

**SCHOOL BASED FACTORS INFLUENCING STUDENTS'
PERFORMANCE AT KENYA CERTIFICATE OF SECONDARY
EDUCATION IN MASINGA SUB COUNTY, MACHAKOS COUNTY,
KENYA**

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Award of Degree of Master of Education in Educational Administration**

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DECLARATION

This research project is my original work and has not been presented for a degree
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DEDICATION

I dedicate this project to my dear parents, Benedetta Kaindi and Musau Kisusya, my wife Caroline, our children Janet, Mercy, and Ambrose.

May Almighty God Bless them.

ACKNOWLEDGEMENT

I wish to express my sincere gratitude to God Almighty for granting me grace and good health to undertake this study. Glory be to his Holy Name.

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Special thanks to my wife, Caroline and children, Janet, Mercy and Ambrose for their spiritual moral and financial support which gave me morale to continue up and end the project.

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TABLE OF CONTENTS

Content	Page
Cover page	i
Declaration.....	ii
Dedication.....	iii
Acknowledgement	iv
Table of contents.....	v
List of tables.....	ix
List of figures.....	xi
List of abbreviations.....	xii
Abstract.....	xiii

CHAPTER ONE

INTRODUCTION

1.1 Background to the study.....	1
1.2 Statement of the problem.....	5
1.3 Purpose of the study.....	6
1.4 Objectives of the study.....	6
1.5 Research questions.....	7
1.6 Significance of the study.....	8
1.7 Limitations of the study.....	8
1.8 Delimitations of the study	9
1.9 Assumptions of the study	9

1.10 Definition of significant terms.....	10
1.11 Organization of the study	10

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction	12
2.2 Overview of students' academic performance	12
2.3 Provision of teaching and learning resources and students' academic performance.....	13
2.4 Provision of human resources and students' academic performance.....	15
2.5 Principals curriculum supervision and students' academic performance.....	17
2.6 Provision of physical resources and students' academic performance.....	19
2.7 Theoretical framework of the study.....	20
2.8 Conceptual framework of the study.....	22

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction.....	23
3.2 Research design.....	23
3.3 Target population.....	24
3.4 Sample size and sampling procedures.....	24
3.5 Research instruments.....	25

3.6 Validity of the instruments.....	26
3.7 Reliability of the instruments.....	26
3.8 Data Collection Procedures.....	27
3.9 Data analysis techniques.....	27

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction.. ..	29
4.2 Response rate.....	29
4.3: Demographic data of the respondents.....	29
4.4 Principals’ provision of teaching and learning materials and students’ performance.....	40
4.5 Principals’ provision of human resources on students’ performance	47
4.6 Principals’ curriculum supervision on students’ performance	52
4.7 Principals provision of physical resources on students’ performance	57

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction.....	64
5.2 Summary of the study.....	65
5.3 Conclusions.....	68
5.5 Recommendations	69
5.6 Suggestions for Further Research	69
REFERENCES.....	70

APPENDICES

Appendix I: Letter of Introduction.....	74
Appendix II Questionnaire for the Principals.....	75
Appendix III Questionnaire for Teachers.....	81
Appendix IV Questionnaire for Students.....	86
Appendix V Research Authorization Letter.....	89
Appendix VI Research Permit.....	90

LIST OF TABLES

Table	Page
Table 1.1 KCSE Mean scores for Machakos County Kenya.....	5
Table 4.1: Distribution of the principals by highest professional qualification....	32
Table 4.2: Distribution of the principals by professional experience in years.....	32
Table 4.3 Duration of year's teachers had been in teaching profession.....	36
Table 4.4 Duration of years teachers had been in current school.....	37
Table 4.5 Responses on whether school had adequate teaching learning resources.....	41
Table 4.6 Responses on whether there were cases where students were left without teachers.....	42
Table 4.7 Principals responses on their provision of teaching and learning materials and students' performance	43
Table 4.8 Teachers responses on provision of teaching and learning materials and students' performance.....	44
Table 4.9 Students responses on provision of teaching and learning material.....	45
Table 4.10 Principals responses on adequacy of teaching and learning materials in the school.....	46
Table 4.11 Responses on whether there were adequate teachers to handle the number of pupils.....	47
Table 4.12 Responses on whether teachers were prepared to handle large classes.....	48

Table 4.13 Principals’ responses on their provision of human resources on students’ performance	49
Table 4.14 Teachers responses on principals’ provision of human resources on students’ performance	50
Table 4.15 Students responses on human resources and students’ performance...	51
Table 4.16 Responses on whether principals provide to the teachers with the textbooks and other materials they require in order to ensure curriculum delivery.....	53
Table 4.17 Principals responses on their curriculum supervision on students’ performance	54
Table 4.18 Teachers responses on their principals’ curriculum supervision on students’ performance.....	55
Table 4.19 Students responses on their principals’ curriculum supervision on students’ performance	56
Table 4.20 Principals responses on the adequacy of the physical facilities in the school.....	58
Table 4.21 Principals responses on their provision of physical resources on students’ performance	59
Table 4.22 Teachers responses on their principals’ provision of physical resources on students’ performance	61
Table 4.23 Students responses on their principals’ provision of physical resources on students’ performance	62

LIST OF FIGURES

Figure	Page
Figure 2.1 Representation of interaction between variables of the study.....	22
Figure 4.1: Distribution of the principals by gender.....	30
Figure 4.2: Distribution of the principals by age.....	31
Figure 4.3: Distribution of the principals by years in the current school.....	33
Figure 4.4: Distribution of the teachers by gender.....	34
Figure 4.5: Distribution of the teachers by age.....	35
Figure 4.6: Distribution of the teachers by highest professional qualification.....	36
Figure 4.7 Distribution of students according to gender.....	38
Figure 4.8 Distribution of students according to age.....	39
Figure 4.9 Distribution of students according to class.....	40

LIST OF ABBREVIATIONS AND ACRONYMS

CDE	County Director of Education
DC	District Commissioner
EFA	Education for All
FPE	Free Primary Education
MDGs	Millennium Development Goals
NCST	National Council for Science and Technology
ROK	Republic of Kenya
SPSS	Statistical Package for Social Sciences
TSC	Teachers Service Commission

ABSTRACT

The purpose of the study was to investigate the school based factors influencing students' KCSE performance in public secondary schools in Masinga Sub County, Machakos County Kenya. The study was guided by four research objectives. Research objective one sought to determine how provision of teaching and learning resources influence students' performance, research objective two sought to establish ways in which provision of human resources influence students' performance in public secondary schools, research objective three sought to determine the influence of principals curriculum supervision on students' performance in public secondary schools while research objective four sought to establish the influence of provision of physical materials on students' performance in public secondary schools in Masinga Sub County, Machakos County Kenya. The study used cross-sectional survey. The sampled population was 53 teachers and 15 principals. Data was analysed by use of descriptive statistics. The study found out that school lacked adequate teaching learning resources as indicated by majority 11 of principals. The study also found out that majority 10 of principals disagreed that their schools had adequate teaching and learning materials. Majority 9 of principals disagreed that their teachers were able to accommodate large numbers of students with available materials. Findings on the adequacy of resources revealed that majority 9 of principal indicated that they had inadequate teaching aids and text books. Majority 10 of principals had inadequate reference materials. Data further shows that majority 10 of principals indicated that water and laboratories in their schools were not adequate. Based on the study findings, the study concluded that school lacked adequate teaching learning resources. The researcher further concluded that public schools had inadequate teaching aids and text books, reference materials, maps, charts and students text books. It was also concluded that schools did not have adequate teachers to handle the number of pupils in their schools. The researcher concluded that principals provided to the teachers with the textbooks and other materials they require in order to ensure curriculum delivery and that principal's leadership improve of learning and teaching processes. Based on the findings and conclusion, the study recommends that continuous assessment to be conducted regularly. Principals should provide learning resources to enhance that quality and relevance education is imparted to learners.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Education is one of the most important aspects of human resource development. The overall education sector's goal is to achieve Education for All (EFA) and Millennium Development Goals (MDGs) by 2015, in tandem with national and international conventions and commitments as well as the integration of Science Technology and Innovation (ST&I) in all the productive sectors and processes (Ministry of education, 2010). This education needs to be addressed, in order for the education to be a totally integrated students' performance and training to reflect the holistic and inclusive nature as outlined in the Koech report (Abagi & Owino, 2010).

Quality of Education is an element in stimulation of social economic development as advanced by several government policy documents and various scholars (ROK, 2007; World Bank, 2009; Selina 2012). According to Todaro (2004) a country which is unable to invest in education to develop knowledge and skills of her people and utilize them effectively in national economy will be unable to develop anything else. Hallack (1990) states that education has been identified Worldwide as an important component that determines character and social economic development of any nation.

Developed countries like USA and Japan have a large pool of highly skilled human resources. This has enabled them to not only exploit local natural resources but also to identify and negotiate for other countries resources. Secondary school education is fundamental ingredient for creating economic development. In the United States it has been more important than increased capital in accounting for worker productivity and US economic growth (Smith, 2005).

Adams (2003) maintained that in the United States social and economic variables explain contrasting regional and racial educational standards better than school factors. They further observed the same scenario presents itself in developing countries where social and economic factors are major challenges in providing students' performance than school variables. In Kenya several studies (Juma, Simatwa and Ayodo, 2012; Olendo, 2008; Musungu, 2007; Kipkoech, 2004; Sika, 2003) have established that social challenges facing provision of education for example HIV and AIDS scourge and related conditions, family size, distance covered by students to school from home and many others may impact negatively on quality of education. The above studies did not address the factors that influence the provision of students' performance.

Kenya recognizes that the education and training of all Kenyans is fundamental to the success of the Vision 2030 (Ministry of state for Planning National Development and Vision 2030, 2010). Education equips citizens with

understanding and knowledge that enables them to make informed choices about their lives and those facing Kenyan society. Provision of good students' performance require adequate physical facilities such as classrooms, laboratories, human resource in form of teachers and support staff which are acquired based on availability of financial resources in schools. This makes financial resource to be a key resource in education provision (Mbatia, 2004). (Wamukuru, 2006) asserts that the number of students exceeded the available human and physical facilities in the 18,000 public schools. The teacher-student ratio increased from the recommended 1:40 students per class to between 1:60 and 1:90 students per class (MOEST, 2010).

Ayodo (2012) also suggested that provision of students' performance requires that principals be involved in translation of education policies and objectives into viable programmes within the school. Shiundu and Omulando (1992) emphasized that on a daily basis principals have the responsibility to ensure that teachers implement the set curriculum and that learning activities take place. In order to support teaching and learning processes, Digolo (2003) observed that the principal should ensure quality curricular supervision and provision of adequate physical resources. Juma, Simatwa and Ayodo, (2012) further maintained that the principal is responsible for selection of subject appearing in the school curriculum. This was necessary to ensure that a well- balanced education is provided to students. On the same point, Bound (1994) suggested that the quality

of principals is a relevant indicator of quality schools, and therefore underscored the importance of principal in school administration.

The desire to provide students' performance for all children was one of the major objectives of the struggle for independence. Examinations have been accepted by educationists and other stakeholders as an important aspect of any education system (Mbatia, 2004). The performance of education has been accepted as a measure of students' performance. The importance placed on examination has seen stakeholders come up with strategies aimed at improving students' performance in examinations (Juma, 2011). Provision of good students' performance require adequate physical facilities such as classrooms, laboratories, human resource in form of teachers and support staff which are acquired based on availability of financial resources in schools.

Availability of physical resources in a school will greatly influence the retention power of the school. Thomas and Martin (1996) argue, those who work in school as teachers and associate staff, school premises, furniture, books and premises provide some of the means by which we transform our hopes and aspirations for children's education into daily learning opportunities. This makes financial resource to be a key resource in education provision (Mbatia, 2004). The desire to provide students' performance for all children was one of the major objectives of the struggle for independence. As such, the government of Kenya is currently implementing measures to improve the quality of education in secondary schools.

Table 1.1 shows the mean scores of Masinga Sub County in relation to Machakos County.

Table 1.1 KCSE Mean scores for Machakos County Kenya

Sub county	2010	2011	2012	2013	2014
Masinga Sub County	4.512	4.223	4.349	4.209	4.388
Machakos County	4.932	4.9213	4.974	4.567	4.567

Table 1.1 indicates that the sub county has been below that of the County. Despite government measures like teacher salary increase to boost performance, performance in public secondary schools in Masinga sub-county has been persistently low. The scenario suggests that Masinga sub county is one of the poorly performing sub-counties in Machakos County.

