

**INSTITUTIONAL FACTORS INFLUENCING STUDENTS'
PERFORMANCE ON KENYA CERTIFICATE OF SECONDARY
EXAMINATION IN PUBLIC SECONDARY SCHOOLS IN MASINGA
SUB-COUNTY, KENYA**

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for the Award of the Degree of Master of Education in Educational
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DECLARATION

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

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DEDICATION

I dedicate this work to my family; my beloved wife Agnes Nduli, my children George, Faith, Cate, Shadrack, Musili and Mumo Nduli.

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ABBREVIATIONS AND ACRONYMS

B.Ed	Bachelor of Education
CAT	Continuous Assessment Test
DQASO	Sub-County Quality Assurance and Standards Officer
KEMI	Kenya Educational Management Institute
KCSE	Kenya Certificate of Secondary Education
MOEST	Ministry of Education Science and Technology
NACOSTI	National Council of Science, Technology and Innovation
SMASSE	Strengthening Mathematics and Sciences in Secondary Education
SPSS	Statistical Package for Social Sciences
TSC	Teachers Service Commission
UBE	Universal Basic Education
UNESCO	United Nations Educational Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
UPE	Universal Primary Education

ABSTRACT

The purpose of this study was to investigate institutional factors that influence students' performance on Kenya Certificate of Secondary Examination in public secondary schools in Masinga Sub - county. The study objectives were; to determine how the provision of instructional materials affects the students' performance on KCSE in Masinga Sub-County, to determine the extent to which staffing level and student teacher ratio influence student's performance on KCSE in Masinga Sub-County, to determine the influence of headteachers' supervisory roles on teaching and learning process on students' performance on KCSE in Masinga Sub-County and to assess the influence of physical facilities on students' performance on KCSE examination in Masinga Sub-County. This study used the descriptive survey design. The sample consisted of 1 DQASO Officer, 19 headteachers and 216 teachers. Data was collected using questionnaires. Validity of the instruments was assessed through being evaluated by the specialists in the area and supervisors from the Department of Educational Administration and Planning and reliability was assessed by use of the test-retest method. Quantitative data was analyzed using descriptive statistics such as frequencies and percentages. The researcher presented the data in tables, bar graphs and pie charts. It was found that most schools in Masinga Sub-county do not have sufficient instructional materials, are not adequately staffed, that the headteachers perform their supervisory roles as required and that most schools have inadequate classrooms, laboratories, libraries and classrooms. Based on the findings the study concluded that professional qualifications influence student's performance in KCSE. Headteachers supervised the teachers to ensure that they implement the curriculum effectively. The study concluded that most of the teachers in the sampled schools have large workloads and hence syllabus completion might take longer than usually expected. The Ministry of Education should increase funds for free secondary tuition to finance the procurement of more instructional materials. The Ministry of Education should employ more professionally trained teachers. The Ministry of Education should also offer an opportunity for further teacher professional training through workshops, seminars and short courses. The study suggests that, since the study was confined to DQASO, headteachers and teachers as respondents leaving out other stakeholders such as parents, PTA, and BOM members, a related study should be carried out involving them since they are equally involved in day to day running of public secondary schools.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Education is seen as the means to socio-economic development based on its quality and quantity. According to the Sessional Paper No. 14 of 2012, the importance of secondary education has grown globally considerably because of the success of the Universal Primary Education (UPE) (Mirera, 2012). Improved access to secondary education should however be accompanied by good quality educational inputs, so that its outcomes gives the individual opportunities of socio-economic development (Ministry of Education, 2012). The success of an education system is measured in the learner's academic performance in both internal and national examinations. A student's academic performance in secondary school examination is dependent on factors such as availability of physical facilities, provision of instructional materials, school staffing and adequate supervision (UNESCO, 2005).

In Nigeria, a study carried out by Agosiobo (2007) found out that little prospect for promotion of teachers, poor condition of service and lack of encouragement by the school administration resulted in low level of staffing in schools thus resulting to poor performance. Asankha (2011) evaluated a text book program in the Philippines which reduced the ratio of pupils per book from an average of 10:1 to 2:1 and the results showed there was remarkable improvement in performance.

Establishing and maintaining good academic performance of secondary education is a major challenge all over the world. In the developed countries, although improving educational achievement in secondary education is a major issue, there are structures to guarantee maintenance of good educational outcomes (Ayoo, 2002). In America, teachers' experiences were more constantly related to pupil achievement than the teachers' educational quality (Asankha, 2011). Academic and professional training of teachers after embarking on their career has been found to have direct and positive influence on quality of their teaching practices and pupils' achievement subsequently (Beecher, 2009).

The provision of instructional materials is critical to the academic performance of an institution. It is the duty of the headteacher to ensure that the institution has adequate instructional materials for the successful realization of the institution's objectives (Osei, 2006). In Kenya the government has invested a lot of money from its budget allocation to the Ministry of Education for buying teaching/learning materials, conducting in-service training for headteachers and in-service for subject teachers through SMASSE and the ongoing Kenya Education Management Institute training for headteachers.

A study carried out by Shushila (2002) on the role of headteachers in schools asserts that the headteacher plays a significant role in school administration and the academic performance of the school depends on the administration of the headteacher. Further, Nanyonjo (2007) on factors influencing learning achievement in public secondary schools in Uganda reveals that good

supervision strategy and administrative styles were key factors influencing learning outcomes.

Adeogun, (2001) explains that the physical faculties exist to facilitate the instructional programme and the headteacher must ensure it is kept safe, clean, attractive and ready for teaching and learning.

In Kenya, one of the objectives of the secondary education is to acquire the necessary knowledge and skills and build a firm foundation for further education and training (Republic of Kenya, 2012). The main determinant factor for further education and training beyond secondary education level is the student's academic performance in Kenya Certificate of Secondary Education (KCSE) examinations. Many of the higher learning institutions and the labour markets in Kenya have placed a mean grade of "C+" and above in the KCSE examination as the academic requirement. It is therefore imperative that the students perform well in KCSE examination in order to compete favorably for further education opportunities and labour market. The students' performance is however affected by the available educational resources and the ways these resources are managed (Khakasa, 2011).

In a Sub-County Education prize giving day held in Masinga Sub county headquarters on 9th August 2013, the Sub-County Education Director cited understaffing, inadequate teaching and learning resources and lack of

commitment by teachers as the main causes of poor performance on KCSE in Masinga sub county over the years.

There are several factors that tend to hinder academic achievement which when realized and efforts made to reduce them, academic achievement of the pupils may improve. According to the World Bank Report (2008), physical facilities, instructional materials, headteacher supervisory roles and staffing level of a school are vital to quality educational outcomes. The MoE (2008) directed that a class should have a minimum of 40 and a maximum of 45 students for effective teaching and maximum resource utilization. In some schools in Masinga Sub County, over-enrolment has been witnessed following introduction of subsidized secondary education. Table 1.1 shows a comparison of KCSE between Masinga Sub-county and the neighbouring Mwala and Yatta Sub-counties for three years

Table 1.1: A comparision of KCSE performance between Masinga Sub-county and neighboring Sub - Counties

Sub-County		2012	2013	2014
Masinga	MSS	4.349	4.209	4.388
	Grade	D+	D+	D+
Mwala	MSS	5.083	5.027	4.605
	Grade	C	C	C-
Yatta	MSS	5.104	5.100	4.543
	Grade	C	C	C-

Source: County Education Office (Machakos County)

The Sub-County has the worst students' performance in KCSE examination compared with the neighbouring Sub-Counties. This makes the situation worrying considering the significant financial and material commitment made by all stakeholders to provide secondary education (KIPPRA, 2006). Investigation of this poor performance and establishing if institutional factors have any influence on KCSE was therefore necessary.

1.2 Statement of the problem

Examination scores prepare pupils for further formal education and training. Low student achievement on Kenya Certificate of Secondary Education examination often generates public outcry with head teachers bearing the blame. The introduction of subsidized secondary education in 2008 was an

effort to improve access and retention of students in secondary schools. In addition the government has continued to invest a lot of money from its budget allocation to the Ministry of Education in buying teaching/learning materials, conducting in-service training for headteachers and subject teachers. Despite these efforts Masinga Sub County has consistently performed poorly on KCSE examinations as compared to its neighboring Sub Counties in Machakos County.

