teachers in the schools, the majority of the principals 75 percent said that the schools had no adequate TSC posted teachers hence had to search for means to have teachers. Other principals reported that their schools could not afford trained teachers because of lack of funds to pay them.

Assembled whether there were times when students would be left without teachers; (66.7%) of the principals reported that there were times students were left without teachers against (33.3%) who said they did not. Among reasons given by principals who had students study alone was that sometimes teachers employed by BOM left the schools. At times students remained without teachers before suitable replacements were recruited. To solve the problem of inadequate teachers in the schools, some principals had to employ untrained teachers as they waited for TSC to post trained teachers to the schools; the available teachers therefore overburdened. Majority of the principals reported that some teachers had teaching load ranging from 27-35 lessons due to inadequacy of teachers in the schools.
against TSC maximum workload of 27 lessons per week a load they consider large and at times unmanageable. Hiring Form Four leavers or untrained teachers had compromised standards of education in the schools and affected student performance at KCSE.

On a different note, the responses from the teachers were captured via Likerts scale ranging from SD – “strongly disagree” with a score of 1 point to upper end of the scale as SA – “Strongly agree” with score of 5 points. Table 4.7 shows the findings of the captured information.

**Table 4.7: Teachers’ Response on Management of Educational Personnel and Students Performance**

<table>
<thead>
<tr>
<th>Respondents’ Opinion</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>The head teacher makes informal visits in class during teaching</td>
<td>No.</td>
<td>14</td>
<td>9</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>13.7</td>
<td>8.8</td>
<td>9.8</td>
<td>12.7</td>
</tr>
<tr>
<td>The head teacher observes teachers in class and gives a feedback</td>
<td>No.</td>
<td>5</td>
<td>20</td>
<td>14</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>4.9</td>
<td>19.6</td>
<td>13.7</td>
<td>53.9</td>
</tr>
<tr>
<td>After classroom observation we discuss the results with the head teacher</td>
<td>No.</td>
<td>7</td>
<td>5</td>
<td>12</td>
<td>74</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>6.9</td>
<td>4.9</td>
<td>11.8</td>
<td>60.5</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>0.0</td>
<td>6.9</td>
<td>4.9</td>
<td>65.7</td>
</tr>
</tbody>
</table>
In order to investigate the influence of Principals’ management of education personnel on student performance at KCSE, the teachers were asked whether the head teacher made informal visits in class during teaching. Most of the teachers (54.9%) strongly agreed. As to whether the head teacher observed teachers in class and gave a feedback 53.9%.

These results agree with those of Ajuogo (2002) who found out in their study that visiting classrooms by supervision strategy that positively affects teachers hence improving students’ performance. Classroom visits is one of the most common forms of teacher evaluation and is a supervision strategy which positively affects teachers.

On a different note the majority (60.5%) cited that after classroom observation they discussed the results with the head teacher and classroom observations enable school heads to learn what teachers are doing, assess whether sound instruction is being delivered and to interact with teachers thus improving student overall performance. This study therefore concludes that the classroom visits ensure that principals learn and act on students discipline, know the teaching learning aids used in classrooms and confirm teachers mark student’s assignment and continuous assessment scripts regularly. These actions influence and positively impacts on teachers’ performance. Principals give feedback to teachers
either individually in the office and instructing them on what should be done or meeting teachers in small group discussions.

4.5 Management of Instructional Materials and Students’ Performance

The second objective of the study was to determine the influence of principals’ management of instructional materials on student performance at KCSE. The teachers were asked for their opinion on how the management of instructional materials influenced student performance. The responses were captured via Likerts scale ranging from SD – “strongly disagree” with a score of 1 point to upper end of the scale as SA – “Strongly agree” with score of 5 points. Table 4.5 shows the findings of the captured information. The results are presented on Table 4.8.

**Table 4.8: Teachers’ Response on Management of Instructional Materials and Students’ Performance (N = 102)**

<table>
<thead>
<tr>
<th>Respondents’ Opinion</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>My principal ensures there are enough textbooks for student</td>
<td>No.</td>
<td>8</td>
<td>15</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>The principal ensures there are enough teaching aids</td>
<td>No.</td>
<td>14</td>
<td>11</td>
<td>15</td>
<td>42</td>
</tr>
<tr>
<td>The principal ensures good storage and maintenance of text books</td>
<td>No.</td>
<td>3</td>
<td>11</td>
<td>14</td>
<td>55</td>
</tr>
</tbody>
</table>

Source: Field data, 2016
The results in Table 4.8 reveal that principals are actively involved in the provision of instructional resources in order to improve students’ performance. Most of the teachers 40.2 percent revealed that the principals ensured there were enough text books.

These results agree with Ajuago (2002) who reported that availability of textbooks and other instructional materials have a positive correlation on students performance because they facilitate understanding of abstract concepts, help in class control and adds that it is not teacher utilization alone rather it is teachers’ commitment to professionalism such as maintaining schemes of work, lesson planning, creative mind and interest in students learning and performance, by having in mind what they want their students to achieve at the end of an education cycle that will propel teachers to make proper use of teaching aids.