1.2 Statement of the problem

Principals play crucial role in the provision of students' performance whose main indicator is quality grades in public national examinations in many countries. Quality of education may be judged by examining various aspects. One such aspect is expected outcomes (Kanishka and Sharma, 2006). In Kenya expected outcome of secondary education is measured by Kenya Certificate of Secondary Education examination. The government has committed itself to provision of resources both physical and human in the schools. The government, through the Constituency Development Fund has embarked on provision of physical resources

to the schools. The school principals have continuously been trained in instructional supervision. Despite these efforts, performance has been below average in Masinga. For example, the academic achievements for the years 2010 - 2014 for the sub county have been consistently at grade C minus (-) except 2012 when it was grade C plain. In other words, on the average only 31% of students who took national examinations during the period under study got quality grades while majority that is 69% received low grades meaning that the quality of education is low. This study therefore sought to establish school based factors influencing students' performance in public secondary schools in Masinga Sub County, Machakos County Kenya whose performance as compared to the other sub counties is quite low.

1.3 Purpose of the study

The purpose of this study was to investigate the school based factors influencing students' KCSE performance in public secondary schools in Masinga Sub County, Machakos County Kenya.

1.4 Objectives of the study

The study sought to achieve the following research objectives:

- i. To determine how provision of teaching and learning resources influence students' performance in public secondary schools in Masinga Sub County, Machakos County Kenya

- ii. To establish ways in which provision of human resources influence students' performance in public secondary schools in Masinga Sub County, Machakos County Kenya
- iii. To determine the influence of principals curriculum supervision on students' performance in public secondary schools in Masinga Sub County, Machakos County Kenya
- iv. To establish the influence of provision of physical materials on students' performance in public secondary schools in Masinga Sub County, Machakos County Kenya

1.5 Research questions

The study answered the following research questions:

- i. How does provision of teaching and learning materials influence students' performance in public secondary schools in Masinga Sub County, Machakos County Kenya?
- ii. What is the influence of provision of human resources on students' performance in public secondary schools in Masinga Sub County, Machakos County Kenya?
- iii. In what ways does principals curriculum supervisory role on students' performance in public secondary schools in Masinga Sub County, Machakos County Kenya

- iv. How does provision of physical materials on students' performance in public secondary schools in Masinga Sub County, Machakos County Kenya?

1.6 Significance of the study

The study may provide information on the factors impacting the principals in ensuring provision of students' performance. The study may be useful to the stakeholders in the Ministry of Education and policy makers to establish areas that have knowledge and skill gap. It may help the policy makers in human resource planning, allocation and disbursement of funds to public primary schools in the country. The findings of the study may assist in providing data and information for proper planning and decision at the Ministry of Education, leadership, CDF administration and NGOs. Researchers would apply the recommendations of this study in adding new knowledge in the area of study area.

1.7 Limitations of the study

The study relied on the opinions of the respondents. As a result the findings of this study may not exactly bring out the influence of such other factors. Generalization of the findings is only appropriate in regions which human, financial and physical resources share very close characteristics as those of Masinga Sub County. It was worth noting that human, financial and physical resources greatly vary from region to region.

1.8 Delimitations of the study

The study focused on secondary schools in Masinga Sub County. Under normal circumstances the study should have been carried out in the entire republic. The researcher appreciates that students' academic performance is an outcome of a complex combination of very many factors. However, this study restricted on the school based factors influencing students' performance. Specifically the study focused on principals' provision of teaching and learning resources, principals' provision of human resources, principals' curriculum supervisory role, principals' provision of physical resources. The study sought information from school principals, teachers and learners.

1.9 Assumptions of the study

The study was based on the following assumptions

- i. Secondary school principals and teachers were aware of the factors that influence performance in the schools.
- ii. Secondary schools in Masinga sub county were faced with challenges in their endeavor to promote students' performance
- iii. That the respondents in the study were truthful in responding to the research questionnaire items

1.10 Definition of significant terms

The following were the significant terms used in the study:

Academic Performance refers to grades achieved by students in the examination

Curriculum supervision refers to principals checking on how the curriculum is being implemented

Financial resources refers to the schools ability to cater all the purchases that it has to make for operations of school to run

Human resources refers to the working force of a given school that supports the running of school activities

Physical resources refers to the schools infrastructures that are used by students and teachers in their daily school activities

School based factors refers to physical, human and financial resources used by schools in promotion of academic performance.

1.11 Organization of the study

The study is organized into five chapters. Chapter one has background to the study, statement of the problem, purpose and objectives of the study, research questions, significance of the study, limitations and delimitations of the study, basic assumptions of the study and definitions of significant terms as used in the study. Chapter two presents the literature review. The chapter also had theoretical framework and conceptual framework. Chapter three consists of the research methodology divided into: research design, target population, sampling and

sampling procedures, research instrument, reliability and validity of the instruments, data collection procedures and data analysis techniques. Chapter four discusses data analysis, interpretation and discussion of findings. Chapter five comprises of the summary of the study, conclusions, recommendations and suggestions for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature review. It focuses on students' performance, provision of teaching and learning resources and students' performance, provision of human resources and students' performance, curriculum supervisory role and students' performance, provision of physical resources and students' performance. The section and presents the theoretical and conceptual framework of the study.

2.2 Overview of students' performance

Definitions of quality must be open to change and evolution based on information, changing contexts, and new understandings of the nature of education's challenges. New research ranging from multinational research to action research at the classroom level contributes to this redefinition. Systems that embrace change through data generation, use and self-assessment are more likely to offer students' performance to students (Glasser, 2004). Continuous assessment and improvement can focus on any or all dimensions of system quality: learners, learning environments, content, process and outcomes.

2.3 Provision of teaching and learning resources and students' academic performance

Provision of resources enhances the quality and relevance of imparted skills of learners (Lumuli, 2009). Learning involves interaction of students with the environment. Teaching and learning resources include classrooms, laboratories, libraries, playing fields, textbooks among others. Juma (2011) links performance in examinations to state of teaching and learning resources in schools. He notes that students from poor backgrounds perform poorly in the examinations because the poor are often in areas where schools are seriously deprived of vital facilities, an attitude of helplessness may be inculcated early into children making them feel that being in school is a waste of time.

During and in these times of technological development, teaching machines and other non- book materials classified as “new media” can help teachers to be more efficient and effective. This is especially true in the case of large classes in our universities and where teachers are committed to an individualized integrated curriculum. Seemingly few teachers, indeed a minority can be said to be enthusiastic about using these aids. Many are the teachers who are reluctant to even welcome their use or the possibility of doing so. For effective learning to take place, teachers must use the available resources and because aids provide a strong basis for such success to be realized. According to (Garba, 1973) “the combined use of various communication media greatly increases their impact in

education. Such approach might provide guidelines for obtaining solutions to the current problems of mass enrollments, teacher shortages and the rapid growth of new knowledge”

Many countries significantly expanded access to primary education during the 1990s, but the building of new schools has often not kept pace with the increase in the student population. In these cases, schools have often had to expand class sizes, as well as the ratio of students to teachers, to accommodate large numbers of new students. A UNICEF/UNESCO survey conducted in 1995 in 14 least developed countries found that class sizes ranged from fewer than 30 students in rural and urban Bhutan, Madagascar, and the Maldives, to 73 in rural Nepal and 118 in Equatorial Guinea (Postlewaithe, 2008). Educators and researchers from diverse philosophical perspectives have debated the relationship between class size and student learning at length. Although many studies have found a relationship (Willms, 2000), class size has not consistently been linked to student achievement (Rutter, 2009, cited in Pennycuick, 2003). This may be due to the fact that many schools and classrooms have not yet adopted the more demanding but higher quality student-centred learning practices discussed in this paper in section four (IV.) of this paper. Moreover, quantitative relationships between class sizes and academic achievement rarely take other key quality factors into account, such as teachers’ perceptions of working conditions and their sense of efficacy.

In Kenya, as in other developing countries, the provision of students' performance and relevant training to all is the key determinant for achieving the national development agenda. The government of Kenya has therefore focused its main attention on formulating appropriate education policies to ensure maximum development of the human resources who are essential for all aspects of development and wealth creation through industrialization. All education stakeholders recognize that students' performance at all levels will enable Kenyans to utilize their natural resources efficiently and effectively in order to attain and maintain desirable lifestyles for all Kenyans (Munavu, Ogutu, & Wasanga, 2008).

2.4 Provision of human resources and students' academic performance

Human resource in school includes teachers, support staff and students. Human resource as a factor of production is affected by adequacy and quality as reflected by level of training and level of motivation (Juma, 2011). According to behavioral scientists, effective worker performance requires motivation ability and reward system that encourages quality work (Ivancerich, 1994). Adequacy of teachers is reflected by student teacher ratio. Student teacher ratio reflects the number of student that is handled by one teacher in a stream during a lesson (Lumuli, 2009). Low student teacher ratio means that a teacher will be able to handle fewer students, implying high attention level. High student ratio implies that a teacher

will be able to handle many students at ago. This will make a teacher to employ teaching methods which are deductive rendering students passive (Michelowa, 2003; Dembele & Miaro, 2003). However, there is need to strike balance as extremely low student teacher ratio leads to under utilization of teachers while high student teacher ratio compromises academic performances affecting quality of education. This study therefore seeks to establish the impact of human resource on students' students' performance as reflected by KCSE results.

Onyango (2011) emphasizes that human resource is the most important resource in a school organization. However, the contribution made by other staff members such as secretaries, bursars, accounts clerk, matron, nurses, messengers and watchmen is also important. Odhiambo (2007) observes that the most important purpose of a school is to provide children with equal and enhanced opportunities for learning, and the most important resource a school has for achieving that purpose is the knowledge, skills and dedication of its teachers. Teachers therefore need to be well managed. The Principals' responsibility in human resource management involves: Leading and motivating staff; delegating responsibilities effectively; and conflict management. With increased number of students as a result of FSE, teacher students' ratio is likely to be high, leading to increased workload for teachers. This is likely to pose a challenge to principal, who are expected to ensure that the quality of education is not compromised. Since a freeze on employment of teachers went into effect, the Teachers Service

Commission (TSC) has only been allowed to hire new teachers to replace those who leave the service. The country's recommended ratio of teachers to students is one (1) to forty five (45), but many teachers are handling classes of up to 60 students. This has led to deteriorating of academic standards in the schools (Morrison, 2005).

2.5 Principals' curriculum supervision and students' academic performance

Pajak (1990) also defined school curriculum supervision as including all those activities by which educating administration may express leadership in the improvement of learning and teaching processes. Kamindo (2008) notes that supervision is what school personnel has to do with adults and duties to maintain or change the school operation in ways that directly influence the teaching process employed to promote pupils learning. Supervision of curriculum is directed towards maintaining and improving the teaching-learning of the school. Pajak (1990) defined school supervision as the primary process by which instructional excellence is achieved and maintained. Here supervision becomes a process in which teachers develop profound and fresh appreciation of the learners' perspective, the classroom context and their own roles as an active enabler of a student learning. Eye and Mwalala (2008) defined curriculum supervision as that phase of school administration which focuses primarily upon the achievements of the appropriate instructional expectations of educational objectives. The activities in a school situation, which brings about improved instruction are considered to

be supervisory. The most effective means by which instruction can be improved in a school is to obtain better teachers.

According to Laeach (2003) the use of business and industrial model in educational supervision that stresses on specified measurable outcomes. This is seen as pointing to the objectives specified in the curriculum and the obvious emphasis on achievement tests to determine the teaching outcomes. The teaching and learning is about individuals who are different unlike the standard tools and raw materials in a production unit in industry. It therefore needs supervision that has a human approach that would take into account differences in teachers and even schools Yahaya (2009). The Principal as instructional supervisors should try and look for ways of creating conducive environment for both teachers and learners and enhance academic achievement on performance.

Bennars, Otiende and Boisvert, (1994), and Mbiti (2007) have identified aspects of Principals' curriculum supervision techniques that could ensure successful curriculum implementation and hence improve performance in schools. One important area is the supervision of personnel. Discipline is the key factor in the administration of curriculum matters and must be maintained at all costs. Principal should have powers and authority to discipline teachers, students and subordinate staff if their supervisory responsibilities have to be effective. Mbiti (2007) further adds that head teachers have a responsibility of ensuring that the right personnel are selected to responsible positions. This ensures that curriculum

policies are properly implemented and high standards maintained. He /she should ensure that personnel are regularly exposed to in -service training in order to keep him or her up to date with new techniques.