Most students in Masinga Sub-Couty score below C+ as analyzed in Table 1.1 which is the minimum university entry grade. This adversely affects the student's opportunities for academic advancement or job placement. A lot of attention has been placed on the challenges faced in accessing the Free Secondary Education with little focus on the standards of the education outcomes (Khakasa, 2011; Kabiro, 2011), hence limited literature on institutional factors affecting Kenya Certificate of Secondary Education and performance in Masinga Sub-County. It's against this background the researcher sought to investigate institutional factors contributing to low performance in KCSE examination in Masinga Sub-County.

1.3 Purpose of the study

The purpose of this study was to investigate institutional factors that influence students' performance on Kenya Certificate of Secondary Education in public secondary schools in Masinga Sub-County.

1.4 Objectives of the study

The study was guided by the following research objectives.

- i. To determine how the provision of instructional materials affects the students' performance on KCSE in Masinga Sub-County.
- ii. To determine the extent to which staffing level and student teacher ratio influence student's performance on KCSE in Masinga Sub-County.
- iii. To determine the influence of principals' supervisory roles on teaching and learning process on students' performance on KCSE in Masinga Sub-County.
- iv. To assess the influence of physical facilities on students' performance on the KCSE examination in Masinga Sub-County.

1.5 Research Questions

The study was guided by the following research questions.

- i. How does the provision of instructional materials affect the students' performance on KCSE in Masinga Sub-County?
- ii. To what extent does staffing level and student teacher ratio influence students' performance on the KCSE in public school in Masinga Sub-County?
- iii. What is the influence of principals' supervisory roles on teaching and learning process on students' performance on KCSE in Masinga Sub-County?

iv. How do physical facilities affect students' performance on the KCSE examination in Masinga Sub-County?

1.6 Significance of the study

The Ministry of Education Science and Technology may get valuable information that will help in formulating and reviewing of educational policies in order to improve the academic performance in the public secondary schools. The Teachers Service Commission (TSC) may get pertinent information that would guide in the provision of adequate teaching services in Masinga Sub-County by either posting more teachers or balancing the teachers within Machakos County. The results of the study may provide the Machakos County and Masinga Sub-County education stakeholders with valuable information for educational decision making that would promote the academic performance in the Sub-County and Machakos County at large. The findings of the study may assist the public secondary schools' headteachers to effectively and efficiently manage the institutional factors under consideration in this study for good educational outcomes. The findings of the study could provide knowledge on the factors that influence students' performance in the KCSE. This would enable schools in the Sub-County to take action and deal with negative factors influencing performance. The findings could also institute a basis for further research in the area of institutional factors influencing students' performance in the KCSE in Kenya which will be beneficial to scholars and academicians interested in the study.

1.7 Limitations of the study

The study anticipated that the sample size and scope would further affect the generalization of the study findings. This was counteracted by ensuring that the sample size of the study was as inclusive as possible. It was also anticipated that the researcher would not be able to control the attitudes of the respondents. This was solved by ensuring respondents that no names of respondents or institutions interviewed would be disclosed. It was also anticipated that poor terrain would affect movement of the researcher. The researcher used all means available including use of motor bikes to access the respondents.

1.8 Delimitations of the study

According to Mugenda and Mugenda (2003) delimitations are the boundaries of a study. The study was confined to public secondary schools in Masinga sub county, Machakos County, Kenya. The DQASO, head teachers and teachers were the respondents of the study. The private schools did not take part in the study because they are independent from the government school support programmes.

1.9 Assumptions of the study

The study held the following assumptions:

- i. That all the respondents involved in the this study will provide accurate information
- ii. That all public secondary schools in Masinga Sub-county have facilities and resource materials for teaching and learning.
- iii. That school administration provides the necessary support to teachers for effective implementation of teaching.

1.10 Definition of significant terms

Academic performance refers to the final grades awarded to a student after doing Kenya Certificate of Secondary Education at the end of form four.

Influence to cause change in a situation whether positive and negative in this case performance of students in KCSE

Instructional material refers to equipments and materials used for effective teaching and learning processes. Physical facilities refer to classrooms, laboratories, workshops and libraries used by students while at school

Staffing level refers to the number of teachers in a given school

Supervisory roles refers to administrative activity whose strategy is to stimulate teachers towards greater pedagogic effectiveness and productively.

Teaching and learning resources these are text books, exercise books, charts, wall maps and other materials which facilitate teaching and learning process in school.

1.11 Organization of the study

The study was organized into five chapters. Chapter one constitutes the background of the study, statement of the problem, purpose of the study, objectives, research questions, significance of the study, basic assumptions, limitations, delimitations and definition of significant terms. Chapter two constitutes the literature review related to the institutional factors influence students performance in KSCE. This includes instructional materials and students' performance, schools staffing and students' performance, headteachers' supervision and students' performance, availability of physical facilities and students' performance in KCSE, summary of literature review, theoretical framework and conceptual framework. Chapter three covers the research methodology that will be used in the study. This included research design, target population sample and sampling procedures, research instrument validity, data collection procedures and analysis techniques. Chapter four involves analysis of data obtained from the respondents and interpretation of the findings. Chapter five consists of summary of the study, conclusion, recommendations as well as areas of further study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter focuses on review of related literature with specific emphasis on institutional factors affecting students' performance on Kenya Certificate of Secondary Examination. The chapter reviews; instructional materials and students' performance, teaching staff and students' performance, headteachers supervision and students' performance, physical facilities and students' performance, summary of literature review, theoretical frame work and conceptual frame work.

2.2 Instructional materials and students' performance.

Students' performance is achievement of knowledge and skills in terms of examination grades as rated by accredited examination body of a given country.

The instructional materials are very crucial for effective teaching and learning processes. According to Agosiobo (2007), teaching resources motivates the learners. It is difficult to achieve the objectives of an intended educational programme without the provision of adequate instructional materials (Miller and Seller, 2007). According to UNICEF (2000), there is a relationship between the adequacy of textbooks and educational materials, and the students' academic performance.

In the developed countries, there is high subsidization of education at both primary and secondary levels (Dur and Tuelings, 2002). In Britain, the British Government is required by the law to provide educational resources to every child (Moon and Mayes, 1994). The parents are only seen as the legal partners in the education system. In the developing countries, education lacks even the basic inputs (Alubisia, 2005).

In Kenya, one of the functions of the secondary school headteachers is to procure the necessary resources for the achievement of the institutions' objectives (Okumbe, 1998). Adequate provision of the necessary instructional materials is vital for effective implementation of an educational programme (Shiundu and Omulando, 1992). Jesee (2011), in his work notes that there is a shift among the rich and the more educated from public schools towards private schools which have more educational resources. Miller and Sellar, (2006) assert that instructional materials are critical ingredients in learning and the intended program cannot be easily implemented without them. Instructional materials provide information and opportunities for pupils to remember what they have learnt. One of the impacts of the reduced cost of secondary education in Kenya was an overwhelming enrollment in schools which resulted to inadequacy of resources (Mathooko, 2009). The government recommends a pupil textbook ratio of 1:1 for effective learning (MoE, 2005). According to Adeogun (2001), inadequacy of textbooks and instructional materials can negatively affect the students' performance.

2.3 Teaching staff and students' performance

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 (Hunter, 2006). 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 handle many students at ago. This will make a teacher to employ teaching methods which are deductive rendering students passive (Jesse, 2011). 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 (Muraya, 2014). This study therefore seeks to establish the effects of human resource function on teachers' performance.

Improving teacher quality is at the forefront of concern among education stakeholders and policy makers. This is because research has consistently shown that teachers are a primary causal driver of student achievement gains and that there are identifiable characteristics of teachers that are predictive of their success in the classroom (Khakasa, 2011). Consequently, improving the quality of teacher performance is a viable and important strategy for improving student achievement.

The quality of teaching workforce needs to be improved in order to enhance the education standard of Kenya. For the achievement of higher teaching standard, it is essential to determine the human resource function enhancing teachers' performance. To effectively achieve the goals and objectives of higher quality educational standards, teacher performance management plays a vital role as it is a continuous process for identifying, evaluating and developing the work performance of teachers. To enhance the teachers' quality, a good performance management system i.e. planning, monitoring, and supervision of teachers and teachers' training needs to be provided in the schools.

2.4 Headteachers' supervision and students' performance

Kimsop, (2002) carried out a research on the role of head teacher as instructional supervisor in Kabarnet and Salawa Divisions in Baringo District. His research findings concluded that most Head teachers do not perform their instructional supervisory roles such as classroom observation, checking students' notes and teaching notes frequently.