As to whether the principal ensured good storage and maintenance of text books, the majority of the teachers 53.9 percent revealed that principals ensured good storage and maintenance of text books. The results are also supported by Heck (2009) who found that Principals influence teachers’ performance through helping teachers acquire necessary resources to support instruction and therefore positively impact student academic performance.
4.6 Management of Educational Facilities and Students’ Performance

The third objective was to determine the influence of principal’s educational facilities management on student performance in KCSE. The teachers were therefore asked to indicate whether there were enough physical facilities in the schools. The findings are presented in Table 4.9.

Table 4.9: Teachers’ Response on Adequacy of Physical Facilities in the Schools

<table>
<thead>
<tr>
<th></th>
<th>QA</th>
<th>A</th>
<th>I</th>
<th>PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classrooms</td>
<td>0</td>
<td>25.4</td>
<td>50.9</td>
<td>23.7</td>
</tr>
<tr>
<td>Playing fields</td>
<td>0</td>
<td>0</td>
<td>21.9</td>
<td>78.1</td>
</tr>
<tr>
<td>Library</td>
<td>0</td>
<td>9.6</td>
<td>23.7</td>
<td>66.7</td>
</tr>
<tr>
<td>Chairs</td>
<td>9.6</td>
<td>22.8</td>
<td>36.8</td>
<td>30.7</td>
</tr>
<tr>
<td>Staff room</td>
<td>9.6</td>
<td>30.7</td>
<td>21.9</td>
<td>37.7</td>
</tr>
<tr>
<td>Offices</td>
<td>0</td>
<td>7.0</td>
<td>48.7</td>
<td>44.7</td>
</tr>
<tr>
<td>Dining hall</td>
<td>0</td>
<td>0</td>
<td>16.7</td>
<td>83.3</td>
</tr>
<tr>
<td>Laboratory</td>
<td>0</td>
<td>7.0</td>
<td>9.6</td>
<td>43.3</td>
</tr>
</tbody>
</table>

**Key**

QA Quite adequate A Adequate I Inadequate PI Quite Inadequate NA Not Available
The teachers were also asked to indicate the adequacy of some physical facilities in their schools. As indicated in Table 4.9, most of the District Secondary schools did not have adequate fields, library and dinning hall which are necessary physical facilities. For example, while (50.9%) said the classrooms were inadequate, (25.4%) said classrooms were quite inadequate. A majority of (78.1%) reported that they had quite inadequate playing grounds, (23.7%) said they had small libraries not able to accommodate students while the majority (66.7%) indicated that they had quite small library. On the issue of availability of dining hall, (83.3%) said that they had very small dining halls. Most of the schools did not have laboratories. Teachers from schools that were mixed boarding and day said they did not have adequate dormitories.

The principals were also asked to indicate the adequacy of some of the physical facilities in their schools. Their findings are presented in table 4.10
Table 4.10: Principals’ Perception of Adequacy of Physical Facilities in the Schools

<table>
<thead>
<tr>
<th></th>
<th>QA</th>
<th>A</th>
<th>I</th>
<th>QI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dormitories</td>
<td>0</td>
<td>0</td>
<td>23.1</td>
<td>15.4</td>
</tr>
<tr>
<td>Classrooms</td>
<td>0</td>
<td>46.2</td>
<td>92.3</td>
<td>0</td>
</tr>
<tr>
<td>Playing grounds</td>
<td>0</td>
<td>0</td>
<td>76.9</td>
<td>38.4</td>
</tr>
<tr>
<td>Chairs</td>
<td>46.2</td>
<td>23.1</td>
<td>69.2</td>
<td></td>
</tr>
<tr>
<td>Staff room</td>
<td>0</td>
<td>0</td>
<td>53.9</td>
<td>23.1</td>
</tr>
<tr>
<td>Offices</td>
<td>30.8</td>
<td>61.5</td>
<td>46.1</td>
<td></td>
</tr>
</tbody>
</table>

**Key**

QA Quite adequate  A Adequate  I Inadequate  QI Quite Inadequate  NA Not Available

Findings on table 4.10 revealed the responses from the principals responded that they did not have adequate physical facilities. For example, 23.1 percent indicated that they did not have enough dormitories, among schools that were Day and Boarding schools, findings indicated that classroom were not adequate. Although 30.8 said they had adequate offices in their schools, majority of them said they had inadequate classrooms. Majority of them 30.8 percent also said they had small libraries. However, most head teachers 53.9 percent indicated that they had adequate chairs. Further findings revealed that most 76.9 percent of the schools did not have adequate offices and dining halls that could not accommodate all
students. Lack of dormitories made students not to be in boarding hence lacking extra time to study at night. The observation schedule showed that over 50 percent did not have adequate physical facilities such as classrooms and libraries.

Kipkulei (1991) pointed out in his yearly permanent secretaries’ report that the schools with adequate physical facilities performed better in national examinations than those that had inadequate facilities. Kipkulei therefore directed administrators of those schools which lacked those facilities to ensure they were offered in good time. Mbaabu (2004) noted that most of the schools lacked facilities like halls, dinning halls, dormitories and libraries which were attributed to lack of adequate funds, proper planning and enough support from local leaders. Kamau (1990) notes that the school materials and other physical facilities are some of the administrative areas highly affected by the problem of insufficient funds in education institutions.