The other important aspect of curriculum supervision that can influence students' performance in the school is the provision of relevant curriculum support materials, equipment and money (Ngaroga, 2001). Equipment and supplies for any given school must be up to date, appropriate and in line with the current syllabus (Mbiti, 2007). It is, therefore, through effective curriculum supervision that head teachers and pupils may ensure that teachers and pupils don't suffer the disadvantage of having to use out of date equipment. Further, equipment and supplies should be adequate and available on time. Blandford (1998) contended that teachers cannot be expected to teach well no matter how qualified they are without supplies. For any school to implement the curriculum successfully there is need for money.

2.6 Provision of physical resources and students' academic performance

Physical resources go a long way in creating conducive environment that promote effective teaching and learning. It is with this in mind that the Draft Report on Cost and Financing of Education in Kenya that (RoK, 1995) identifies textbook ratio and school facilities as some yard sticks to be used to gauge the quality of secondary school education. The lack of basic facilities like laboratories has compromised the teaching of science subjects. Morumbwa (2006) carried out a

study on the factors affecting provision of students' performance in Nyamaiya Division. The confirmed that inadequate physical facilities, lack motivation, understaffing, lack of some facilities and lack role models cause poor performance.

Availability of physical facilities in schools plays a major role in influencing students' academic performance. Mwangi (2012) found out that lack of physical and learning facilities in teaching of mathematics in teachers colleges had a negative impact on student's performance in national examinations. A study by Macharia (2004) also found out that lack of physical facilities in teacher training colleges contributed to poor performance of students. There is evidence of relationship between availability of physical and students' performance. Studies conducted in Ghana and Uganda by Olateju (2008) indicate that lack of physical facilities was correlated with students' performance. According to Kaime (2000) physical facilities such as classrooms, homescience and craft rooms, workshops and laboratories that are well equipped are the greatest challenge faced by parents and education authorities including principals yet they have a bearing on quantitative growth and quality of education.

2.7 Theoretical framework of the study

The study was guided by Education production Function theory proposed by Dewy, Husted & Kenny (1998), in their work, "The Ineffectiveness of School Inputs: A Product of Misspecification?" (Economics of Education Review, 2000).

The theory assumes that there is substitutability of inputs to produce the same output. A standard formulation for the education production function takes the form: $A = F(X)$ where A represents the cognitive skills produced by the activity, and X is a set of inputs. This theory is supported by Jimenes (1986), Callan and Santerre (1990) and Nelson and Hevert (1992) who have provided empirical evidence that there is at least limited substitutability between educational inputs, for example teachers, physical facilities, teaching learning resources, financial resources and students' performance. This theory is applicable to the study since it relates various inputs which include provision of teaching learning resources, provision of human resources, curriculum supervision and physical resources and students' performance.

2.8 Conceptual framework of the study

The conceptual framework for the study is presented in Figure 2.1.

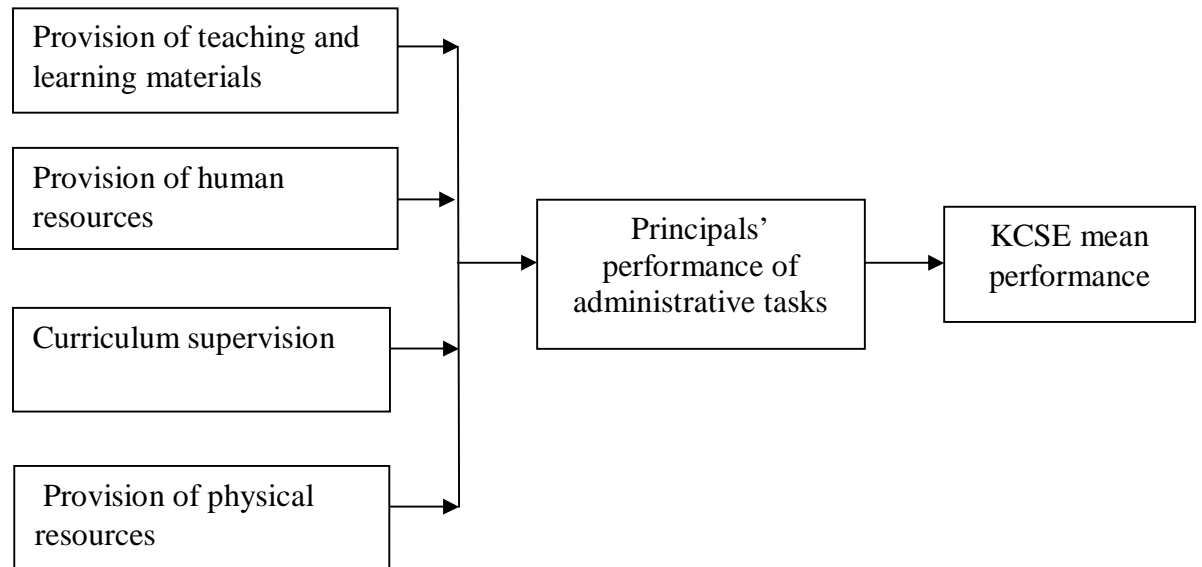


Figure 2.1 Representation of interaction between variables of the study

The conceptual framework in figure 2.1 shows the interrelationship among the variables of the study. The framework shows that provision of students' performance by the principals is influenced by various variables such as provision of teaching and learning materials, provision of human resources, curriculum supervision and provision of physical resources. These are the independent variables of the study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methods applied in carrying out this research study. The chapter contains the following sections: research design; target population; sample and sampling procedures; research instruments; validity and reliability of the instruments; administration of the instruments, and data analysis techniques.

3.2 Research design

The design for this study was cross-sectional survey. According to Fowler (2003), cross-sectional surveys are used to gather information on a population at a single point in time. In this type of research study, either the entire population or a subset thereof is selected. Data are collected to help answer research questions of interest. Bryman (2008) contends that cross-sectional design helps to deal with various categories or cases simultaneously and this matches with the use of mixed methodology for this research. The design relies on existing phenomenon at the time of data collection than change resulting from interventions. Using the cross sectional survey, the study assessed how provision of teaching and learning resources, provision of human resources, principals' curriculum supervision and principals provision of physical resources influence students' performance in public secondary schools.

3.3 Target population

A population is the total of all the individuals who have certain characteristics and are of interest to a researcher (Frey, 2000). 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. The target population was 49 public secondary schools. It comprised of 267 teachers and 49 principals in the 49 public secondary schools in Masinga Sub County, Machakos County Kenya (Sub County Director of Education, Masinga, 2015).

3.4 Sample size and sampling procedures

The sample method involves taking a representative selection of the population and using the data collected as research information. A sample is a subgroup of a population (Frey, 2000). It has also been described as a representative taste of a group (Berinstein, 2003). The sample should be representative in the sense that each sampled unit will represent the characteristics of a known number of units in the population (Lohr, 1999). Sampling is the process of selecting a subset of units from the population. The sample was 20% of the teachers and principals that was based on Mugenda and Mugenda (2003) who states a sample of between 10 and 30% is adequate. The researcher opted for 20% of the teachers' population, hence 53 teachers were sampled. To sample the principals, 30% of population were sampled hence 15 principals were sampled for the study. The sample therefore comprised of 53 teachers and 15 principals. The study also sampled 10 students in

the 49 schools. The selection of the respondents was done by use of simple random sampling.

3.5 Research instruments

This study used questionnaires to collect data from principals and teachers. Mugenda and Mugenda (2003) define a questionnaire as a written set of questions to which the subject responds in writing. The questionnaires were selected since the responses are gathered in a standardised way, so questionnaires are more objective, certainly more so than interviews. Generally use of questionnaires is relatively quick to collect information using a questionnaire. However in some situations they can take a long time not only to design but also to apply and analyse (see disadvantages for more information). Potentially information can be collected from a large portion of a group. This potential is not often realised, as returns from questionnaires are usually low. However return rates can be dramatically improved if the questionnaire is delivered and responded to in class time.

The questionnaires had five sections. Section A in both the principals and teachers questionnaires comprised of items on provision of teaching and learning resources; section B had items on human resources and students' performance, section D had items on curriculum supervisory role and students' performance, while section E had items on provision of physical resources and students'

performance. Learners' questionnaire had one section with items focusing on the research questions.

3.6 Validity of the instruments

To establish the validity of the instrument, this study used content validity which measured the degree to which the sample of tests item represents the content that the tests are designed to measure. To demonstrate the content validity of a set of test scores, one must show that the behaviors demonstrated in testing constitute a representative sample of behaviors to be exhibited in a desired performance domain. Validity was also established by use of expert judgement where the supervisors assessed the validity of the instruments.

3.7 Reliability of the instruments

Reliability is a measure of degree to which a research instrument yields consistent results after repeated trials; Nsubuga (2000). Test–retest reliability is the variation in measurements taken by a single person or instrument on the same item, under the same conditions, and in a short period of time. To enhance reliability of the instruments test re-test method was used. The researcher administered the instruments to 3 principals and three teachers and then administer again after an elapse of two weeks. The relationship between the respondents' scores from the two different administrations was estimated, through statistical correlation coefficient (r), to determine how similar the scores are. This demonstrated the

extent to which a test was able to produce stable, consistent scores across time. The realized correlation was 0.86 which was higher than the correlation coefficient of $r = 0.7$ which Mugenda and Mugenda (2003) deemed it adequate.

3.8 Data Collection Procedures

The researcher obtained an introductory letter from the University of Nairobi Department of Educational Administration and Planning and then sought permission to conduct the study from the National Commission for Science, Technology and Innovation (NACOSTI). The researcher then proceeded to seek authority from the District Commissioner (DC) and the County Director of Education (CDE). He then booked appointments with principals of schools to agree on when to administer the questionnaires. On the material day, the researcher created rapport with the respondents and administer the questionnaires principals and teachers. The questionnaires were collected immediately they were filled.

3.9 Data analysis techniques

The research yield both qualitative and quantitative data from the structured and the unstructured items. Quantitative data was first be coded and then be entered into the Statistical Package for Social Sciences (SPSS). The data was presented by use of frequency distribution table. The software will yield frequencies (f) and percentages (%) which was used to analyse the data. Qualitative was analyzed

following the three steps suggested by Miles and Huberman (1994). The first step was to reduce and organise data where the researcher discarded all irrelevant information. The researcher then drew conclusions from the qualitative data. Lastly the researcher used the data to develop conclusions regarding the study. The qualitative data was used to explain the quantitative data.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

Presented in this chapter are data analysis, presentation and interpretation of finding. The data presented in this chapter were processed using Statistical Package for Social Sciences (SPSS). All themes discussing the same research questions were presented and analyzed together. The analysis of data was presented in both narrative and tabular forms.

4.2 Response rate

Questionnaire return is the proportion of the questionnaires returned after they have been issued to the respondents. Out of the 15 principals 53 teachers and 490 students sampled in the study, 15 principals, 50 teachers and 400 students returned the questionnaires. The return rate was deemed adequate for data analysis.

4.3 Demographic data of the respondents

This section provides that demographic information of the respondents. The section presents the demographic information of the principals and then that of the teachers.

4.3.1 Demographic data of the principals

The demographic data of the principals was based on their gender, age, years they had served as principals and their professional qualification. To establish the gender of the principals, they were asked to indicate their gender.