The headteacher acts as both the guider and supervisor to the teachers, non teaching staff and the students. He/she organizes and controls teachers in their teaching process. Mathooko (2009) agrees that a headteacher's main task is to ensure that the necessary equipment and monetary resources are available for school use to motivate staff, students and parents to provide lively spirit as well as excellence in work performance. Miller and Seller (2007) says that the

headteacher enforces the TSC code of regulations for teachers thus ensuring a high level of professionalism among the staff. He/she must check the professional documents such as schemes of work, lesson plans, lesson notes, records of work done, students' exercise books and actual teaching in classrooms.

The headteacher should also have conceptual, human relation and technical skills in order to provide an effective supervisory leadership (Okumbe 1998). According to Nyongesa (2007) supervision concerns the tactics of efficient and proper management of personnel and those aspects of administration that are aimed at maintaining efforts of personnel in line with the goal of administration.

2.5 Physical facilities and students' performance in KCSE

A study done by Masengo (2010) found out that head teachers and teachers were unhappy to perform their job due to lack of staff houses. He further indicated that crowded classrooms hindered the ability of the teacher to move freely in classroom to help the needy students or mark their assignments. Accordingly this inadequacy of staff houses and classrooms impacted negatively on student's performance.

Osei (2006) argues that school physical resources refer to school's physical structure, equipment and other teaching and learning resources, class size

among others. Environment in an educational setting refers to the emotional atmosphere, tone, ambience, or climate that prevails in a particular setting. Ramani (2003) observe that school environment is of paramount importance to promote learning. This type of atmosphere prevailing in school is a perpetual inspiration for the children to learn more and more. Further, he argues that classroom environment is the total of all social, emotional, mental and physical factors that make overall contribution to the teaching learning process within the classroom. Reddy (2000) observe that favorable learning environment also improves academic and professional standards of the school and leads to higher achievement.

Saavendra (2002) concluded after a study that availability of teaching/learning resources enhances the effectiveness of schools as they are basic things that can bring about good academic performance. Shiundu and Omulando (1992) argue that the head teacher as a manager plays an important role in whatever goes on in school. The head teacher is responsible for proper execution of the school curriculum, provides necessary teaching and learning resources, motivates teachers, supervises formative evaluation ensures that the curriculum is well-implemented according to the school vision and mission and finally sets mechanism for the curriculum evaluation and innovation. School management therefore, should endeavor to provide necessary resources for the support of teaching and learning especially the purchase of relevant

textbooks, building and equipping laboratories with correct apparatus and chemicals to facilitate effective learning in the school.

2.6 Summary of literature review

The study was intended to investigate institutional factors influencing students' performance in KCSE in Masinga Sub-County. Different studies have been done on the same topic in other places but none has been conducted in Masinga Sub-County. Agosiobo (2007) emphasized that teaching and learning materials motivates learners. Khakasa (2011) notes that there are identifiable characteristics of teachers that are predictive of their success in classroom. Mathooko (2009) says that a headteacher main task is to ensure that the necessary equipment and monetary resources are available for school use to motivate the teachers, students and other stakeholders. The school headteacher should also have conceptual, human relations and technical skills in order to provide an effective supervisory leadership (Okumbe, 1998). Agosiobo (2007), Khakasa (2011) and Mathooko (2009) conducted studies on individual factors affecting students performance in Kenya Certificate of Secondary Education. This study aimed at putting four instructional factors together to establish their influence on pupils' performance. These studies were also carried out in other areas and did not put the factors together. This study aims at filling this gap.

2.7 Theoretical Framework

The study adopts general systems theory by Ludwig Von Bertalanffy (1966).

Bertalanffy (1966) defines a general system as any theoretical system that is of interest to more than one discipline. The systems are integrated wholes whose properties cannot be reduced to those of smaller units. Instead of concentrating on smaller units, the systems approach emphasizes the principles of the organization.

Schools are complex interdependent social systems. Schools administration involves professionally working with and through teachers and all members of a school community in order to achieve the goals of the school. Teachers, students, resources, supervision and facilities are units in a system which is the school. The headteacher integrates the units and makes each unit play its role in order to improve KCSE performance. This study therefore embarks on this theory as it investigates institutional factors that influence performance in KCSE.

2.8 Conceptual Framework

The conceptual frame work shows the relationship between various factors which can affect students' performance on KCSE in public schools. This is as shown in figure 2.1.

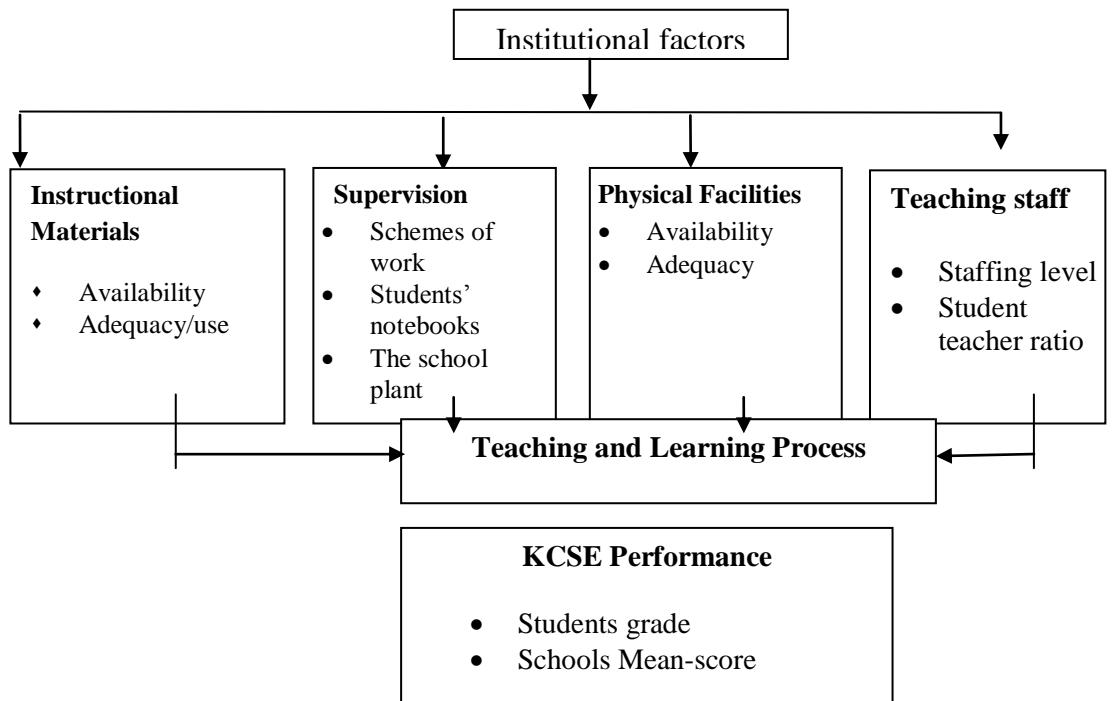


Figure 2.1 Relationship between institutional factors and student academic performance.

In this study students' performance is conceptualized as an outcome of interacting factors. The adequacy of institutional factors that is instructional materials, supervision, physical facilities and teaching staff affects performance of students on KCSE. The theory envisages integration of the factors which are assumed to affect students' performance. A fair integration of factors will lead to improved performance. The factors are assumed to be directly related such that a change in one factor (independent variable) causes a change in performance (dependent variable).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the process and strategies that were used in carrying out the study. It is divided into the following subsections; research design, target population, sample size and sampling procedure, research instruments, validity of research instruments, reliability of research instruments, data collection procedures, data analysis techniques and ethical considerations.

3.2 Research Design

This study used the descriptive survey design. According to Kothari (2004), descriptive survey is a method of collecting information by administering the questionnaires to a sample of individuals for collecting data with an aim of answering questions concerning current status of the subject under study. The design is good for the study because it provides adequate information on the relationship among the variables that is; institutional factors and student performance. The other advantage of the study is that it is not restricted to fact finding only as it may lead to formulation of solutions to problems (Kerlinger, 2000).

3.3 Target Population

According to Mugenda and Mugenda (2003), the target population is the total population the researcher wants to generalize the results. In this study, the researcher targeted 1 DQASO Officer at Masinga Sub-County Education Office, 38 headteachers and 432 teachers of the public secondary schools in Masinga Sub-County.