All those impact negatively on resource management in schools and poor performance of students at KCSE in Samburu County. Kamau (1990) in study in Samburu District found that majority of the schools lacked either laboratory or had poorly equipped ones which had no laboratory assistant making learners not to benefit well with them. It was also observed that most of the schools did not have playing fields but used the nearby primary schools for games. The teacher-student ratio was high; some teachers had lessons ranging from 30 to even 35
lessons a week which was rather high teaching load beyond the recommended load of 27 lessons a week. Most of the schools did not have staff rooms but just semi-permanent structures which had served as class rooms. Most schools did not have adequate offices, some had partitioned class rooms which did not give privacy of working. However, most of the schools had chairs and desks. Libraries are only small rooms that acts as book stores for borrowing text books. Lack of such facilities as observed in this case is a challenge to the principal in resource management of schools and consequently impact negatively on student performance in the final examination.

4.7 Management of Finances and Students’ Performance

The last objective of the study was to establish the influence of principal’s educational finances management on student performance in KCSE. Finances are needed for capital development and recurrent costs such as for constructions and salaries. To investigate the influence of management of finances by Principals’ on students’ performance at KCSE in Samburu County, the questionnaire was administered to the principals.

The principals were asked which sources of funds were available in the schools. Their responses indicated that schools got funds from the government, under the free secondary education, from the CDF kitty and the LATF fund. All the principals agreed that they receive funds from the government. However, they
reported that they did not receive the monies in time. The majority of the principals 83.3 percent confirmed that funds received were not adequate for managing resources in schools. Among the principals’ respondents, majority of them 83.3 percent indicated that their schools did not receive the CDF funds in time. This findings agreed with Kasilu (2014) who found out that funds meant for schools in Kitui were delayed as was indicated by (52.6%) of the teachers. When asked to indicate the reasons for the delay of funds to schools, the principals reported as indicated in Table 4.11.

**Table 4.11: Principals’ Response on Delay of Funds**

<table>
<thead>
<tr>
<th>Reasons</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political interference</td>
<td>6</td>
<td>53.9</td>
</tr>
<tr>
<td>Government late to disburse the funds</td>
<td>5</td>
<td>38.5</td>
</tr>
<tr>
<td>Failure of school to account for previous funds</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>12</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Data from the principals revealed that funds were delayed because of reasons such as political interference as indicated by (53.9%). However, all the principals further reported that the funds had been helpful in the management of the schools.

The principals from the schools that hired their own teachers were asked whether they were able to pay them in time. Most of the school principals reported that
they were not able to pay teachers as indicated by 77.0 percent. Some of the reasons given by principals for the inability to pay in time included having low student enrolment hence school not able to raise money which was used to pay teachers, students coming from poor families which could not raise fees in time. Fees were paid in bits and only few students were able to pay. The principals also said that there was late disbursement of government funds.

The study also sought for teachers’ responses in order to investigate the forth objective “to establish the influence of principal’s educational finances management on student performance in KCSE”. The teachers were asked to indicate who paid their salaries; majority said they were paid by the schools through the Board of Management 57.0 percent. Asked whether they were paid their salaries in time, among teachers paid by the BOM. The majority of them 77.0 percent reported that they did not receive their salaries in time.

The teachers were also asked to indicate whether they received the required materials and resources in time, findings revealed that they did not receive in time. Asked for the reasons for the same, the majority 78.9 percent of the principal’s reported that the schools did not have funds to purchase the required resources, while 21.1 percent indicated that they could not get the resources they required due to delayed funds. When the teachers were asked to comment on the adequacy of funds for their schools, 38.6 percent indicated that the funds were
inadequate for the required needs of the schools while 61.4 percent indicated that there were no funds to buy the required teaching and learning resources and materials thus affecting the overall performance of student from all levels. This findings agree with Troy (2002) who reported that most successful schools in Mukono put more emphasis on teachers and financial resources through budgeting that is approved by the BOM that can be used for meeting all the capital and recurrent expenditures and enhance overall school performance.

4.8 Influence of Effective Principals’ Management of Resources on Student KCSE Performance

The general research objective of the study was to establish the influence of principals’ management of resources on student KCSE performance in public secondary schools in Samburu County, Kenya. To address this objective, t- test was conducted to find out whether the top performing schools and the bottom performing schools differed significantly on the effectiveness of the principals in managing the school resources on the four correlates of effective management of resources -educational personnel, instructional materials, physical facilities and educational finances. Table 4.12 shows the results obtained.
As shown in Table 4.12, t-test analysis results revealed that there were significant differences, at $p<0.05$, between the top performing schools and bottom performing schools in the extent to which they emphasized on the following correlates: Educational personnel management, educational finances management, educational facilities management and instructional materials management.