Figure 4.1: Distribution of the principals by gender

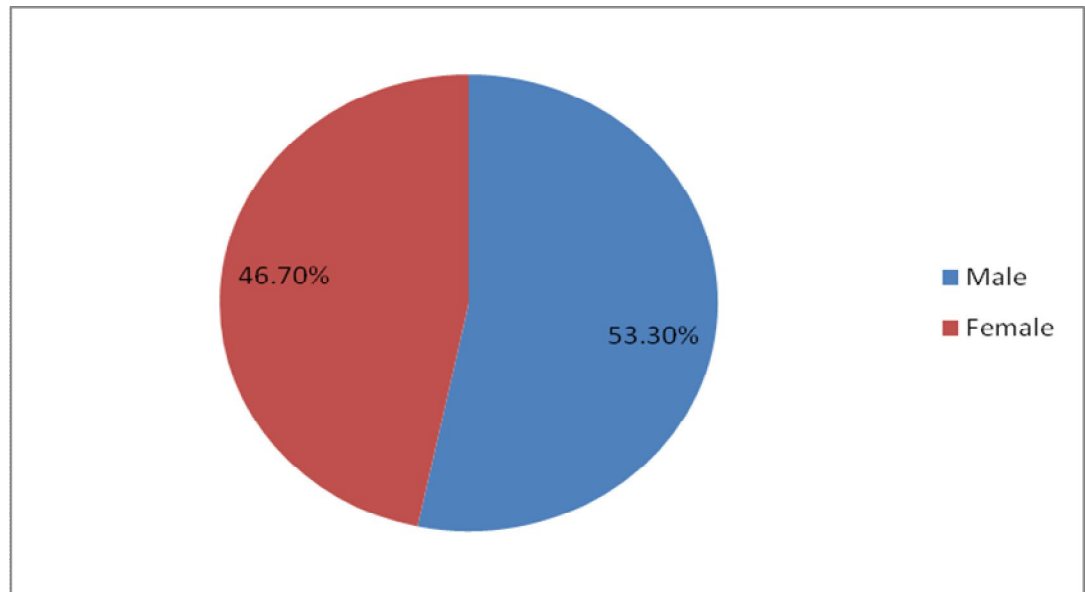
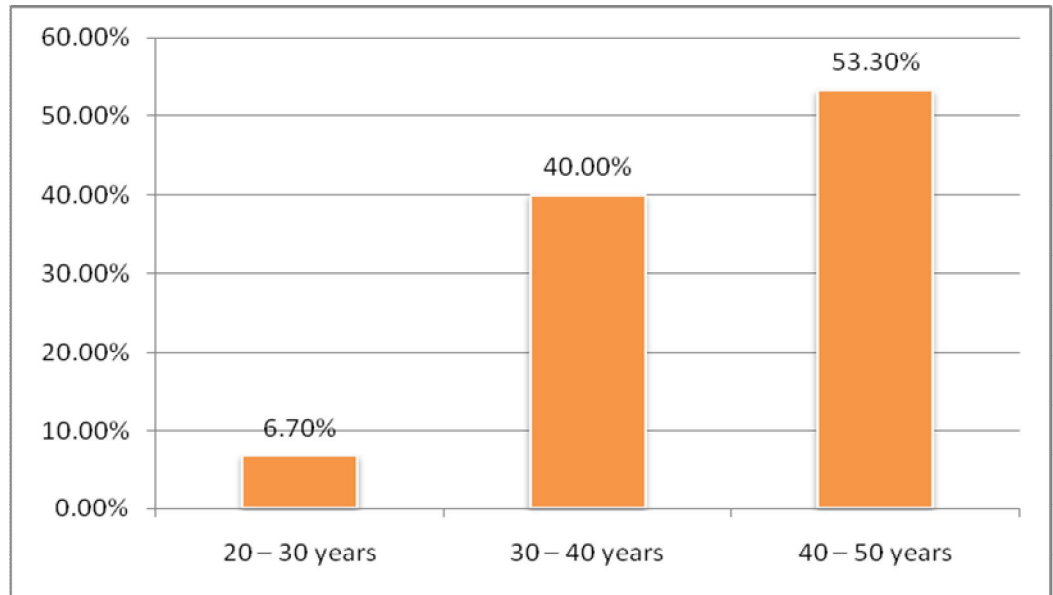


Figure 4.1 shows that majority 53.3% of principal were male while 46.7% of principals were female. This shows that there was fair presentation of gender in leadership of secondary school in the area.

Asked to indicate their age, they responded as shown in figure 4.2

Figure 4.2: Distribution of the principals by age



Data shows that 6.7% of principals were aged between 20 and 30 years, 40.0% of principals were aged between 30 and 40 years while 53.3% of principals were aged between 40 and 50 years. This shows that principals were relatively old and hence were in a position to understand school based factors influencing students' KCSE performance in public secondary schools.

Table 4.1 tabulates professional qualification of the principals.

Table 4.1: Distribution of the principals professional qualification

Highest professional qualification	F	%
M.ed	4	26.7
B.Ed	7	46.7
Diploma	4	26.7
Total	15	100.0

Table 4.1 shows that 26.7% of principals had masters education, the same number of principals had diploma professional qualification while 46.7% of principals had bachelors education. This shows that the principals had the required qualification to be in secondary schools.

Asked to indicate their professional experience in years, they responded as Table 4.2

Table 4.2: Distribution of the principals by professional experience in years

Years	F	%
1 – 5 years	3	20.0
6 – 10 years	6	40.0
11 – 15 years	5	33.3
16 years and above	1	6.7
Total	15	100.0

Data shows that 20.0% of principals had been teaching for between 1 and 5 years, 40.0% of principals for between 6 and 10 years, 33.3% of principals for between 11 and 15 years while 6.7% of principals had taught for more than 16 years. Asked to indicate the years they had served in the current school, principals responded as Figure 4.3

Figure 4.3: Distribution of the principals by years in the current school

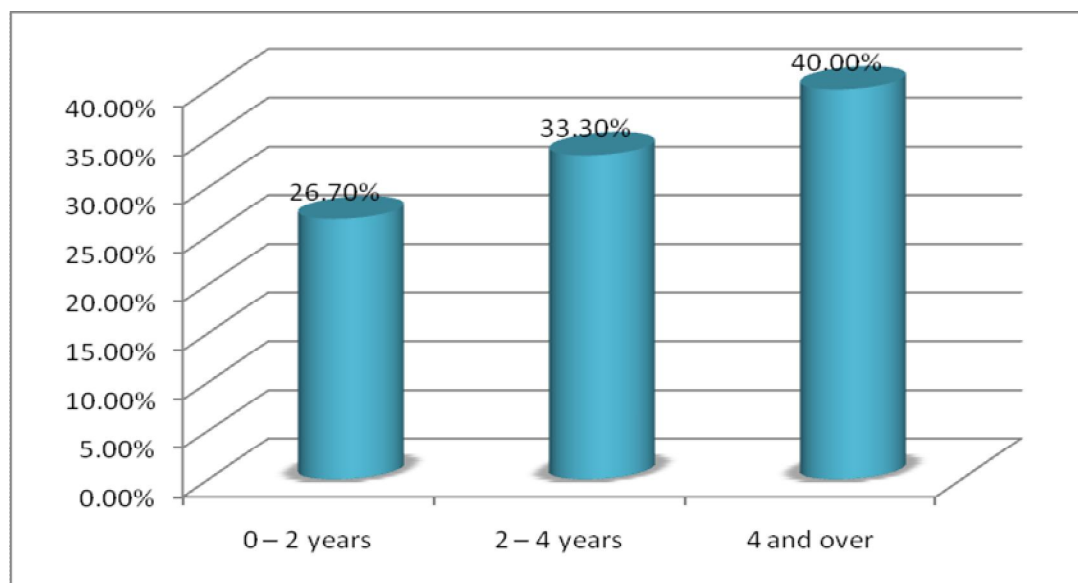
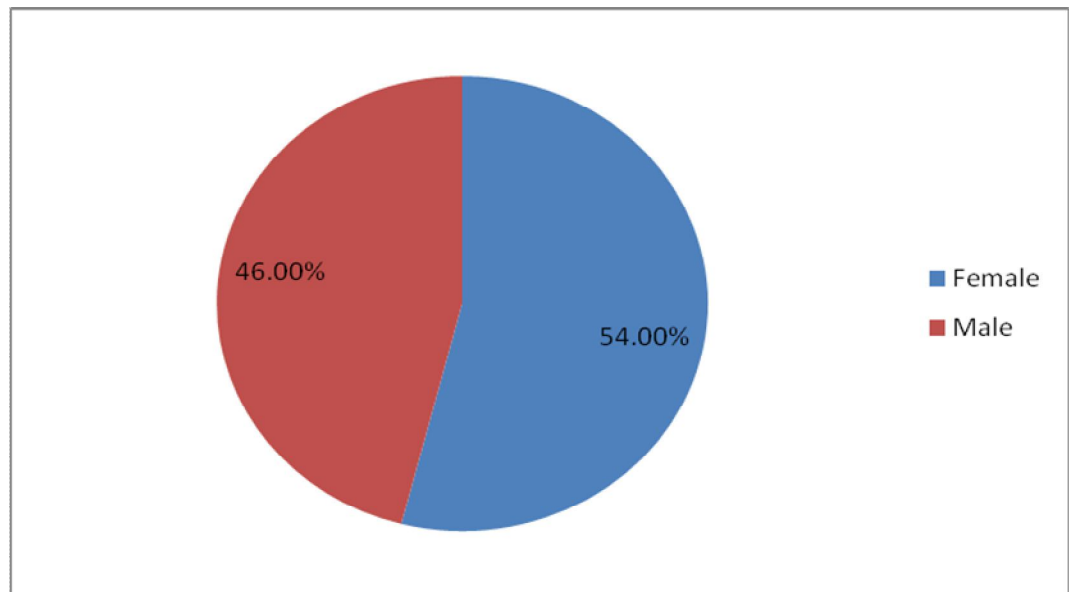


Figure 4.3 shows that 26.7% of principals had served in the current school for less than 2 years, 33.3% of principals for between 2 and 4 years while 40.0% of principals had served in the current school for more than 4 years. This shows that principals had been in their schools for considerable number of years and hence were in a position to provide information on school based factors influencing students' KCSE performance in public secondary schools.

4.3.2 Demographic data of the teachers

The demographic data of the teachers was based on their gender, age, years they had served as teachers and their professional qualification. To establish the gender of the teachers, they were asked to indicate their gender. Figure 4.4 presents the findings

Figure 4.4: Distribution of the teachers by gender



Data shows that 54.0% of teachers were female while 46.0% of teachers were male. This implies that there were more female teachers than male teachers in the schools.

Asked to indicate their age, they responded as Figure 4.5

Figure 4.5: Distribution of the teachers by age

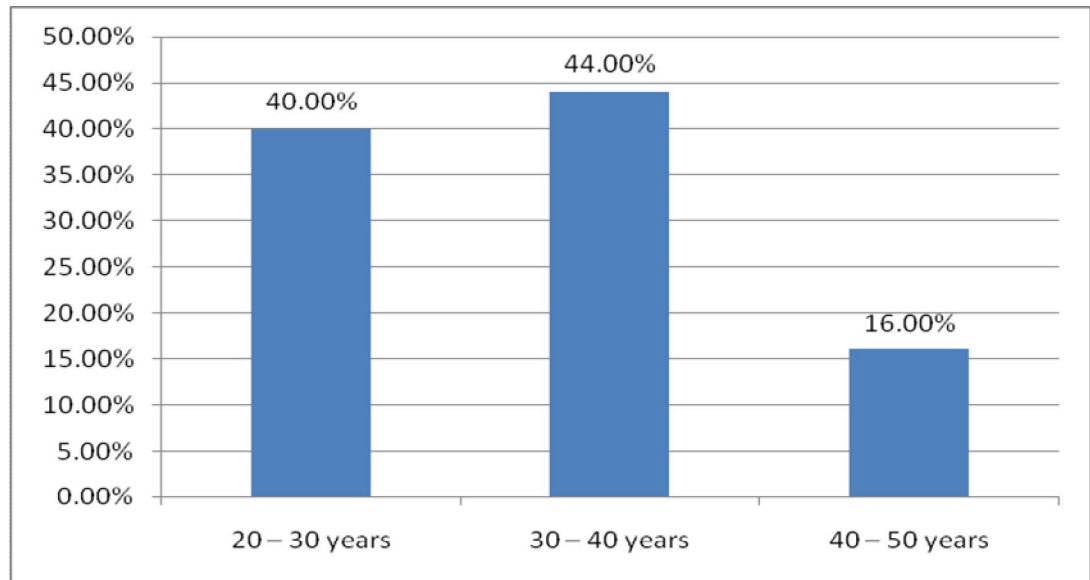
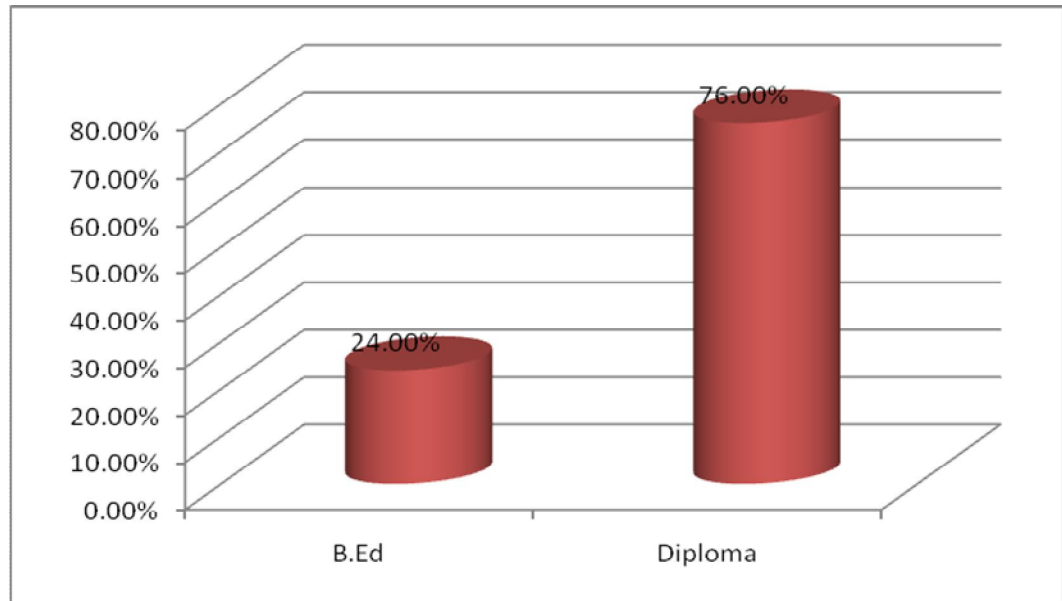