3.4 Sample size and sampling techniques

Mugenda and Mugenda (2003), recommends 50% of the target population as adequate sample for a study in social science. They also advise that the whole population can be used when the target population is small. Table 3.1 indicates the study's sample size.

Table 3.1 Sample size

Respondents	Target	Sample size	Percentage (%)
DQA&SO	1	1	100%
Headteachers	38	19	50%
Teachers	432	216	50%

DQASO was purposively selected as this is a key informant position. 19 out of 38 schools were selected by random sampling method. Nineteen head teachers and 216 teachers were randomly selected. Stratified sampling was used to obtain the main strata which are the zones in Masinga Sub-county. Random

sampling was used to allocate schools in each strata and purposeful sampling to obtain data from the DQASO. The goal of stratified random sampling technique is to achieve the desired representation from the various subgroups in the population (Mugenda and Mugenda, 2003).

3.5 Research Instruments

Data was collected using questionnaires. According to Mugenda and Mugenda (2003), the tool is considered appropriate because the respondents are literate and able to complete questionnaires on their own. In addition questionnaires save time and also allow uniformity in the way the questions are asked, ensuring greater comparability in the process. **The headteachers' questionnaire** was divided into five sections. Section A; the provision of instructional materials, Section B; teaching staff, Section C; head teachers supervisory roles, Section D; physical facilities and Section E; KCSE examination mean grades. **The teachers' questionnaire** is organized in a similar way. The DQSASO was verbally interviewed by the researcher who used a notebook to put down the respondents answers.

3.6 Validity of Research Instruments

Best, and Kahn (2006) pointed out that validity of research instruments is ensured through expert judgment. The instrument used was first scrutinized by specialists in the area and the supervisors from the Departments of Educational Administration and Planning. The researcher pretested for content validity in order to assess the clarity of the instrument items. The research

ensured that all the objectives of the study were thoroughly addressed and that the respondents gave the intended answers to the research question. Based on the analysis of the pretest, the researcher was able to make corrections, adjustments and additions to the research instruments.

3.7 Reliability of the Instruments

Reliability is a measure of the degree to which the research instrument yields consistent results after repeated trials (Mugenda and Mugenda, 2003). It provides a degree of confidence (Coleman and Briggs, 2002). In this study, the researcher used the test-retest method. The advantage of this method is that the researcher prepares only one test. The method involved the researcher to administer the same instrument twice to the same group of respondents at an interval of one week, administer the first questionnaires to the subjects, and administer the same questionnaires to the same respondents for the second time after one week. The scores from both tests were used to compute (r) using the Pearson Product Moment Correlation Coefficient (r) formula to determine whether the two tests correlate.

The computation of Pearson correlation co-efficient (r) between scores of a test was employed as shown in the formula

$$R = \frac{N\sum xy - (\sum x)(\sum y)}{\sqrt{[N\sum x^2 - (\sum x)^2][N\sum y^2 - (\sum y)^2]}}$$

Where;

X is the sum of scores in x distribution

Y is the sum of scores in y distribution

X² is the sum of square scores of x distribution

Y² is the sum of square scores of y distribution

Xy sum of product of paired x and y scores

N is the number of paired x and y scores

3.8 Data Collection Procedures

The researcher obtained permission to carry out research from the National Council for Science, Technology and Innovation (NACOSTI). After obtaining the permit the researcher took copies of the research permit to the County Director of Education, Machakos to be permitted to carry out the research. Clearance and introduction letter was obtained from the Sub-County Director of Education. The researcher collected the completed questionnaires immediately they were filled. The researcher then visited participating schools to familiarize with the schools and agree on when to administer questionnaires. Each of the schools selected for the study was visited personally by the researcher for questionnaire administration. The questionnaires were issued to the respondents' who were requested to complete them after being assured of their confidentiality.

3.9 Data Analysis Techniques

Mugenda and Mugenda (2003) observe that data obtained from the field is in raw form and is difficult to interpret. It must therefore be cleaned, coded, entered into computer and analyzed. The researcher first edited the returned instruments by checking the unfilled spaces, spelling mistakes and responses that are not applicable. The data was then coded and entered in the computer using Statistical Package for Social Science (SPSS). Quantitative data was analyzed using descriptive statistics such as frequencies and percentages. The researcher presented the data in tables, bar graphs and pie charts. The qualitative data from open ended items were put into various categories according to the themes and the information was reported through narratives and where necessary, appropriate tables and figures.

3.10 Ethical Considerations

Ethics has become a cornerstone for conducting effective and meaningful research. During data collection the researcher explained the aim and significance of the study to the respondents in order to get their consent. The researcher avoided acts of misconduct in research, such as data fabrication and falsification. All cited authors were listed in reference to avoid plagiarism. The researcher assured all the respondents that their identity would be treated with utmost confidentiality. The researcher ensured that respondents gave their consent to participate. The researcher assured the respondents that the study attracted no monetary gain as it was purely academic. All through the study,

the researcher was guided by the principles of integrity and respect to all the respondents (Best & Khan, 2006).

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents the data analysis and interpretation of data collected from the study. The purpose of the study was to establish the influence of institutional factors on students' performance in KCSE in public secondary schools in Masinga Sub-county. The chapter starts with the analysis of the questionnaire response rate, the demographic data, the data collected on provision of instructional materials, staffing level and student teacher ratio, headteachers' supervisory roles and physical facilities. The data is analyzed using frequencies and percentages.

4.2 Return rate of the questionnaires

The questionnaires were administered by the researcher to 1 DQASO, 19 Head teachers and 216 teachers of the 19 sampled primary schools. Table 4.1 shows the response rate.

Table 4.1: Questionnaire return rate

Category	Questionnaires	Questionnaires	Percentage (%)
	administered	filled & returned	
DQA&SO	1	1	100 %
Headteachers	19	17	89.4%
Teachers	216	200	92.6%

According to Mugenda and Mugenda (1999), above seventy five percent return rate is very good. Basing on that assertion, it therefore implies that a response rate of each category was high enough for accepting the results.

This high response rate can be attributed to the researcher use of phone calls follow-ups and reminders and good data collection procedures, where the researcher notified the respondents in advance then later administered the questionnaire on a drop and pick basis.

4.3 Demographic information of the respondents

The study sought to find out the demographic information of the respondents concerning their gender, age, highest academic qualification and years they had been teachers. Their gender was intended to capture equal attention to males and females in school teaching positions. Their age was intended to evaluate their teaching capabilities associated with age. Information on their highest academic qualification was intended to establish their expertise in the

teaching roles. The years they had been teachers intended to determine their level of roles experience.

Table 4.2 Gender of respondents

gender	Principal		Teachers	
	Frequency	Percentage	Frequency	Percentage
Male	11	58	106	53
Female	8	42	94	47

The findings revealed that majority of headteachers were males constituting (58 %) while the females were (42 %). This indicated that males dominated the school leadership positions though it was based on the distribution of boys and girls schools in the region. The difference could also be attributed to availability of qualified female teachers during promotions and the distribution of boys and girls schools in the region which select the leadership preferentially based on gender. In addition out of the 200 teachers who responded to the questionnaires, (53%) of the teachers were males against females who were (47%). The data indicates that many teachers teaching in the area of study were males as compared to females who are relatively less. Additionally it was found that DQSASO of the region was a male DQASO, have the mandate to ensure that quality education is offered in schools. They also advise on capacity building and how to utilize organization's resources effectively to achieve quality education and ensuring

curriculum delivery achieved desired standards. Based on their crucial role the study investigated the demographic characteristics of the officer. The DQASO adequately respondent that he was in mid fifties at that moment. He also mentioned that he had taught in various schools for a period of 15 years before rising to the current position of DQASO, which he had headed teachers for three years. The officer had a Masters Degree of Education from one of the universities in Kenya.

Elderly teachers are associated with rich teaching skills. In that regard the study sought to establish the teachers' age distribution and the results were as shown in the Table 4.3.

Table 4.3 Age of the head teachers

Age(years)	Principals		Teachers	
	f	%	f	%
30 years	0	0	30	15
31 - 39 years	2	11.8	120	60
40 - 48 years	6	35.2	40	20
49 – 60 years	9	53.0	10	5

Results in Table 4.3 indicates that (30%) of the headteachers are aged between 49-60 years which implies that they are old and experienced enough to respond to issues pertaining educational administration. Those who are aged 40-48 years represented 35.2% of the sampled headteachers while those aged

31-39 years were only (11.8%) indicating that promotion might be based on the years of service. Furthermore majority (60%) of the teachers were in the age bracket of 31 to 39 years. This indicates that they were still at a resourceful and vibrant age with the capability to deal with the academic challenges facing their students. Since they are not much older than the students, it is likely that they understand challenges facing the students well.