The only correlate that did not return a significant difference for the two groups (top performing and bottom performing schools) was educational personnel management. For all the other three correlates, top performing schools obtained higher mean scores than the bottom performing schools, meaning that principals in top performing schools were putting more emphasis on the correlates than the
bottom performing schools. The findings therefore confirm the effective schools model by Lezotte (2010). Other researchers such as Rutter et al. (1979) and Wekesa (1993) have noted that to improve students’ performance, school leaders are required first to improve the management of the schools. This can be done by setting a clear vision for the schools and communicate this vision to students, support its achievement by giving instructional leadership, and provision of resources (Ayot and Briggs, 1992). Such environment is expected to be firm, purposive and participatory in nature.

The reason why the top performing schools and bottom performing schools did not differ on the extent to which they manage educational personnel could be explained by the fact that all schools did not have adequate teachers for all lessons and they relied on untrained teachers in their schools.

4.9 Relationship between Effective management of resources and KCSE Performance

The study sought to examine the relationship between effective management of resources and overall school performance in KCSE. To address this, a correlation analysis was conducted to determine whether there was a significant correlation between the KCSE mean score deviations for the period 2011 to 2015 and the scores obtained on the four correlates. Table 4.13 shows the KCSE mean scores
obtained by the participating schools in 2011 and 2015, and the mean deviations in performance for this period.

Table 4.13: KCSE Mean Scores (2011 – 2015)

<table>
<thead>
<tr>
<th>S/NO.</th>
<th>Top Performing Schools</th>
<th></th>
<th>Bottom Performing Schools</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2015</td>
<td>2011</td>
<td>KCSE deviation</td>
<td>2015</td>
</tr>
<tr>
<td>1.</td>
<td>5.5672</td>
<td>4.6984</td>
<td>0.869</td>
<td>6.</td>
</tr>
<tr>
<td>2.</td>
<td>5.69</td>
<td>4.837</td>
<td>0.853</td>
<td>7.</td>
</tr>
<tr>
<td>3.</td>
<td>6.634</td>
<td>6.75</td>
<td>-0.116</td>
<td>8.</td>
</tr>
<tr>
<td>4.</td>
<td>5.8</td>
<td>6.081</td>
<td>-0.281</td>
<td>9.</td>
</tr>
<tr>
<td>5.</td>
<td>7.841</td>
<td>7.772</td>
<td>0.069</td>
<td>10.</td>
</tr>
</tbody>
</table>

Source: field data, 2016

The deviation in KCSE mean scores for 2011 to 2015 ranged from 0.869 to -1.16. Of the 10 schools in the study, 4 recorded a decline in performance while 5 recorded improved performance for the period. Of those that recorded a decline in KCSE performance, 1 was in the top performing category while 3 were in the bottom performing category. KCSE mean score for one school remained constant.

Table 4.14 shows the correlation coefficients for KCSE mean deviations across the four correlates of effective resource management.
**Table 4.14: Correlation Coefficients of KCSE Deviations Across the Correlates**

<table>
<thead>
<tr>
<th>Correlate</th>
<th>Correlation with KCSE mean Deviation (2011-2015)</th>
<th>Correlation co-efficient (r)</th>
<th>Sig.</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational personnel</td>
<td></td>
<td>0.227</td>
<td>0.000*</td>
<td>102</td>
</tr>
<tr>
<td>Instructional materials</td>
<td></td>
<td>0.261</td>
<td>0.000*</td>
<td>102</td>
</tr>
<tr>
<td>Physical facilities</td>
<td></td>
<td>0.156</td>
<td>0.000*</td>
<td>102</td>
</tr>
<tr>
<td>Educational finances</td>
<td></td>
<td>0.247</td>
<td>0.000*</td>
<td>102</td>
</tr>
</tbody>
</table>

*Significant at p<0.05 level

As shown in Table 4.14, there were significant correlations, at p>0.05 between the KCSE mean deviations (2011-2015) and the following correlates: Educational personnel management, educational finances management, educational facilities management and instructional materials management. The correlation coefficients for the four correlates were positive, meaning that high scores on these factors correlated with high mean score deviations. This implied that schools putting more emphasis on these correlates recorded more improved KCSE mean scores than those putting less emphasis on the correlates. Again this confirmed that schools with effective resource management were characterized by strong instructional leadership, clear and focused mission, safe and orderly schools, climate of high expectations for success, frequent monitoring of student progress, educational personnel management, educational finances management,
educational facilities management and instructional materials management (Lezotte, 2010). It should be noted however that the correlation coefficients, r, were low, meaning that although significant, the relationships were weak. In order to establish the relative contribution of each resource management correlate on academic performance, the following linear regression model was specified with the KCSE mean deviations as the dependent variable.

\[ Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \ldots \]

Where: \( Y \) = Academic performance (KCSE mean scores deviations for the schools) \( X_1 \) = educational personnel management, \( X_2 \) = educational finances management, \( X_3 \) = Educational facilities management, \( X_4 \) = Instructional materials management, \( \alpha \) = Constant; and \( \beta_1 \ldots \beta_4 \) are regression coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>( R )</th>
<th>( R^2 )</th>
<th>Adjusted ( R^2 )</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.339</td>
<td>.115</td>
<td>.098</td>
<td>0.51665</td>
</tr>
</tbody>
</table>

Table 4.15: Shows the Regression Model Summary

Table 4.15 shows an R-Square value of 0.115, meaning the independent variables (educational personnel management, educational finances management, educational facilities management and instructional materials management) explained 11.5% of the variation in academic performance.
Table 4.16: Shows the Regression Coefficients for the Model