Figure 4.5 shows that 40.0% of teachers were aged between 20 and 30 years, 44.0% of teachers were aged between 30 and 40 years while 16.0% of teachers were aged between 40 and 50 years. This shows that teachers were relatively old and hence were in a position to understand school based factors influencing students' KCSE performance in public secondary schools.

Figure 4.6 presents teachers' highest professional qualification

Figure 4.6: Distribution of the teachers by highest professional qualification



Data shows that majority 76.0% of teachers had diploma education while 24.0% of teachers had bachelors professional qualification. This shows that the teachers had the required qualification to be in secondary schools.

Table 4.3 tabulates the duration of years teachers had been in teaching profession

Table 4.3 Duration of year's teachers had been in teaching profession

Years	F	%
1 – 5 years	22	44.0
6 – 10 years	20	40.0
11 – 15 years	8	16.0
Total	50	100.0

Table 4.3 shows that 44.0% of teachers had been teaching for between 1 and 5 years, 40.0% of teachers for between 6 and 10 years while 16.0% of teachers had taught for between 11 and 15 years. This shows that teachers had been in teaching profession for considerable number of years and hence were in a position to provide information on school based factors influencing students' KCSE performance in public secondary schools.

Table 4.4 tabulates the years teachers had been in current school

Table 4.4 Duration of years teachers had been in current school

Years	F	%
0 – 2 years	7	14.0
2 – 4 years	34	68.0
4 and over	9	18.0
Total	50	100.0

The Majority 68.0% of teachers had been in current school for between 2 and 4 years, 14.0% of teachers for less than 2 years while 18.0% of teachers had been in current school for over 4 years. Data shows teachers had served for considerable number of years in their current schools.

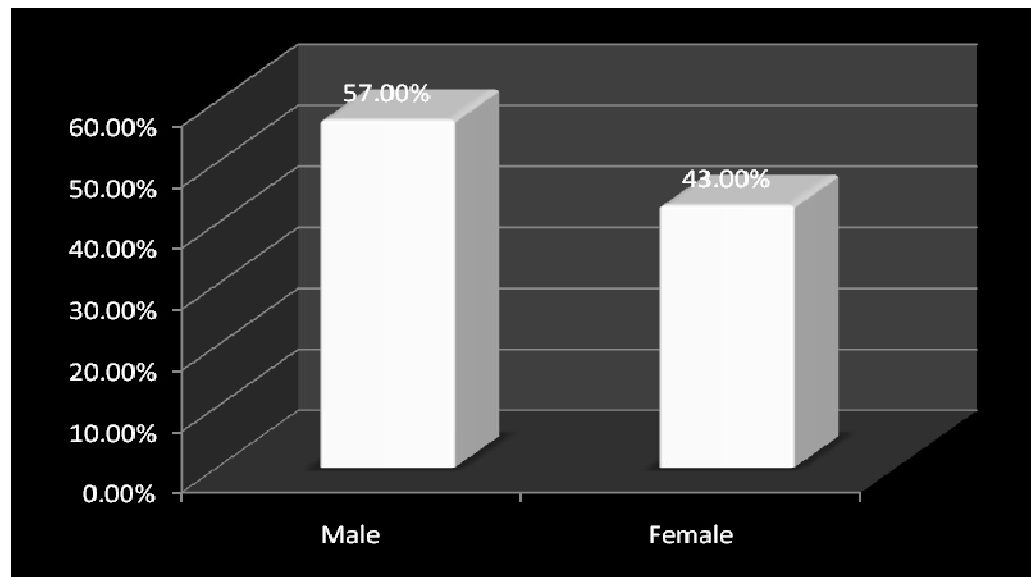
4.3.3 Demographic data of the students

The demographic data of the students was based on their gender, age and class.

To establish the gender of the students, they were asked to indicate their gender.

Figure 4.7 presents their responses.

Figure 4.7 Distribution of students according to gender



Data shows that majority 57.0% of students were male while 43.0% of students were female. This implies that male students were many in school compared to female students.

Asked to indicate their age, they responded as Figure 4.8

Figure 4.8 Distribution of students according to age

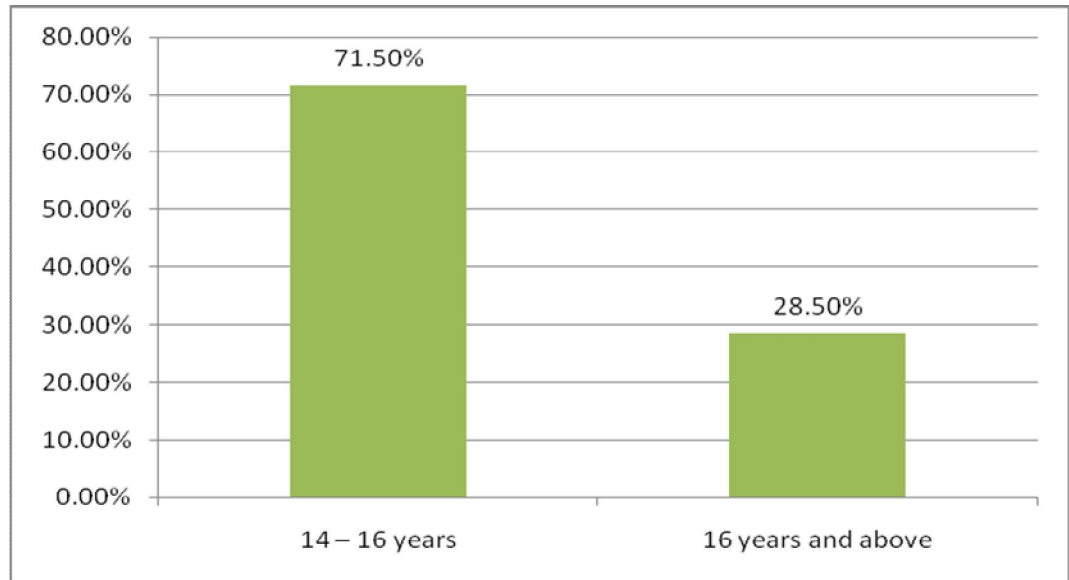
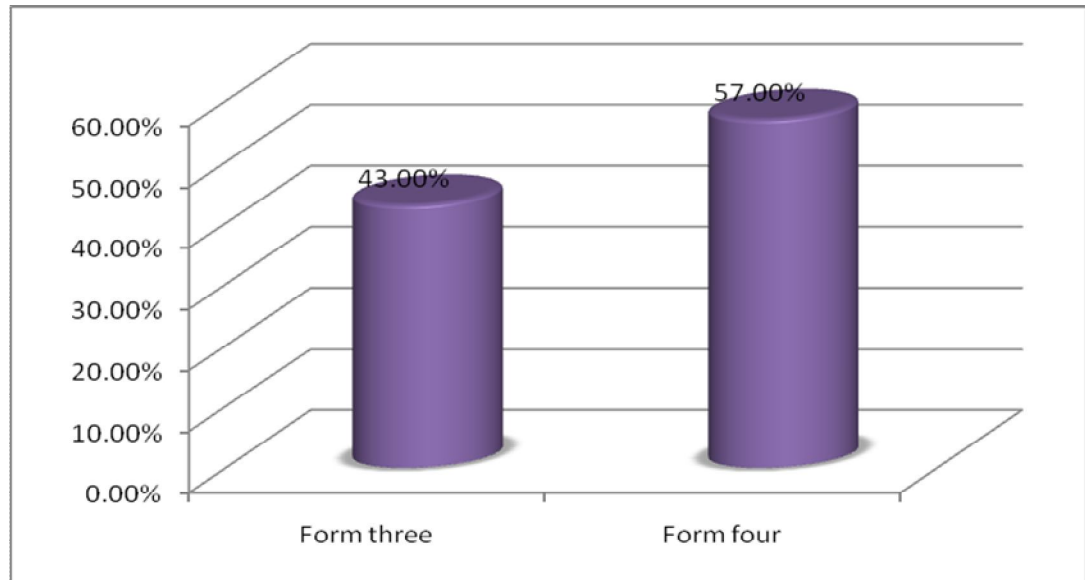


Figure 4.8 shows that majority 71.5% of students were aged between 14 and 16 years while 28.5% of students were aged more than 16 years. This shows that students were more than 14 years and hence would be able to understand issues on school based factors influencing students' KCSE performance in public secondary schools.

Figure 4.9 presents class of the students

Figure 4.9 Distribution of students according to class



The Majority 57.0% of students were in form four while 43.0% of students were in form three. This shows that the students had been in secondary school for considerable number of years and hence were in a position to provide information on school based factors influencing students' KCSE performance in public secondary schools in Masinga Sub County.

4.4 Principals' provision of teaching and learning materials and students' performance

The researcher focussed on the provision of teaching and learning materials since teaching learning materials are important in student performance. The study sought to establish the effect of principals' provision of teaching and learning materials to students' performance. Data is presented in the following section:

Table 4.5 Responses on whether school had adequate teaching learning resources

Respondents	Yes		No	
	F	%	F	%
Principals	4	26.7	11	73.3
Teachers	12	24.0	38	76.0
Students	56	14.0	344	86.0

Table 4.5 shows that majority 73.3% of principals, majority 76.0% of teachers and majority 86.0% of students indicated that their school lacked adequate teaching learning resources. Inadequate of teaching learning resources would hinder the quality and relevance of imparted skills of learners in the schools. This is in line with Lumuli (2009) who found that provision of resources enhances the quality and relevance of imparted skills of learners (Learning involves interaction of students with the environment. Teaching and learning resources include classrooms, laboratories, libraries, playing fields, textbooks among others.

Asked whether there were cases where students were left without teachers, respondents responded as Table 4.6

Table 4.6 Responses on whether there were cases where students were left without teachers

Respondents	Yes		No	
	F	%	F	%
Principals	8	53.3	7	46.7
Teachers	39	78.0	11	22.0
Students	257	64.3	143	35.8

The majority 53.3% of principals, majority 78.0% of teachers and majority 64.3% of students indicated that there were cases where students were left without teachers. In these cases, schools have often had to expand class sizes, as well as the ratio of students to teachers, to accommodate large numbers of new students in the schools and this would lead to cases where students were left without teachers. Although many studies have found a relationship (Willms, 2000), class size has not consistently been linked to student achievement (Rutter, 2009, cited in Pennycuick, 2003). This may be due to the fact that many schools and classrooms have not yet adopted the more demanding but higher quality student-centred learning practices discussed in this paper in section four (IV.) of this paper. Moreover, quantitative relationships between class sizes and academic achievement rarely take other key quality factors into account, such as teachers' perceptions of working conditions and their sense of efficacy.