The Education sector in Kenya has made huge strides in terms of technology and dynamic changes on the curriculum. Therefore qualified head teacher should be ones to implement the curriculum that adheres to national objectives and the demand of students, parents, teachers and other stakeholders. It was fundamental to establish the knowledge and skills of the respondents so as to understand their capacity to execute their mandate. The study therefore required the DQASO, head teachers and teachers to indicate their education level and the results are as shown in Table 4.4

Table 4.4 Educational level of respondents

Professional qualifications	HEADTEACHERS		TEACHERS	
	F	%	F	%
Masters in Education	4	25.5	22	11
B.Ed. degree	10	58.8	170	85
Diploma	3	17.7	8	4

From the findings in Table 4.4 it is clear that most of the headteachers (58.8%) have Bachelor's degree in education this therefore implies that most of the headteachers had the right competence skills required to efficiently execute the curriculum in their schools while ensuring the required standard of education is met. Additionally the study revealed that majority of teachers (85%) were holders of Bachelor of Education degree followed by (11%) with Masters' degree and the least (17.7%) were Diploma holders in Education holders. This indicates that majority of teachers had minimum qualifications to teach in secondary schools and therefore could be relied upon to provide the needed information for this study. This could be attributed to recruitment criteria where most of the teachers' minimum requirement to teach in secondary schools is a degree course in education.

Experience improves teaching skills while pupils learn better at the hands of teachers who have taught them continuously over a period of years. The study sought to find out headteachers and teachers teaching experience and the results are as indicated in Table 4.5

Table 4.5 Teaching experience of respective teachers

Respondents		Head teachers		Teachers	
Respondents'	frequency	%	frequency	%	
experience					
(years)					
0 – 5	0	0	56	28	
6 – 10	1	5.9	30	15	
11 – 15	2	11.8	48	24	
16 - 20	4	23.5	35	17.5	
21 and above	10	58.8	31	15.5	

From the finding most of the headteachers (58.8%) have been teaching for above 21 years this implies that to be considered as a headteacher in any of the schools then experience is one factor considered in selection criteria. However there was (5.9%) headteachers who had taught for 6-10 years an indicating that selection could also be based on other factors such as performance. Further it was established that most of the teachers (28%) have between 0-5 years of experience followed by (24%) of those who had served between 11-

15 years. This can be attributed to increased recruitment of new teachers. Ladd (2008), argued that teachers with more than 20 years of experience are more effective than teachers with no experience, but are not much more effective than those with 5 years of experience. This therefore implies that teachers teaching effectiveness increases with the length of experience.

The respondents were asked to indicate the number of years of service with the current school and the findings presented in Table 4.4.

Table 4.6 Duration of service in the school

Respondents	Headteachers		Teachers	
	f	%	f	%
duration of service				
0 – 5	3	17.7	78	39.0
6 – 10	7	41.2	103	51.5
11 – 15	5	29.4	15	7.5
16 - 20	2	11.7	3	1.5
21 and above	0	0.0	1	0.5

From the findings in Table 4.6 it is clear that most of the headteachers (41.2%) have served in their respective schools for duration between 6-10 years. This could be attributed to desire of stakeholders to ensure that the headteachers have enough time to facilitate stability of school programmes. Furthermore the study found that most teachers (51.5%) of have taught in their current schools for a period ranging from 6 – 10 years. This could be

attributed to teacher loyalty to the current schools and the community. It can also be attributed to teacher transfer policies which always provide teachers with opportunities to either improve or diminish their teaching quality. Teachers' duration of teaching in a particular school gives the teacher a sense that he or she is free from administrative pressures within a school system and from their employers; it may improve teacher motivation, satisfaction, and overall productivity. This can also encourage teachers to try new teaching methods.

4.4 Categories of schools

School attended or gender difference might be a determinant in academic performance. The headteachers were therefore required to indicate the category of schools they were serving as indicated in Table 4.7.

Table 4.7 Categories of schools

Categories of schools	F	%
Mixed day	6	35.2
Boys boarding	2	11.8
Girls boarding	2	11.8
Girls day	1	5.9
Girls day and boarding	1	5.9
Boys day and boarding	2	11.8
Mixed day and boarding	2	11.8
Boys day	1	5.9

From the findings, most of the headteachers were in mixed day schools in the area. This indicates that population of most schools in the area were mixed day secondary schools even after being subjected to a random sampling of the schools in the region as shown by a percentage of 35.2. Girls day secondary schools and boy day secondary schools were fewer in the region with a percentage of 5.9, while mixed day and boarding, Boys day and boarding, Boys boarding and Boys day and boarding had equal representation of 11.8% indicating that the mentioned schools in the region might be equally distributed that is why they got an equal chance of selection.

4.5 Influence of provision of instructional material on students' performance

The study investigated provision of instructional materials; textbooks, laboratory equipment, maps, charts and reference materials to establish their effect on students' performance. Instructional materials help teachers to teach conveniently and the student ease of learning is improved. Academic performance is improved when there is enough and proper use of instructional materials such as textbooks, writing materials, teaching aids, laboratory equipment and computers. Inadequacy of instructional materials causes ineffectiveness in teaching and poor performance in schools. The study found it necessary to establish the adequacy of instructional materials in the sampled schools. Table 4.8 represents the findings.

Table 4.8 Headteachers' response on adequacy of instructional materials

Instructional materials	Adequate			Inadequate	
	N	F	%	F	%
Textbooks	17	9	55.7	7	44.3
Writing materials	17	16	95.7	7	43.3
Laboratory equipment	17	9	53.9	8	46.1
Computers	17	6	34.2	11	65.8

The finding in the Table 4.8 indicates that most of the headteachers 55.7% suggested that textbooks were adequate. This might be attributed to the government's intervention to fund procurement of textbooks through the free secondary tuition programme. Another 44.3% of the respondents pointed out that textbooks were inadequate. This could be due increased enrollment of students to secondary schools. Other materials such as writing materials were adequate in most of the schools as represented by 95.8% head teachers responses. Headteachers also suggested that laboratory equipment were adequate 53.9% response. However 65.8% of the headteachers indicated that computers were inadequate. This could be attributed to the high cost of procuring computers in the schools. This corroborates with the World Bank (2008) a study on textbooks and school library provision in secondary education in Sub-Saharan Africa which revealed that textbooks and libraries were not only inadequate but unevenly distributed among rural and urban schools.

In order to establish the effect of number of books and other learning materials on students' performance, headteachers were further asked to indicate whether learning materials influenced students' performance. The findings were as represented in the Figure 4.1

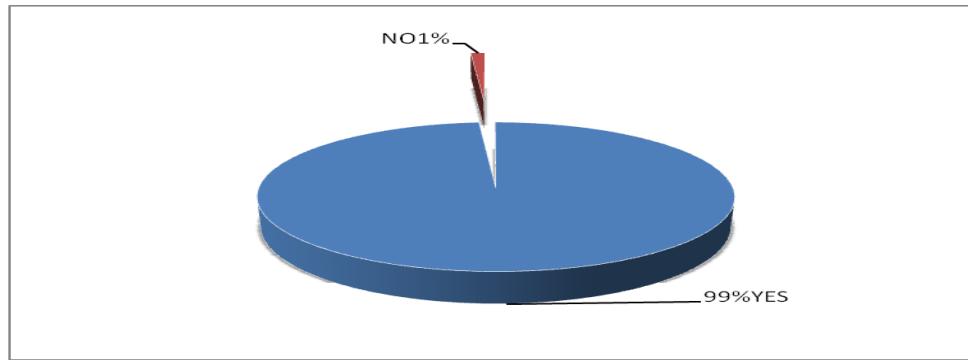


Figure 4.1 Effect of the number of books and other learning materials on students' performance.

From Figure 4.1, 99% of the head teachers indicated that learning materials and books affect students' performance.