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Unstandardized Coefficients B</th>
<th>Standardized Coefficients Beta</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-1.203</td>
<td>-.300</td>
<td>-4.013</td>
<td>.000</td>
</tr>
<tr>
<td>Educational personnel</td>
<td>2.68 x10^-2</td>
<td>.012</td>
<td>.171</td>
<td>2.177</td>
</tr>
<tr>
<td>Instructional materials</td>
<td>1.77 x10^-2</td>
<td>.019</td>
<td>.069</td>
<td>1.920</td>
</tr>
<tr>
<td>physical facilities</td>
<td>5.13 x10^-2</td>
<td>.017</td>
<td>.245</td>
<td>2.965</td>
</tr>
<tr>
<td>Educational finances</td>
<td>5.60 x10^-2</td>
<td>.018</td>
<td>.280</td>
<td>3.173</td>
</tr>
</tbody>
</table>

Table 4.16 shows that the prediction equation for academic performance (Y) becomes: 

\[ Y = 0.026 \text{ [educational personnel management]} + 0.056 \text{ [educational finances management]} + 0.0513 \text{ [physical facilities management]} + 0.0177 \text{ [instructional materials management]} + 1.203. \]

This means that academic performance is predicted to increase by 0.026 when educational personnel management goes up by one, increase by 0.056 when educational finances management goes up by one, increase by 0.0513 when educational facilities management goes up by one and so on. The regression analysis revealed that indeed the four correlates of effective resource management do account for improvements in academic achievement in Kenyan secondary schools (Lezotte, 2010). Schools that put more emphasis on the four correlates
improved their academic performance more than those that put less emphasis. In a
previous research based in Kenya, Lloyd, Mensch and Clark (2000) concluded
that there is more to school effectiveness in resource management than the
development of academic competency, and there is more to the quality of the
school environment than time to learn, material resources for the basic
curriculum, and pedagogical practices.
5.1. Introduction

This chapter deals with a summary of the findings, conclusion and recommendations drawn from the findings in connection with research objectives. The purpose of the study was to investigate the influence of principals’ management of resources on students’ performance at KCSE in Kenya with special reference to public secondary schools in Samburu County.

5.2 Summary of the study

The study was to investigate the influence of principals’ management of resources on student KCSE performance at Kenya with special reference to public secondary schools in Samburu County. The study was guided by the following specific objectives: To determine the influence of principal’s educational personnel management on student performance at KCSE, to determine the influence of principal’s instructional materials management on student performance at KCSE, to assess the influence of principal’s educational facilities management on student performance at KCSE and to establish the influence of principal’s educational finances management on student performance at KCSE.
This study findings hoped to provide information that may help management trainers such as the Kenya Education Management Institute (KEMI) formulate teachers’ education management programme that can be translated in improved students’ performance. The study was based on and guided by Frederic Taylor’s scientific management theory and role theory. The target population of the study included a total of 40 principals and a total of 400 teachers in public secondary school from Samburu County. Simple random sampling technique was used to select a sample of 12 schools. Purposive sampling technique was then used to select one principal and ten teachers in each of the sampled schools. A sample size of 12 principals and 120 teachers was used. Questionnaires tools were used as the main data gathering instruments. Collected data was analyzed both qualitatively and quantitatively analyzed.

Four research objectives were formulated to guide the study. The study used cross-sectional survey research design. Respondents included principals and teachers. All the 40 principals from the 40 public secondary schools that had presented candidates for national examination since 2011 up to 2015 and a sample of 120 teachers, 12 from each school participated in the study hence 132 questionnaires were administered and the questionnaires from the principals were all were collected back while 90 questionnaires were collected from the teachers. Quantitative data were analyzed using Statistical Package for Social Sciences (SPSS) version 21 to process frequencies, percentages and tables.
The theoretical framework that guided the study was the Coleman (1966) based on education production function (EPF) the theory could explain, describe, help to understand and predict performance to operational management. He puts emphasizes on the relationship of various input and how it affects students’ performance at KCSE. All head teachers, teachers, and students needed to know school objectives, to work towards achieving them. Teachers need to scheme and prepare lessons daily. Students and teachers also need textbooks, visual aids, good science equipment, laboratories and the schools require trained teachers and school administrators to enhance good performance (Musaazi 1982: 28-29, Okumbe 1999: 21). This theory was relevant to the study as it explained the relationship between management by educational personnel, instructional material, facilities, finance and academic performance in educational process.

5.3 Discussions of the Findings

The first objective sought to determine the influence of principal’s educational personnel management on student performance at KCSE. The study showed that the headteachers should ensure good storage and maintenance of text books and provision of teaching aids contributes to student performance at KCSE in Samburu County. This significantly supported Ajuogo (2002) research findings that use of teaching aids positively affects teachers hence improving students’ performance. The findings further showed that all schools did not have adequate teachers as indicated by all head teachers. Majority of the teachers in the schools...
were untrained since the schools could not afford to pay trained teachers. Most untrained teachers have poor content mastery and teaching methodology leading to low students’ performance at KCSE.