The study further sought to examine principals' responses on their provision of teaching and learning materials and students' performance. Table 4.7 tabulates the responses

Table 4.7 Principals responses on their provision of teaching and learning materials and students' performance

Statement	Agree		Disagree	
	F	%	F	%
My school has adequate teaching and learning materials	5	33.3	10	66.7
My teachers are able to accommodate large numbers of students with available materials	6	40.0	9	60.0
Teaching and learning materials ensures students' performance	11	73.3	4	26.7
My school receives necessary teaching/learning materials when we need them	4	26.7	11	73.3
We have cases where students are left without teachers	9	60.0	6	40.0

Data shows that majority 66.7% of principals disagreed that their schools had adequate teaching and learning materials, majority 60.0% of principals disagreed that their teachers were able to accommodate large numbers of students with available materials, the same number of principals agreed that they had cases

where students were left without teachers. Data further shows that majority 73.3% of principal agreed that teaching and learning materials ensures students' performance, the same number of principals disagreed that their school receives necessary teaching/learning materials when they need them. This agrees with (Rutter, 2009) who revealed that quantitative relationships between class sizes and academic achievement rarely take other key quality factors into account, such as teachers' perceptions of working conditions and their sense of efficacy.

When teachers were asked to indicate the same, they responded as Table 4.8

Table 4.8 Teachers responses on provision of teaching and learning materials and students' performance

Statement	Agree		Disagree	
	F	%	F	%
My school has adequate teaching and learning materials	14	28.0	36	72.0
I am able to accommodate large numbers of students with available materials	11	22.0	39	78.0
Teaching and learning materials ensures students' performance	36	72.0	14	28.0
I receives necessary teaching/learning materials when we need them	11	22.0	39	78.0
We have cases where students are left without teachers	33	66.0	17	34.0

Majority 72.0% of teachers disagreed that their school had adequate teaching and learning materials, the same number of teachers agreed that teaching and learning materials ensures students’ performance. Majority 78.0% of teachers disagreed that they were able to accommodate large numbers of students with available materials and that they received necessary teaching/learning materials when they need them while majority 66.0% of teachers agreed that they had cases where students are left without teachers. This shows that there was a relationship between teaching and learning materials and students’ performance.

Table 4.9 Students responses on provision of teaching and learning material

Statement	Yes		No	
	F	%	F	%
Does you teacher able to accommodate large numbers of students	114	28.5	286	71.5

Table 4.9 shows majority 71.5% of students indicated that their teachers were not able to accommodate large numbers of students. This implies that number of teachers in the school were inadequate to handle the number of students. According to (Garba, 1973) “the combined use of various communication media greatly increases their impact in education. Such approach might provide

guidelines for obtaining solutions to the current problems of mass enrollments, teacher shortages and the rapid growth of new knowledge”

The study further sought to establish the adequacy of teaching and learning materials in the schools. Principals were asked to indicate the same. Data is tabulated in Table 4.10

Table 4.10 Principals responses on adequacy of teaching and learning materials in the school

Materials	Adequate		Not adequate		Not available	
	F	%	F	%	F	%
Teaching aids	6	40.0	9	60.0	0	0.0
Text books	6	40.0	9	60.0	0	0.0
Reference materials	5	33.3	10	66.7	0	0.0
Maps and charts	4	26.7	11	73.3	0	0.0
Teachers guides	3	20.0	12	80.0	0	0.0
Students’ text books	4	26.7	11	73.3	0	0.0

Table 4.10 shows that majority 60.0% of principal indicated that they had inadequate teaching aids and text books. Majority 66.7% of principals had inadequate reference materials. Majority 73.3% of principals had inadequate maps, charts and students text books while majority 80.0% of principals indicated that their teachers guide were not adequate. This agrees with Juma (2011) who links performance in examinations to state of teaching and learning resources in schools.

4.5 Principals' provision of human resources on students' performance

Human resources are important since they carry out tasks within an organisation. In schools, teaching and learning process cannot go on without the teachers. To establish effects of principals' provision of human resources on students' performance, the researcher posed items to principals, teachers and students. Data is presented in the following table 4.11

Table 4.11 Responses on whether there were adequate teachers to handle the number of pupils

Respondents	Yes		No	
	F	%	F	%
Principals	5	33.3	10	66.7
Teachers	24	48.0	26	52.0
Students	113	28.3	287	71.8

Majority 66.7% of principals, majority 52.0% of teachers and majority 71.8% of students indicated that they did not have adequate teachers to handle the number of pupils in their schools. This shows that teachers as a factor of production were affected by their adequacy in the schools. According to Juma (2011), human resource in school includes teachers, support staff and students. Human resource

as a factor of production is affected by adequacy and quality as reflected by level of training and level of motivation.

Table 4.12 Responses on whether teachers were prepared to handle large classes

Respondents	Yes		No	
	F	%	F	%
Principals	11	73.3	4	26.7
Teachers	45	90.0	5	10.0
Students	173	43.3	227	56.8

Finding shows that majority 73.3% of principals and majority 90.0% of teachers indicated that teachers were prepared to handle large classes while majority 56.8% of students indicated that their teachers were not prepared to handle large classes. To cope with the shortages of teachers', schools combined classes as teachers were prepared to handle large classes.

Table 4.13 Principals' responses on their provision of human resources on students' performance

Statement	Agree		Disagree	
	F	%	F	%
Teachers teaching load is high	12	80.0	3	20.0
I ensure students' performance by improving teachers performance in class	10	66.7	5	33.3
My reward system encourages quality work	10	66.7	5	33.3
Low student teacher ratio ensures high attention level	11	73.3	4	26.7
Human resource ensures standards and quality of education	10	66.7	5	33.3
Teachers need to be well managed	11	73.3	4	26.7
Most teachers are de motivated	8	53.3	7	46.7
Teachers' have poor working conditions	10	66.7	5	33.3

Table 4.13 shows that majority 80.0% of principals agreed that teachers teaching load was high. Data further shows that majority 66.7% of principals agreed that they ensured students' performance by improving teachers' performance in class, their reward system encouraged quality work and that teachers had poor working conditions. Majority 73.3% of principals agreed that low student teacher ratio ensured high attention level and that teachers need to be well managed. This

agrees with (Lumuli, 2009) who indicated that low student teacher ratio means that a teacher will be able to handle fewer students, implying high attention level.

When teachers were asked to indicate the same, they responded as table 4.14

Table 4.14 Teachers responses on principals’ provision of human resources on students’ performance

Statement	Agree		Disagree	
	F	%	F	%
Teachers teaching load is high	38	76.0	12	24.0
My principals ensure students’ performance by improving teachers performance in class	42	84.0	8	16.0
My principals reward system encourages quality work	45	90.0	5	10.0
Low student teacher ratio ensures high attention level	39	78.0	11	22.0
Human resource ensures standards and quality of education	39	78.0	11	22.0
I am de motivated	39	78.0	11	22.0
I have poor working conditions	39	78.0	11	22.0

Findings shows that majority 76.0% of teachers agreed that their teaching load was high. Majority 84.0% of teachers agreed that their principals ensured students’ performance by improving teachers performance in class, majority 45(90.0%) of teachers agreed that their principals reward system encourages quality work. Data further shows that majority 78.0% of teachers agreed that low

student teacher ratio ensures high attention level, human resource ensures standards and quality of education and that they had poor working conditions. This shows that teachers need to be well managed. The Principals' responsibility in human resource management shows that involves leading and motivating staff, delegating responsibilities effectively and conflict management.

Table 4.15 Students responses on human resources and students' performance

Statement	Agree		Disagree	
	F	%	F	%
My teachers has a lot of work	315	78.8	85	21.3
My principal ensure I perform by improving teachers performance in class	258	64.5	142	35.5
Low student teacher ratio ensures high attention level	315	78.8	85	21.3
I have poor reading conditions	229	57.3	171	42.8

Majority 78.8% of students agreed that their teachers had a lot of work and that low student teacher ratio ensures high attention level, majority 64.5% of students agreed that their principal ensured they perform by improving teachers performance in class while 57.3% of students agreed that they had poor reading conditions. This shows that principals had responsibility of maintaining human resources in schools for students' performance. Teacher students' ratio was likely to be high as a result of FSE, leading to increased workload for teachers.

Onyango (2001) emphasizes that human resource is the most important resource in a school organization. However, the contribution made by other staff members such as secretaries, bursars, accounts clerk, matron, nurses, messengers and watchmen is also important. Odhiambo (2007) observes that the most important purpose of a school is to provide children with equal and enhanced opportunities for learning, and the most important resource a school has for achieving that purpose is the knowledge, skills and dedication of its teachers.

4.6 Principals' curriculum supervision on students' performance

Supervision is one of the important aspects in teaching and learning process. Hence it was important to establish how supervisions influenced students' performance. To examine the effects of principals' curriculum supervision on students' performance, the researcher posed items to the respondents on the same. Data is presented in the following section:

Table 4.16 Responses on whether principals provide teachers with the textbooks and other materials they require in order to ensure curriculum delivery

Respondents	Yes		No	
	F	%	F	%
Principals	10	66.7	5	33.3
Teachers	27	54.0	23	46.0

Data shows that majority 66.7% of principals and majority 54.0% of teachers indicated that the principals provided to the teachers with the textbooks and other materials they require in order to ensure curriculum delivery. Principals further indicated that they experienced teachers' shortages in the process of managing teachers in the following areas. Supervision of curriculum is directed towards maintaining and improving the teaching-learning of the school. Pajak (1990) defined school supervision as the primary process by which instructional excellence is achieved and maintained. Here supervision becomes a process in which teachers develop profound and fresh appreciation of the learners' perspective, the classroom context and their own roles as an active enabler of a student learning.

Table 4.17 tabulates principals' responses on their curriculum supervision on students' performance.

Table 4.17 Principals responses on their curriculum supervision on students' performance

Statement	Agree		Disagree	
	F	%	F	%
My leadership improve of learning and teaching processes	14	93.3	1	6.7
My curriculum supervision promote pupils learning	12	80.0	3	20.0
My curriculum supervision focuses on the expectations of educational objectives	12	80.0	3	20.0
My school obtain better teachers	13	86.7	2	13.3
I create conducive environment for both teachers and learners	8	53.3	7	46.7
Discipline is the key factor in the administration of curriculum matters	15	100.0	0	0.0
I ensures teachers receive in -service training for curriculum development	12	80.0	3	20.0

Majority 93.3% of principals agreed that their leadership improve of learning and teaching processes, majority 80.0% of principals agreed that their curriculum supervision promote pupils learning, focuses on the expectations of educational objectives and that they ensured teachers receive in -service training for curriculum development. Data further shows that majority 86.7% of principals agreed that their school obtain better teachers while 53.3% of principals agreed that they created conducive environment for both teachers and learners. This shows that principals were focused primarily upon the achievements of the

appropriate instructional expectations of educational objectives. According to Laeach (2003) the use of business and industrial model in educational supervision that stresses on specified measurable outcomes. This is seen as pointing to the objectives specified in the curriculum and the obvious emphasis on achievement tests to determine the teaching outcomes.

Table 4.18 Teachers responses on their principals’ curriculum supervision on students’ performance

Statement	Agree		Disagree	
	F	%	F	%
My principal leadership improve of learning and teaching processes	42	84.0	8	16.0
My principal curriculum supervision promote pupils learning	33	66.0	17	34.0
My principal curriculum supervision focuses on the expectations of educational objectives	42	84.0	8	16.0
My school obtain better teachers	32	64.0	18	36.0
My principal ensures teachers receive in - service training for curriculum development	48	96.0	2	4.0

Majority 84.0% of teachers agreed that their principals leadership improve of learning and teaching processes and that their curriculum supervision focuses on the expectations of educational objectives. Majority 66.0% of teachers agreed that their principal curriculum supervision promote pupils learning, majority (64.0%)

of teachers agreed that their school obtain better teachers while majority 96.0% of teachers agreed that their principal ensures teachers receive in -service training for curriculum development. This shows that curriculum supervision of principals focused on the expectations of educational objectives. This concurs with Yahaya (2009) who found that principal as instructional supervisors should try and look for ways of creating conducive environment for both teachers and learners and enhance academic achievement on performance.