Students use textbooks and other reference materials supplement what has been taught in class as well as getting additional insight on the topics covered. Headteachers were required to state the current student textbook ratio in their schools and the results are indicated in Table 4.9

Table 4.9 Headteachers' response on student textbook ratio

Students textbook ratio	f	%
1 : 1	1	5.9
2 : 1	1	5.9
3 : 1	7	41.2
4 : 1 and above	8	47.0

The Table 4.9 shows that most of the head teachers (47.0%) mentioned that for every four students there was a single book to be shared. Another (41.2%) cited that three students shared a book in the school which implies most of the school could have enrolled large number of students thus increasing the ratio. From the headteachers' responses the researcher found that text books were insufficient since all the secondary schools had not achieved 1:1 book ratio. According to Republic of Kenya (2011), secondary schools should have attained to students' textbook ratio of 1:1 by 2012.

Learning materials aid in delivering the prerequisite academic contents to the students. It was therefore crucial for the study to establish whether the learning materials were sufficient in schools. Figure 4.2 represents the responses.

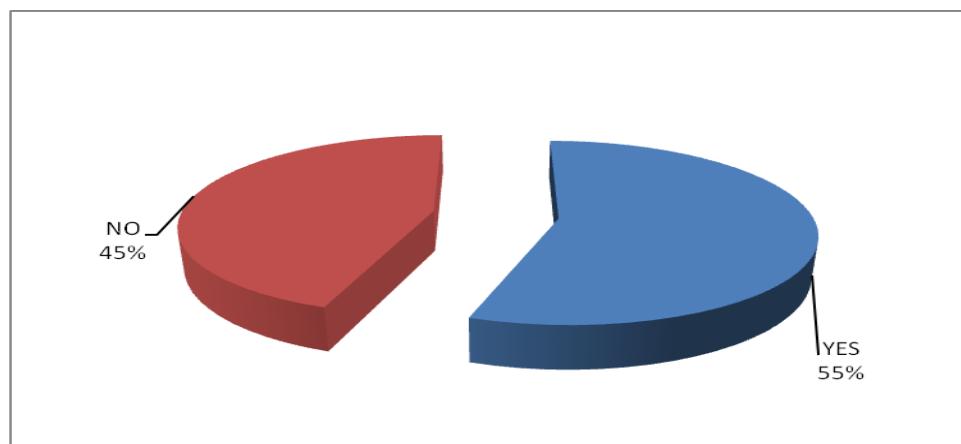


Figure 4.2 Teachers' response on adequacy of learning materials

The findings suggest that 110 (55%) of teachers from the sampled public schools indicate that they have adequate learning materials. This might be

attributed to government support through ministry of education subsidy of learning materials and donation of more learning materials to the schools. Another 90 (45%) of them mentioned that learning materials were not sufficient, implying that the students might too many despite any intervention given by government and other stake holders, the demand still surpasses the available materials.

Knowledge is acquired through various sources; it can either be gained through print media, books, digital materials, demonstrations or verbal presentation by the teachers. Thus it was crucial for the study to establish how adequacy of learning and teaching materials influences students' performance.

Figure 4.3 illustrate teachers' responses on whether adequacy of teaching and learning resources influences students' performance.

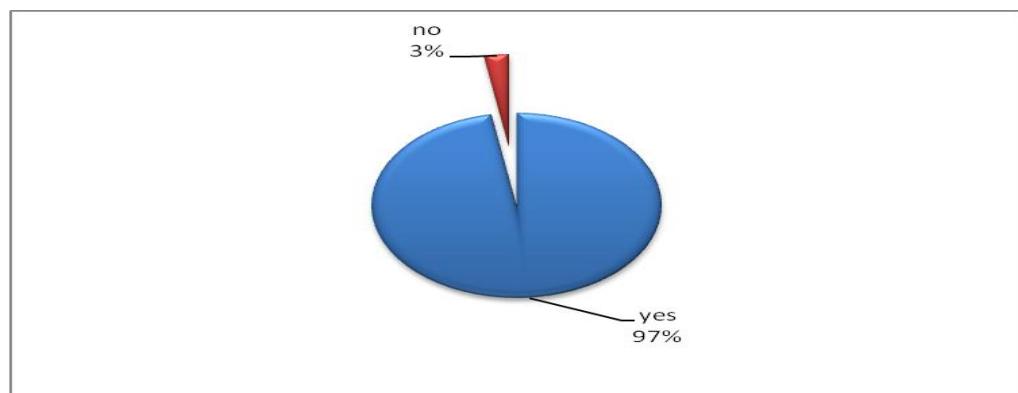


Figure 4.3 Teachers' response on whether adequacy of teaching and learning materials affect performance in KCSE

The result from Figure 4.3 indicates that 194 (97%) of teachers revealed that adequacy of learning materials affect students performance on KCSE. However relatively small number of teachers6 (3%) suggested adequacy of learning materials doesn't affect students success in KCSE. This might be attributed to the facts that some parents might be providing private tuitions to their children on holidays while making sure that areas where students have challenges are addressed before examination.

4.6 Influence of staffing levels and student teacher ratio on students' performance

Large classes are detrimental to students' performance since students received reduced attention from teachers. Instructions given to a large population of students impacts negatively on performance as compared to individual attention to students. The study required the headteachers to state the rate of student teacher ratio and the results are as shown in the table 4.10.

Table 4.10 Headteachers' response on student teacher ratio

Ratio	F	%
Below 20:1	1	5.9
Between 21 – 40:1	6	35.3
Between 41 – 50:1	7	41.1
Above 50:1	3	17.7

From the findings in Table 4.10, (41.1%) of headteachers indicate teachers in their school teach between 41 – 50 students in a lesson. These large classes are detrimental to students' performance as teachers are unable to attend to each student's needs in a lesson of 40minutes. This might be attributed to huge enrollment in schools as a result of subsidized secondary education.

Students depend solely on the guidance from the teachers and the needs of each them varies from one class to the other. In that regard teachers should always avail themselves to the needs and desires of every student. Therefore teachers were also required to rate students- teacher ratio in their respective schools. The findings were as represented in the figure 4.5 below.

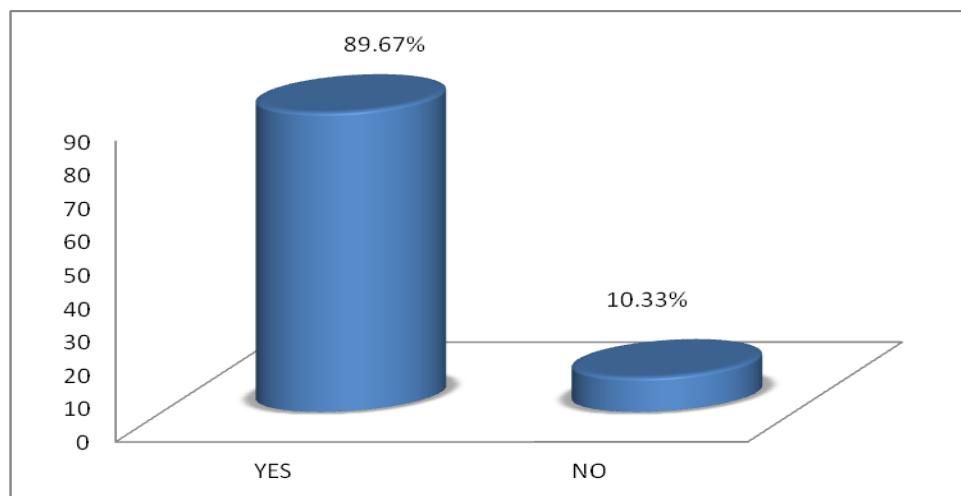


Figure 4.4 Adequacy of Staff in Schools

From the findings in Figure 4.5, 194(89.7%) of the teachers indicate that student teachers ratio is high. This could be attributed to high transition from primary to secondary schools hence increasing the number of students as

compared to the number of teachers. The DQASO also raised the same concern during the interview indicating that understaffing was a major challenge country wide.

The teaching load was one of the main tasks of this study. Teacher workload describes the amount of time spent teaching and interacting with students in and outside the classroom. The amount of time a teacher spends in class interacting with pupils in undertaking curriculum activities and outside classroom for the co-curricular activities was taken to be within the workload.