The second objective explored the influence of principal’s instructional materials management on student performance at KCSE. The majority of principals revealed that good storage and maintenance of text books improves teachers performance and consequently student performance in the national examination. This significantly supported Ajuogo (2002) research findings that the management of instructional resources can improve student academic performance.

The third objective explored the principal’s management of financial resources on student performance at KCSE. The findings showed that majority of the school lacked enough funds for running of the schools. The funds that the schools received were not adequate as indicated by 92.1 percent of teachers and were not also released in time to the schools which affected the running of schools as well as student overall performance academically. The principals cited that the delay included political interference as shown by 53.9 percent of the principals, late disbursement of government funds and failure of school heads to account for previous funds and cumbersome process involved in the disbursement of funds which inconvenienced among other things payment of teachers’ salaries and
purchasing the needs of the schools. Delay of funds causes deficits in terms of provision of good and services to school such as procuring exams in time, non-payment of staff salaries these demotivates staff causing low performance of students in examinations.

The last objective was to establish the influence of principal’s educational personnel management on student performance at KCSE. Lastly, findings on the effect of physical facilities in the resource management of District Secondary schools showed that majority of the schools did not have adequate facilities such as classrooms (50.9%) playing fields (78.1%), libraries (66.7%) and dining hall (83.3%).

The deviation in KCSE mean scores for 2011 to 2015 ranged from 0.869 to -1.16. Of the 10 schools in the study, 4 recorded a decline in performance while 5 recorded improved performance for the period. Of those that recorded a decline at KCSE performance, 1 was in the top performing category while 3 were in the bottom performing category. KCSE mean score for one school remained constant. There were significant correlations, at p>0.05 between the KCSE mean deviations (2011 – 2015) and the following correlates: Educational personnel management, educational finances management, educational facilities management and instructional materials management. The correlation coefficients for the four correlates were positive, meaning that high scores on these factors correlated with
high mean score deviations. This implied that schools putting more emphasis on these correlates recorded more improved KCSE mean scores than those putting less emphasis on the correlates. Linear regression analysis revealed that the seven correlates explained 11.5% of the variation in academic performance.

5.4 Conclusions

The researcher concluded that the principals assurance of good storage and maintenance of text books and provision of teaching aids contribute to student performance at KCSE in Samburu County. Also the study revealed that good storage and maintenance of text books improves teachers’ performance and consequently student performance in the national examination. Further, the percentages analyzed established that the most important variables which impact on students’ performance included financial resources management and educational personnel management.

From the findings of t-test and Pearson Correlation Coefficient analysis, it can be concluded that, in comparison with bottom performing schools, top performing schools were putting more emphasis on the four correlates. Schools’ KCSE performance trends for the period 2011-2015 significantly differed across the four correlates. The four correlates of effective resource management explained 11.5% of the variation in academic performance among the schools Samburu County.
The study also concludes that, to improve academic performance, low performing schools can enhance their management of resources. School principals from low performing schools should improve on their resource management role. Low performing schools can also improve by observing effective management of educational personnel, educational finances, educational facilities and instructional materials to improve academic performance.

5.5 Recommendations

Based on the findings of this research, the following recommendations were made:-

i. That the government through the MoE should avail adequate funds for the schools and these funds should be availed in time. These funds would be important in paying teachers’ salaries and for purchasing the required materials and resources. That the MoE should employ and post teachers to the emerging secondary schools and the existing district secondary schools to avoid large work load of few teachers available. That the MoE should set funds and support physical facilities in schools.

ii. The Ministry of Education emphasizes on the regular monitoring of professional documents by the principals including schemes of work, lesson plans, lesson notes and class registers. It was observed that some of the principals were not sure of where to inquire of these documents. The study established a strong correlation between the management of
educational personnel and student performance. These documents assist in monitoring the teachers’ progress thus helping in improving pupils’ academic performance.

iii. Principals should focused on management of instructional materials by conducting classroom visitation, observation and checking of teachers’ professional records in order to enhance pupils’ academic performance. This process should be well organized and planned to ensure it does not inflict fear or demoralize teachers in carrying out their duties of teaching.

5.6 Suggestions for Further Research

i. Based on the findings of this research, the study recommends that further research would be necessary to identify whether teachers’ attitude towards principals’ role in resource management would be the reasons behind the increasing poor performance of schools at KCSE in the Samburu Sub-County.

ii. In order to find out whether the effective resource management is applicable to all secondary schools at Kenya, similar studies should be conducted in other parts of the country.

iii. This study established that the four correlates explained only 11.5% of the variation in KCSE performance. More studies should be conducted to find other resource management practices that influence KCSE performance at Kenya.
REFERENCES


Earthman, Cash and Van Berkum (1996). *Impact of various factors of Building condition on student achievement*, Texas, Virginia, USA.


The Principal
Dear Sir/ madam

REF: PARTICIPATION IN RESEARCH
I am Lomulen Richard Ekal a masters student at the university of Nairobi. I am conducting a research to investigate “influence of principals’ management of Resources and students performance at K.C.S.E in Samburu County”. I request you to provide answers to the attached questionnaire as honest and precise as possible. Do not indicate the identity of your school. Information obtained will be purely for academic purpose to this research and the identity of the respondents will be treated as strictly confidential.