Table 4.19 Students responses on their principals’ curriculum supervision on students’ performance

Statement	Yes		No	
	F	%	F	%
Does your principal provide you with the textbooks and other materials you require in class	257	64.3	143	35.8
Does your principal leadership improve of learning and teaching processes	315	78.8	85	21.3
Does your principal create conducive environment for learners	315	78.8	85	21.3

The Majority 64.3% of students indicated that their principal provided them with the textbooks and other materials they require in class while majority 78.8% of students indicated that their principal leadership improve of learning and teaching processes and that principals created conducive environment for learners. Finding

therefore implies that supervision was a process in which principals develop profound and fresh appreciation of the learners' perspective, the classroom context and their own roles as an active enabler of a student learning. This is in line with Kamindo (2008) who notes that supervision is what school personnel has to do with adults and duties to maintain or change the school operation in ways that directly influence the teaching process employed to promote pupils learning. Supervision of curriculum is directed towards maintaining and improving the teaching-learning of the school

4.7 Principals provision of physical resources on students' performance

Physical resources are important in any organisation. Schools like other organisations have to have the required resources to enhance curriculum implementation. The study therefore sought to establish the influence of provision of physical resources on students' performance. Table 4.20 tabulates principals' responses on the adequacy of the physical facilities in the school

Table 4.20 Principals responses on the adequacy of the physical facilities in the school

Materials	Adequate		Not adequate		Not available	
	F	%	F	%	F	%
Classroom.	4	26.7	11	72.4	0	0.0
Toilets.	1	6.7	14	93.3	0	0.0
Playgrounds.	0	0.0	5	33.3	10	66.7
Water.	5	33.3	10	66.7	0	0.0
Laboratories	5	33.3	10	66.7	0	0.0
Libraries.	1	6.7	14	93.3	0	0.0

Data shows that majority 72.4% of principals ha inadequate classroom, majority 93.3% of principals had inadequate toilets and libraries. Data further shows that majority 66.7% of principals indicated that water and laboratories in their schools were not adequate while the same number of principals lacked playground in their schools. This implies that lack of basic facilities like laboratories would compromise the teaching of science subjects. Physical resources go a long way in creating conducive environment that promote effective teaching and learning. It is with this in mind that the Draft Report on Cost and Financing of Education in Kenya that (RoK, 1995) identifies textbook ratio and school facilities as some yard sticks to be used to gauge the quality of secondary school education. The lack of basic facilities like laboratories has compromised the teaching of science subjects. Morumbwa (2006) carried out a study on the factors affecting provision

of students' performance in Nyamaiya Division. The confirmed that inadequate physical facilities, lack motivation, understaffing, lack of some facilities and lack role models cause poor performance.

Table 4.21 Principals responses on their provision of physical resources on students' performance

Statement	Agree		Disagree	
	F	%	F	%
I ensures effective provision of physical facilities	13	86.7	2	13.3
Physical materials are adequate in my school	0	0.0	15	100.0
Quality physical materials ensures students' performance	14	93.3	1	6.7
Lack of basic facilities affect provision of students' performance	11	73.3	4	26.7
Inadequate physical facilities cause poor performance	13	86.7	2	13.3
Availability of physical facilities encourages meaningful learning and teaching	12	80.0	3	20.0
I face challenges in managing the schools due to lack of adequate physical facilities	15	100.0	0	0.0

Findings shows that majority 86.7% of principals agreed that they ensured effective provision of physical facilities and that inadequate physical facilities cause poor performance. Majority 93.3% of principals agreed that quality physical materials ensures students' performance, majority 80.0% of principals agreed that availability of physical facilities encourages meaningful learning and teaching while 100.0% of principals agreed that they faced challenges in managing the schools due to lack of adequate physical facilities. With increased number of students as a result of FSE, the number of students was high posing challenge of inadequate physical facilities to the schools.

When teachers were asked to indicate the same, they responded as Table 4.22

Table 4.22 Teachers responses on their principals’ provision of physical resources on students’ performance

Statement	Agree		Disagree	
	F	%	F	%
My principal ensures effective provision of physical facilities	26	52.0	24	48.0
Physical materials are adequate in my school	24	48.0	26	52.0
Quality physical materials ensures students’ performance	42	84.0	8	16.0
Lack of basic facilities affect provision of students’ performance	38	76.0	12	24.0
Inadequate physical facilities cause poor performance	38	76.0	12	24.0
Availability of physical facilities encourages meaningful learning and teaching	45	90.0	5	10.0

Data shows that majority 52.0% of teachers agreed that their principal ensured effective provision of physical facilities and that physical materials were inadequate in their school. Data further shows that majority 84.0% of teachers agreed that quality physical materials ensures students’ performance while majority 76.0% of teachers agreed that lack of basic facilities affect provision of

students' performance and that inadequate physical facilities cause poor performance. Inadequate physical facilities and lack of some facilities cause poor performance.

Table 4.23 Students responses on their principals' provision of physical resources on students' performance

Statement	Yes		No	
	F	%	F	%
Do you have adequate Physical materials in the school?	114	28.5	286	71.5
Does inadequate physical facilities cause poor performance?	315	78.8	85	21.3

Findings shows that majority 71.5% of students indicated that they had inadequate physical materials in their school while majority 78.8% of students indicated that inadequate physical facilities cause poor performance. This implies that physical resources go a long way in creating conducive environment that promote effective teaching and learning in schools. The above findings are in line with Mwangi (2012) who found out that lack of physical and learning facilities in teaching of mathematics in teachers colleges had a negative impact on student's performance in national examinations. The findings further concur with Macharia (2004) who found out that lack of physical facilities in teacher training colleges contributed to

poor performance of students. There is evidence of relationship between availability of physical and students' performance.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the study, discusses the findings of the study and presents conclusions, recommendations and provides suggestions for further research.

5.2 Summary of the Study

The purpose of the study was to investigate the school based factors influencing students' KCSE performance in public secondary schools in Masinga Sub County, Machakos County Kenya. The study was guided by four research objectives. Research objective one sought to determine how provision of teaching and learning resources influence students' performance , research objective two sought to establish ways in which provision of human resources influence students' performance in public secondary schools, research objective three sought to determine the influence of principals curriculum supervision on students' performance in public secondary schools while research objective four sought to establish the influence of provision of physical materials on students' performance in public secondary schools in Masinga Sub County, Machakos County Kenya. The study used cross-sectional survey. The sampled population was 53 teachers and 15 principals.

5.2.1 Findings of the Study

The findings were addressed as per the research objectives as follows

5.2.2 To determine how provision of teaching and learning resources influence students' performance in public secondary schools in Masinga Sub County, Machakos County Kenya

The study found out that school lacked adequate teaching learning resources as indicated by majority 73.3% of principals, majority 76.0% of teachers and majority 86.0% of students. Majority 53.3% of principals, majority 78.0% of teachers and majority 64.3% of students indicated that there were cases where students were left without teachers. In these cases, schools had to expand class sizes, as well as the ratio of students to teachers, to accommodate large numbers of new students

The study also found out that majority 66.7% of principals disagreed that their schools had adequate teaching and learning materials, majority 60.0% of principals disagreed that their teachers were able to accommodate large numbers of students with available materials. Data further shows that majority 73.3% of principal agreed that teaching and learning materials ensures students' performance.

Findings on the adequacy of resources revealed that majority 60.0% of principal indicated that they had inadequate teaching aids and text books. Majority 66.7% of principals had inadequate reference materials. Majority 73.3% of principals had

inadequate maps, charts and students text books while majority 80.0% of principals indicated that their teachers guide were not adequate.

5.2.3 To establish ways in which provision of human resources influence students' performance in public secondary schools in Masinga Sub County, Machakos County Kenya

The study further found out that schools did not have adequate teachers to handle the number of pupils in their schools as indicated by majority 66.7% of principals, majority 52.0% of teachers and majority 71.8% of students.

5.2.4 To determine the influence of principals curriculum supervision on students' performance in public secondary schools in Masinga Sub County, Machakos County Kenya

Finding shows that majority 73.3% of principals and majority 90.0% of teachers indicated that teachers were prepared to handle large classes. Findings further shows that majority 76.0% of teachers agreed that their teaching load was high. Majority 84.0% of teachers agreed that their principals ensured students' performance by improving teachers performance in class. Majority 90.0% of teachers agreed that their principals reward system encourages quality work.

The study further shows that principals provided to the teachers with the textbooks and other materials they require in order to ensure curriculum delivery as indicated by majority 66.7% of principals and majority 54.0% of teachers.

Majority 93.3 of principals agreed that their leadership improved learning and teaching processes, majority 80.0% of principals agreed that their curriculum supervision promote pupils learning, focuses on the expectations of educational objectives and that they ensured teachers receive in-service training for curriculum development.

Data further shows that majority 86.7% of principals agreed that their school obtain better teachers while 53.3% of principals agreed that they created conducive environment for both teachers and learners. This shows that principals focused primarily upon the achievements of the appropriate instructional expectations of educational objectives. Findings further shows that principal provide teachers with the textbooks and other materials they require in class.

5.3.5 To establish the influence of provision of physical materials on students' performance in public secondary schools in Masinga Sub County, Machakos County Kenya

Majority 72.4% of principals had inadequate classroom, majority 93.3% of principals had inadequate toilets and libraries. Data further shows that majority 66.7% of principals indicated that water, playground and laboratories in their schools were not adequate. Findings further indicated that principals ensured effective provision of physical facilities and inadequate physical facilities cause poor performance as indicated by majority 86.7% of principals. Principals agreed that they faced challenges in managing the schools due to lack of adequate

physical facilities. Findings shows that majority 71.5% of students indicated that they had inadequate physical materials in their school while majority 78.8% of students indicated that inadequate physical facilities caused poor performance.

5.4 Conclusions

Based on the study findings, the study concluded that public secondary schools did not have adequate teaching learning resources. The study further concluded that there were cases where students were left without teachers. It was also concluded that teachers were unable to accommodate large numbers of students with available materials and that teaching and learning materials ensures students' performance.

The researcher further concluded that schools had inadequate teaching aids and text books, reference materials, maps, charts and students text books. It was also concluded that schools did not have adequate teachers to handle the number of pupils in their schools. The study concluded that teachers were prepared to handle large classes. The researcher concluded that principals provided to the teachers with the textbooks and other materials they require in order to ensure curriculum delivery and that principal's leadership improve of learning and teaching processes. The study also concluded that principals focused primarily upon the achievements of the appropriate instructional expectations of educational objectives.

5.5 Recommendations

Based on the findings and conclusion made above, the study has the following recommendations:

- i. That teaching and learning resources and physical materials should be provided to enhance students' performance
- ii. That human resources should be provided to the schools so that students' performance could be enhanced.
- iii. That school principals should continuously supervise instruction so that students performance could be improved. Continuous assessment to be conducted regularly to focus on all dimensions of system quality education.

5.6 Suggestions for Further Research

The researcher suggested that since the study was conducted in one sub-county in Kenya, the study be conducted in a larger area, or in the whole of Kenya to determine the actual factors influencing students' KCSE performance in public secondary schools. It was also suggested that a similar study could be conducted in private schools so as to compare results.

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APPENDICES

APPENDIX I: LETTER OF INTRODUCTION

Josphat King'oo Musau
Department of Educational
Administration and Planning
University of Nairobi
7th May, 2015

The Principal,
_____secondary school

Dear Sir/ Madam

RE: PERMISSION TO CARRY OUT RESEARCH IN YOUR SCHOOL

I am a Master of Education student at the University of Nairobi, conducting research on **“School based factors influencing students’ performance in public secondary schools in Masinga Sub County, Machakos County Kenya”**. Your School has been selected for the study. I am kindly requesting your assistance in collection of data for the purpose of this study. You are assured that your identity will remain confidential and the information that you will provide will be used for academic purposes only.

Yours faithfully,

Josphat King'oo Musau

APPENDIX II

QUESTIONNAIRE FOR THE PRINCIPALS

The purpose of this questionnaire is to solicit information on school based factors influencing students' performance in public secondary schools in Masinga Sub County, Machakos County Kenya. You are asked to participate in this study by filling in the questionnaire. You are assured that your identity will be treated confidentially. Please answer all the questions provided as honestly as possible, to the best of your knowledge.