The Figures 4.5 below represent the findings:

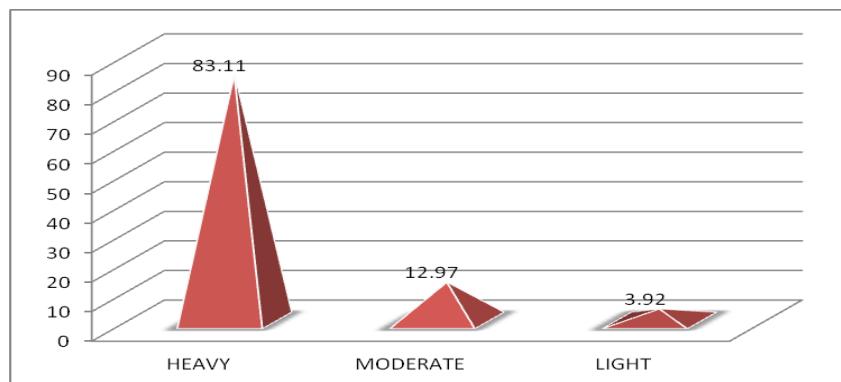


Figure 4.5 Headteachers' response on teachers' workload per week

From the findings most of the head teachers 14 (83.11%) indicated that teachers are overloaded with lessons and this affects time lines in completion of syllabus and thus lowers performance since areas that are not covered might be tested in exams.

The ability of the teachers to deliver the right results depends on the work allocated to each of them. Too much work might lead to occupational burn out and might compromise performance of the teachers as well as that of the students. Therefore teachers were required to indicate their weekly workload and the findings were as shown in Table 4.11

Table 4.11 Teachers' workload per week in terms of lessons

Teaching load per week	F	%
Less than 20	10	5
20 – 24	55	27.5
24 – 30	130	65
More than 30	5	2.5

Data from Table 4.11 shows that (65%) of the teachers mentioned that their teaching load per week ranges from 24-30 lessons. This indicates that teachers have to walk an extra mile to complete the syllabus on time. This workload can be attributed to high ratio of students to teachers therefore teachers have to go to several streams so as to equally cover the required classes per week in order to give equal attendance of lesson in all classes.

Teachers were also required to rate their work load and the findings were as shown in the Figure 4.6

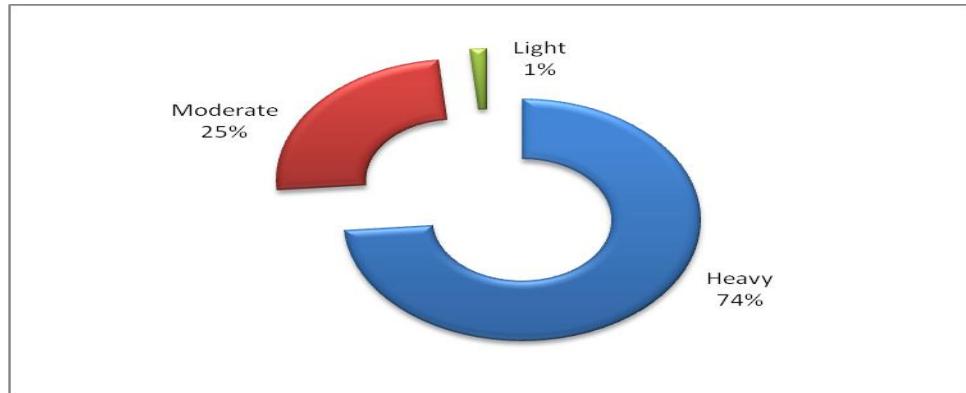


Figure 4.6 Teachers' responses on the rating of work load

In the findings on Figure 4.6, most teachers 148 (74%) indicate that their workload is heavy which could be attributed to shortages of teachers in most of the schools. Though some 52 (26%) indicate that the workload was moderate which could be associated to intervention by the board of management of the school to employ extra teachers to complement the shortage of teachers.

The study sought to investigate whether teachers are in-serviced in their schools in order to equip them with new content and new approaches to teaching. The results are as indicated in Figure 4.7

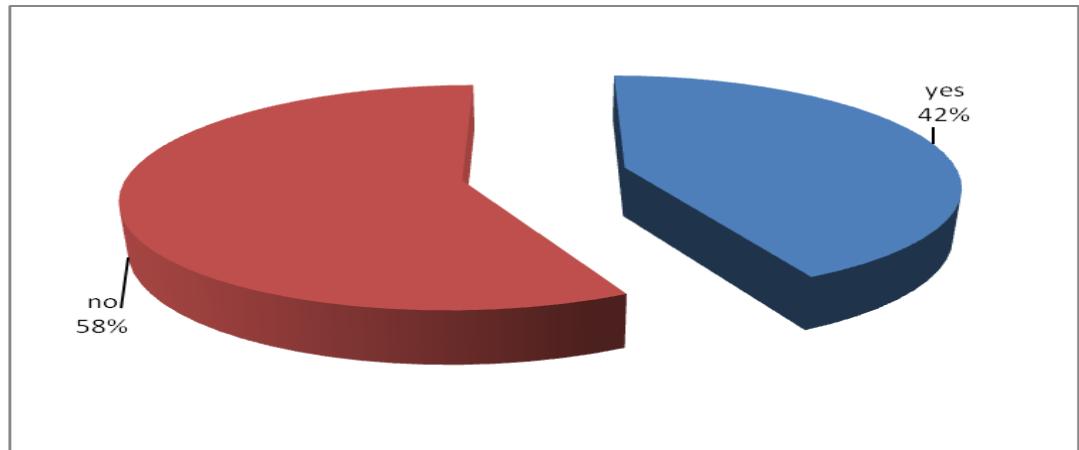


Figure 4.7 Teachers' response on attendance of in-service course in their schools

The findings points out that most of the teachers 115 (58%) have never attended in-services courses in their schools. This might be due to inadequate time to attend in-service courses because of the demanding responsibilities from both school and families. Another 85 (42%) revealed that they have attended in-service training in courses such as curriculum development and educational related courses.

Training enhances teachers' capability to teach and guide students to achieve the desired objectives. It further broadens and equips the teacher on how to handle learners' challenges appropriately. Figure 4.8 illustrates the responses of teachers regarding whether they are assigned to teach the subjects they trained for only or they sometimes teach other subjects.

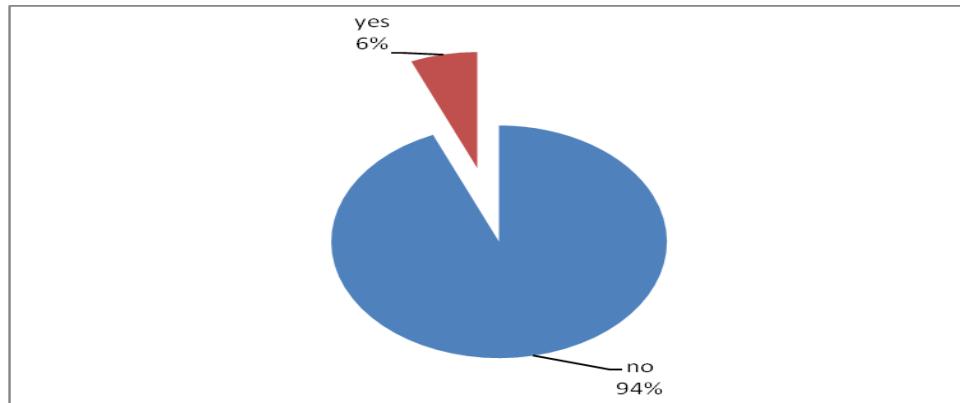


Figure 4.8 Teachers' training and subjects assigned

The finding show that 188 (94%) of teachers indicated that they do not teach subjects that they had not trained for. However 6% of the teachers mentioned that they also teach other subjects despite the fact that they did not train in them. This implies that as a result of shortage of teachers for particular subjects in some schools teachers might be called upon to volunteer to teach other subjects. This might compromise students' performance.