Thank you for your cooperation and assistance
Yours faithfully,

Lomulen Richard Ekal.
APPENDIX II: QUESTIONNAIRE FOR TEACHERS

Dear respondent,

Thank you for accepting to participate in the study that requires information on the influence of principals’ management of resources on student KCSE performance in Kenya with special reference to public secondary schools in Samburu County. Kindly respond to all questions as honestly as possible. The information obtained will be treated with utmost confidentiality for the purpose of this study.

Section A: Background information

Instruction: Please tick where applicable

1. Gender: Male [ ] Female [ ]

2. What is your highest academic qualification?
   Graduate [ ] Masters [ ] Others [ ]

3. Teaching experience: Below Five years

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2 – 5 years</td>
<td>6 – 10 years</td>
<td>11 – 15 years</td>
<td>Over 16 years</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

80
NB:

For the following sections use the rating scale below. Please tick in the box the most appropriate rating

Section B:

Part A: Management of Educational Personnel and students performance

1. Do you have enough teachers in your school?
   
   Yes ( ) No ( )

b. If No what could be the reason?

   ………………………………………………………………………………………………………
   ………………………………………………………………………………………………………
   ………………………………………………………………………………………………………

2. (a) Do you have untrained teachers in you school?

   Yes ( ) No ( )

b) If yes above, what are the reasons of having untrained teachers?

   ………………………………………………………………………………………………………
   ………………………………………………………………………………………………………
   ………………………………………………………………………………………………………

3. How often students have lessons not attended?

   Always ( ) sometimes ( ) never ( )
(b) If there is, what could be the reason?

Part B: Management of Educational Personnel and Students Performance

Rating scale

(A) = Strongly agree (B) = Agree (C) = Neutral (D) = Disagree (E) = Strongly Disagree

<table>
<thead>
<tr>
<th>Respondents’ Opinion</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>The head teacher makes informal visits in class during teaching</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After classroom observation we discuss the results with the head teacher</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The head teacher observes teachers in class and gives a feedback</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Management of instructional materials and students performance

Rating scale

(A) = Strongly agree (B) = Agree (C) = Neutral (D) = Disagree (E) = Strongly Disagree

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>My principal ensures there are enough text books for student</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The principal ensure there are enough teaching aids</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The principal ensures good storage and maintenance of text books</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Part C: Management of Educational Facilities

1. How do you outsource the physical facilities for your school?
   Donations ( ) Purchase ( )

2. Please indicate the adequacy of the following facilities in your school
**Key:** QA Quite adequate  A Adequate  I Inadequate  QI Quite Inadequate  NA Not Available

<table>
<thead>
<tr>
<th></th>
<th>QA</th>
<th>A</th>
<th>I</th>
<th>QI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dormitories</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classrooms</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playing grounds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Library</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff room</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offices</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dining hall</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

THANK YOU
APPENDIX III: QUESTIONNAIRE FOR PRINCIPALS

Dear respondent,

Thank you for accepting to participate in the study that requires information on the influence of principals’ management of resources on student KCSE performance in Kenya with special reference to public secondary schools in Samburu County. Kindly respond to all questions as honestly as possible. The information obtained will be treated with utmost confidentiality for the purpose of this study.

Section A: Background information

Instruction: Please tick where applicable

1. Gender: Male [ ] Female [ ]

2. What is your highest academic qualification?
   Graduate [ ] Masters [ ] Others [ ]

3. Years of Service

<table>
<thead>
<tr>
<th>Years of Service</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2 – 5 years</td>
<td></td>
</tr>
<tr>
<td>6– 10 years</td>
<td></td>
</tr>
<tr>
<td>11– 15 years</td>
<td></td>
</tr>
<tr>
<td>Over 16 years</td>
<td></td>
</tr>
</tbody>
</table>
NB:

For the following sections use the rating scale below. Please tick in the box the most appropriate rating

**Part A: Management of Educational Personnel and students performance**

**Rating scale**

(A) = Strongly agree (B) = Agree (C) = Neutral (D) = Disagree (E) = Strongly Disagree

**Section B:**

4. Do you have enough teachers in your school?

   Yes ( )   No ( )

5. If No what could be the reason?

   ……………………………………………………………………………………………
   ……………………………………………………………………………………………
   ……………………………………………………………………………………………

6. (a) Do you have untrained teachers in your school?

   Yes ( )   No ( )

b) If yes above, what are the reasons of having untrained teachers?

   ……………………………………………………………………………………………
   ……………………………………………………………………………………………
   ……………………………………………………………………………………………
6. (a) How often students have lessons not attended?

Always ( ) sometimes ( ) never ( )

7. (b) If there is, what could be the reason?