Section A: Demographic data

1 Please tick against your gender

Male [] Female []

2 What is your age?

20 – 30 years [] 30 – 40 years []

40 – 50 years [] 50 – 60 years []

3 What is your academic qualification?

M.ed [] B.Ed []

Diploma []

Others (specify) _____

4 Indicate your professional experience in years (tick one)

1 – 5 years [] 6 – 10 years []

11 – 15 years [] 16 years and above []

5 How long have you been in this school as a teacher?

0 – 2 years [] 2 – 4 years []

4 and over []

6 How long have you served as a principal in this school?

1 year [] 2 years []

3 years [] 4 years and above []

Section B: Principals' provision of teaching and learning materials and students' performance

7. Does your school have adequate teaching learning resources?

Yes [] No []

8. Are there cases where students are left without teachers?

Yes [] No []

9. Do teachers complain of lack of teaching resources?

Yes [] No []

10. In the following statements indicate the extent to which you agree with the statements

Key: SA Strongly Agree A Agree U Undecided
D Disagree SD Strongly Disagree

Statement on provision of teaching and learning materials	SA	A	U	D	SD
i. My school has adequate teaching and learning materials					
ii. My teachers are able to accommodate large numbers of students with available materials					
iii. Teaching and learning materials ensures students' performance					
iv. My school receives necessary teaching/learning materials when we need them					
v. We have cases where students are left without teachers					

11. Please indicate whether the following teaching and learning materials are adequate in your school.

Resource	Very adequate	Adequate	Not adequate	Not available
i. Teaching aids				
ii. Text books				
iii. Reference materials				
iv. Maps and charts				
v. Teachers guides				
vi. Students' text books				

Section C: Principals' provision of human resources on students' performance

12. Do you have adequate teachers to handle the number of pupils that you have?

Yes [] No []

13. Are your teachers prepared to handle large classes?

Yes [] No []

14. How do you cope with the shortages of teachers

Combine classes []

Use volunteer teachers []

Left untaught []

Employ temporary teachers through the school BOG []

15. In the following statements indicate the extent to which you agree with the statements

Key: SA Strongly Agree A Agree U Undecided

D Disagree SD Strongly Disagree

Statement on provision of human resources	SA	A	U	D	SD
i. Teachers teaching load is high					
ii. I ensure students' performance by improving teachers performance in class					
iii. My reward system encourages quality work					
iv. Low student teacher ratio ensures high attention level					
v. Human resource ensures standards and quality of education					
vi. Teachers need to be well managed					
vii. Most teachers are de motivated					
viii. Teachers' have poor working conditions					

Section D: Principals' curriculum supervision on students' performance

16. Do you provide your teachers with the textbooks and other materials they require in order to ensure curriculum delivery?

Yes [] No []

17. What instructional supervisory problems do you encounter in the process of managing teachers in the following areas?

Teachers shortages [] Evaluation of teachers []

18. In the following statements indicate the extent to which you agree with the statements

Key: SA Strongly Agree A Agree U Undecided
D Disagree SD Strongly Disagree

Statement on principals' curriculum supervision	SA	A	U	D	SD
i. My leadership improve of learning and teaching processes					
ii. My curriculum supervision promote pupils					

learning					
iii. My curriculum supervision focuses on the expectations of educational objectives					
iv. My school obtain better teachers					
v. I create conducive environment for both teachers and learners					
vi. Discipline is the key factor in the administration of curriculum matters					
vii. I ensures teachers receive in -service training for curriculum development					

Section E: Principals provision of physical resources on students' performance

19. Do you have adequate teaching learning facilities for all the pupils in your class?

Yes No

20. In what type of classroom do pupils in your class learn? (Tick the appropriate)

Permanent Semi-permanent

Mud walled

21. Indicate the adequacy of the following facilities in your school

Facilities.	Very adequate	Adequate.	Not Adequate.	Not Available
i. Classroom.				
ii. Toilets.				
iii. Playgrounds.				
iv. Water.				

v. Laboratories				
vi. Libraries.				
vii. Teachers.				

22. In the following statements indicate the extent to which you agree with the statements

Key: SA Strongly Agree A Agree U Undecided
 D Disagree SD Strongly Disagree

Statement on provision of physical resources	SA	A	U	D	SD
i. I ensures effective provision of physical facilities					
ii. Physical materials are adequate in my school					
iii. Quality physical materials ensures students' performance					
iv. Lack of basic facilities affect provision of students' performance					
v. Inadequate physical facilities cause poor performance					
vi. Availability of physical facilities encourages meaningful learning and teaching					
vii. I face challenges in managing the schools due to lack of adequate physical facilities					

23. How do you think the availability of physical facilities have affected quality of education?

.....

Thank you for responding to the questionnaire

APPENDIX III
QUESTIONNAIRE FOR TEACHERS

The purpose of this questionnaire is to solicit information on school based factors influencing students' performance in public secondary schools in Masinga Sub County, Machakos County Kenya. You are asked to participate in this study by filling in the questionnaire. You are assured that your identity will be treated confidentially. Please answer all the questions provided as honestly as possible, to the best of your knowledge.

Section A: Demographic data

1. Please tick against your gender

Male [] Female []

2. What is your age?

20 – 30 years [] 30 – 40 years []

40 – 50 years [] 50 – 60 years []

3. What is your academic qualification?

M.ed [] B.Ed []

Diploma []

Others (specify) _____

4. Indicate your professional experience in years (tick one)

1 – 5 years [] 6 – 10 years []

11 – 15 years [] 16 years and above []

5. How long have you been in this school?

0 – 2 years [] 2 – 4 years []

4 and over []

6. How long have you served as a teacher in this school?

1 year [] 2 years []

3 years [] 4 years and above []

Section B: Principals' provision of teaching and learning materials and students' performance

7. Are there cases where students are left without teachers?

Yes [] No []

8. Are you trained?

Yes [] No []

9. In the following statements indicate the extent to which you agree with the statements

Key

SA Strongly Agree

A Agree

U Undecided

D Disagree

SD Strongly Disagree

Statement on provision of teaching and learning materials	SA	A	U	D	SD
i. My school has adequate teaching and learning resources					
ii. I am able to accommodate large numbers of students					
iii. Teaching and learning resources ensures students' performance					
iv. I receives necessary teaching/learning resources when we need them					
v. We have cases where students are left without teachers					

Section C: Principals' provision of human resources on students' performance

10. Do you have adequate personnel to handle the number of pupils that you have?

Yes [] No []

11. How do you feel the adequacy of teachers has affected quality of education

12. Are you prepared to handle large classes?

Yes [] No []

13. In the following statements indicate the extent to which you agree with the statements

Key

SA Strongly Agree A Agree
 U Undecided D Disagree SD Strongly Disagree

Statement on provision of human resources	SA	A	U	D	SD
i. Teachers teaching load is high					
ii. My principal ensure students' performance by improving teachers performance in class					
iii. My principal reward system encourages quality work					
iv. Low student teacher ratio ensures high attention level					
v. Human resource ensures standards and quality of education					
vi. I am are de motivated					
vii. I have poor working conditions					

Section D: Principals' curriculum supervision on students' performance

14. Does your principal provide you with the textbooks and other materials you require in order to ensure curriculum delivery?

Yes [] No []

15. In the following statements indicate the extent to which you agree with the statements

Key: SA Strongly Agree A Agree U Undecided
D Disagree SD Strongly Disagree

Statement on principals' curriculum supervision	SA	A	U	D	SD
I. My principal leadership improve of learning and teaching processes					
II. My principal curriculum supervision promote pupils learning					
III. My principal curriculum supervision focuses on the expectations of educational objectives					
IV. My principal create conducive environment for both teachers and learners					
V. My principal ensures teachers receive in -service training for curriculum development					

Section E: Principals provision of physical resources on students' performance

16. Do you have adequate teaching learning facilities for all the pupils in your class?

Yes [] No []

17. In what type of classroom do pupils in your class learn? (Tick the appropriate)

Permanent [] Semi-permanent []

Mud walled []

18. In the following statements indicate the extent to which you agree with the statements

Key: SA Strongly Agree A Agree U Undecided
D Disagree SD Strongly Disagree

Statement on provision of physical resources	SA	A	U	D	SD
i. My principal ensures effective provision of physical facilities					
ii. Physical materials are adequate in my school					
iii. Quality physical materials ensures students' performance					
iv. Lack of basic facilities affect provision of students' performance					
v. Inadequate physical facilities cause poor performance					
vi. Availability of physical facilities encourages meaningful learning and teaching					

Thank you for responding to this questionnaire

APPENDIX IV

QUESTIONNAIRE FOR STUDENTS

The purpose of this questionnaire is to solicit information on school based factors influencing students' performance in public secondary schools in Masinga Sub County, Machakos County Kenya. You are asked to participate in this study by filling in the questionnaire. You are assured that your identity will be treated confidentially. Please answer all the questions provided as honestly as possible, to the best of your knowledge.

Section A: Demographic data

1. Please tick against your gender

Male [] Female []

2. What is your age?

10 – 14 years [] 14 – 16 years []

More than 16years []

3. What is your class?

Form three [] Form four []

Section B: Principals' provision of teaching and learning resources and students' performance

4. Are there cases where you are left without teachers?

Yes [] No []

5. Are your teachers trained?

Yes [] No []

6. Do you have adequate learning resources

Yes [] No []

7. Does you teacher able to accommodate large numbers of students

Yes [] No []

Section C: Principals' provision of human resources on students' performance

8. Does your teacher have adequate personnel to handle the number of pupils in your class?

Yes [] No []

9. Are your teachers prepared to handle large classes?

Yes [] No []

10. In the following statements indicate the extent to which you agree with the statements

Key: SA Strongly Agree A Agree U Undecided
D Disagree SD Strongly Disagree

Statement on Principals' provision of human resources	SA	A	U	D	SD
i. My Teachers has a lot of work					
ii. My principal ensure I perform by improving teachers performance in class					
iii. Low student teacher ratio ensures high attention level					
iv. I have poor reading conditions					

Section D: Principals' curriculum supervision on students' performance

11. Does your principal provide you with the textbooks and other materials you require in class?

Yes [] No []

12. Does your principal leadership improve of learning and teaching processes

Yes [] No []

13. Does your principal create conducive environment for learners

Yes [] No []

Section E: Principals provision of physical resources on students' performance

14. Do you have adequate learning facilities in your class?

Yes [] No []

15. In what type of classroom do you learn? (Tick the appropriate)

Permanent [] Semi-permanent []

Mud walled []

16. Does your principal ensures effective provision of physical facilities

Yes [] No []

17. Do you have adequate physical materials in the school

Yes [] No []

18. Does Inadequate physical facilities cause poor performance

Yes [] No []

Thank you for responding to this questionnaire

APPENDIX V
RESEARCH AUTHORIZATION LETTER



**NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION**

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P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No.

23rd Date: June, 2015

NACOSTI/P/15/4326/6308

Josphat Kingoo Musau
University of Nairobi
P.O Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “*School based factors influencing students performance in Kenya Certificate of Secondary Education in Masinga Sub County, Machakos County, Kenya,*” I am pleased to inform you that you have been authorized to undertake research in **Machakos County** for a period ending **31st August, 2015.**

You are advised to report to **the County Commissioner and the County Director of Education, Machakos 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.

Said Hussein
SAID HUSSEIN
FOR: DIRECTOR-GENERAL/CEO

Copy to

The County Commissioner
Machakos County.

The County Director of Education
Machakos County.

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

APPENDIX V RESEARCH PERMIT

**THIS IS TO CERTIFY THAT:
MR. JOSPHAT KINGOO MUSAU
OF UNIVERSITY OF NAIROBI, 15-90141
Masinga, has been permitted to conduct
research in Machakos County**

**on the topic: SCHOOL BASED FACTORS
INFLUENCING STUDENTS PERFORMANCE
IN KENYA CERTIFICATE OF SECONDARY
EDUCATION IN MASINGA SUB COUNTY,
MACHAKOS COUNTY, KENYA.**

**for the period ending:
31st August, 2015**


**Applicant's
Signature**

**Permit No : NACOSTI/P/15/4326/6308
Date Of Issue : 23rd June, 2015
Fee Received :Ksh 1,000**




**Director General
National Commission for Science,
Technology & 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. Government Officers will not be interviewed without prior appointment.**
- 3. No questionnaire will be used unless it has been approved.**
- 4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.**
- 5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.**
- 6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice.**



REPUBLIC OF KENYA



**National Commission for Science,
Technology and Innovation**

**RESEARCH CLEARANCE
PERMIT**

Serial No. A 5487

CONDITIONS: see back page