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

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

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

Part B: Management of instructional materials and students performance

Rating scale

(A) = Strongly agree  (B) = Agree  (C) = Neutral  (D) = Disagree  (E) = Strongly Disagree

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I make informal visits in class during teaching</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My principal ensures there are enough text books for student</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The principal ensure there are enough teaching aids</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Part C: Management of educational facilities and student performance

7. How do you outsource the physical facilities for your school?

Donations ( ) Purchase ( )

8. Please indicate the adequacy of the following facilities in your school

**Key:** QA = Quite adequate; A = Adequate; I = Inadequate; QI = Quite Inadequate and NA = Not Available

<table>
<thead>
<tr>
<th></th>
<th>QA</th>
<th>A</th>
<th>I</th>
<th>QI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dormitories</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Classrooms</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playing grounds</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Library</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Chairs</td>
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<tr>
<td>Staff room</td>
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<td></td>
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</tr>
<tr>
<td>Offices</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dining hall</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section C: Academic Performance of the School

1. Do you set academic targets for the school in terms of KCSE mean score improvement?
   Yes ( ) No ( )

2. In the table below, indicate the Targeted mean scores and the Obtained Mean score for your school for the period 2011 – 2015.

<table>
<thead>
<tr>
<th>Academic year</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obtained mean score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

THANK YOU
APPENDIX IV: INTERVIEW GUIDE FOR PRINCIPALS

Thank you for accepting to participate in the study that requires information on the influence of principals’ management of resources on student KCSE performance in Kenya with special reference to public secondary schools in Samburu County. Kindly respond to all questions as honestly as possible. The information obtained will be treated with utmost confidentiality for the purpose of this study.

Section A: Background information

1. Indicate your gender.................................................................
2. What is your highest qualification?...........................................
3. What is your teaching experience?............................................

Section B: Management of Educational Inputs

1. In your opinion, how does management of teaching personnel affect students academic performance.
   ii. Explain...................................................................................
2. What is your comment about management of instructional materials affecting students’ performance?
3. In your opinion does management of educational facilities affect students’ performance?
   ii. Explain ..............................
4. According to you, what challenges do you face in managing school finances in relation to improving students’ performance?
   ii. Explain how you solve these challenges.........................
## APPENDIX V: OBSERVATION CHECKLIST

<table>
<thead>
<tr>
<th>Items /structures</th>
<th>Adequate</th>
<th>Not adequate</th>
<th>Not available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workers/ staff file</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff room</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration block</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Account clerk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locker/chairs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Library /textbooks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laboratory/chemicals/equipments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dispensary</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playing ground</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gate/watchman</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dormitories</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Church/ mosque services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kitchen</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toilets/urinal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School routine</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>School budget</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student receipt books</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evidence of bank accounts</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
State Department of Education

Telegram: “EDUCATION”, Samburu
Fax No: 06562413
E-mail: deosamburuc@gmail.com
When replying please quote

REF: ED/SBU/FIN30/VOL.III/183
10TH JUNE 2016

TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION

Reference is made from your letter Ref. No. NACOSTI/P/16/71780/10981 copied to this office dated 11th May, 2016 on the above.

Mr. Lomulen Richard Ekai is expected to carry out research on “Effectiveness of principals’ management of resources on students’ performance in Kenya Certificate of Secondary Examination in public secondary schools in Samburu”.

The research will be conducted for a period ending 10th May 2017.

Please accord him the necessary assistance.

JAMES NYAGA
COUNTY DIRECTOR OF EDUCATION
SAMBURU COUNTY
TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION
LOMULEN RICHARD EKAL - STUDENT: UNIVERSITY OF NAIROBI

I refer to a copy of a letter Ref: NACOSTI/P/16/71780/10981 copied to this office, dated 11th May 2016.

The above named is a student at University of Nairobi and is undertaking a Master’s Degree in Education Administration and Planning.

As part of training he is expected to carry out his study in Samburu County.

Please accord him the necessary support in this endeavor.

STEVE ODOTTEH,
FOR: COUNTY COMMISSIONER,
SAMBURU COUNTY
APPENDIX VIII: RESEARCH 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

Ref. No. Date:

NACOSTI/P/16/71780/10981 11th May, 2016

Lomulen Richard Ekal
University of Nairobi
P.O. Box 30197-00100
NAIROBI

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “Effectiveness of principals’ management of resources on students’ performance in Kenya Certificate of Secondary Examination in public secondary schools in Samburu,” I am pleased to inform you that you have been authorized to undertake research in Samburu County for the period ending 10th May, 2017.

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

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

BONIFACE WANYAMA
FOR: DIRECTOR-GENERAL/CEO

Copy to:
The County Commissioner
Samburu County.
The County Director of Education
Samburu County.
APPENDIX IX: RESEARCH PERMIT

THIS IS TO CERTIFY THAT
MR. LOMULEN RICHARD EKAL
OF UNIVERSITY OF NAIROBI, 0-20109
SUBUKIA, has been permitted to conduct research in Samburu County

on the topic: EFFECTIVENESS OF PRINCIPALS MANAGEMENT OF PERFORMANCE IN STUDENTS' STUDENTS
PUBLIC SECONDARY SCHOOLS IN SAMBURU

for the period ending: 10th May, 2017

Applicant's Signature

Directo General
National Commission for Science, Technology and Innovation

CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit.

2. Witness or permission from the relevant Government Ministries.

3. The Government of Kenya reserves the right to modify the conditions of this permit and cancel same without notice.