4.7 Influence of head teachers' supervisory roles on students' performance

Teachers have to plan and execute their work on a particular set timeline in order to clear the syllabus at the required time. Teachers have to also attend many classes and without a guiding factor some classes might be overlooked because they might award preference to some while others are neglected. The rate and the efficiency at which teachers allocate their time to the respective activities lies solely on their scheduling. The study therefore sought to

establish whether headteachers ensure that teachers prepare documents that guide them in their teaching activities. The results are as shown in Figure 4.9

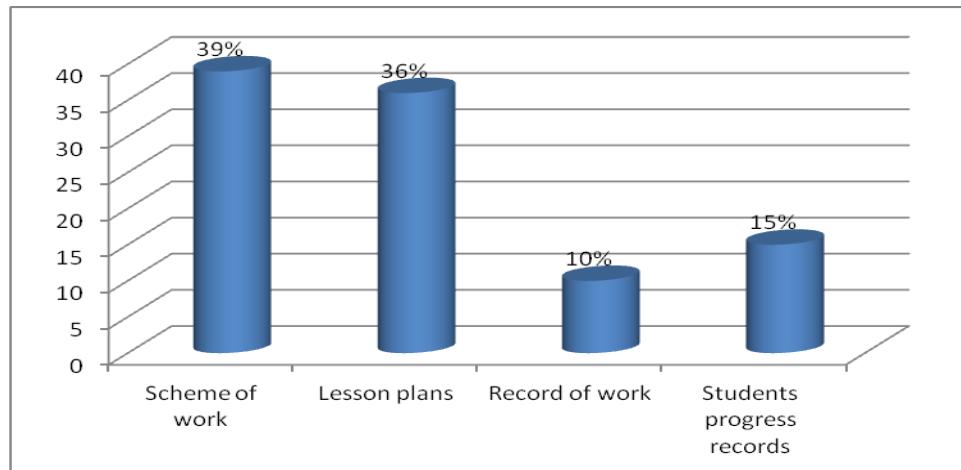


Figure 4.9 Professional documents prepared for teaching activities

The findings in Table 4.9 indicate that most of the teachers 78 (39%) prepares scheme of work, followed closely at 72 (36%) the proportion of teachers who also revealed that they prepare lesson plans. However a small proportion of teachers further indicated that they also do prepare records of work and students progress records as shown by percentages of 10% and 15% respectively

Head teachers, being the managers of the institutions have the responsibility to monitor how teachers conduct themselves as well as how they schedule their teaching activities so as to analyze progress on a regular basis. In order to establish whether Head teachers make follow-ups to ensure that these documents are prepared as required, it was necessary to find out from the

teachers how their documents are inspected by headteachers as shown in Figure 4.10

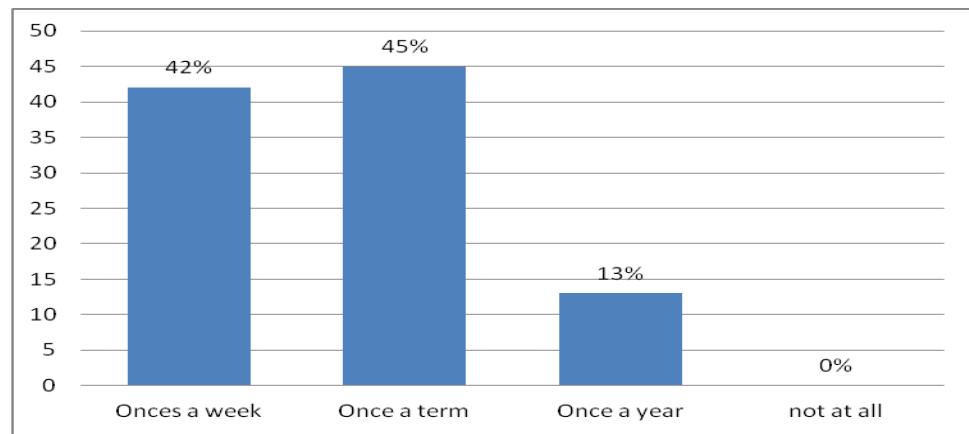


Figure 4.10 Frequency of validating of professional documents by headteachers

The findings in the Figure 4.10 shows that 45% of the teachers indicated that headteachers check their professional documents once a term and 42% indicated that they are checked once a week. This implies that some head teachers constantly follow up teaching activities to ensure that performance is achieved in national exams.

Assignments help the students to do more exercises and understand the subjects taught in class very well. It further instills the culture of hard work and independent problem solving techniques upon students especially when strict timelines for submissions of assignments are set. Teachers were

therefore required to indicate how often they have been issuing assignments to students. Table 4.11 represents the findings.

Table 4.12 Frequency of issuing assignments to students

Frequency of issuing assignments	f	%
Daily	176	88.0
Weekly	23	11.5
Monthly	1	0.5

The findings in Table 4.12 points out that most teachers (86%) issue assignments on a daily basis, implying that after every lesson taught, most teachers issues assignments to the students to be discussed in the next lesson incase students experience difficulty in doing the assignment. Another (11.5%) of the teachers indicated that they issue assignments on a weekly basis. This could be associated with the work load of individual teachers and scheduling of marking the assignments with respect to each class attended. Assignments help teachers to discover the problems encountered by students in tackling particular topics as well as gauge their level of mastery of the subject matter. It was therefore crucial for the study to establish whether students always completed or did not complete their assignments. The findings were as shown in the Figure 4.11.

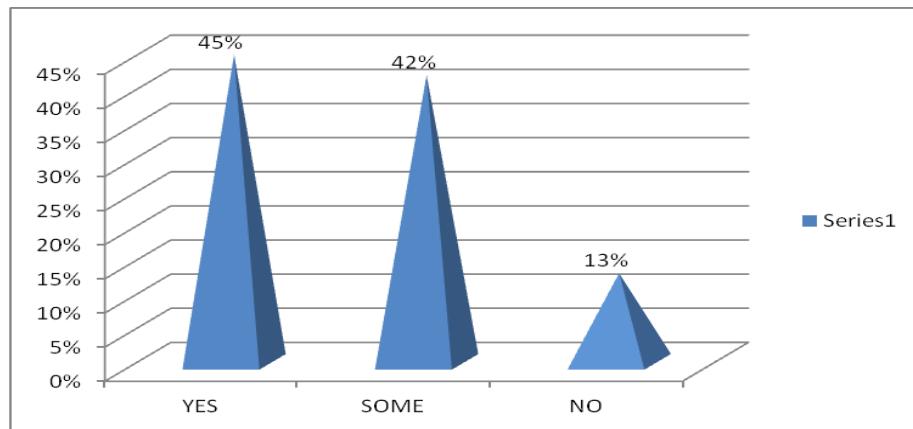


Figure 4.11 Teachers' responses on students' completion of assignments

The results in Figure 4.11 show that 90(45%) of the teachers from the sampled schools indicated that students always cleared their assignments; this could be attributed to the students ability to understand the lessons taught and self-discipline. In addition some the teachers 84 (42%) mentioned that some students always completed their assignments. This implies that students might fail to complete the assignments due to the difficulty to do them or procrastination amongst them. However other teachers 26 (13%) also suggested that some students do no complete their assignment. This implies that some students might be indisciplined and are not giving the required attention to their learning since they could be involved in other activities such as games that distract their attention and leave them too exhausted at the end of the day to comfortably give adequate concentration to their work.

Teachers assess students level of understanding through assignment issued. It also gives students an opportunity to practice and share ideas in class through class discussion especially when they experience a challenge on solving particular problems. It was therefore necessary for the study to conduct further inquiries on whether teachers marked students' assignments. Figure 4.12 represents the teachers' responses.

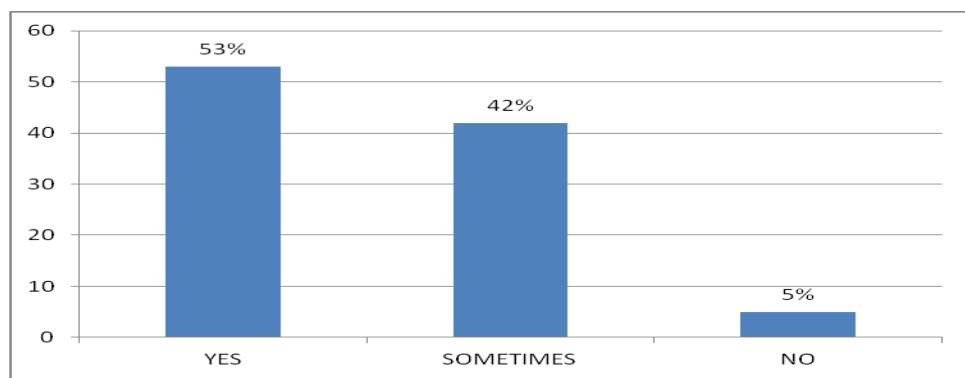


Figure 4.12 Teachers' response regarding marking students' assignments

The findings in Figure 4.12 above show most teachers 53% always marked students assignments. This might be attributed the long duration between lessons that gives teachers ample time to clear marking the assignments it might also depend on whether the assignment given are multiple choice questions or structured question. Another 42% of the teachers indicted that they sometimes mark the assignments. This could be attributed to teachers involving students in self assessment, where the books are collected and distributed randomly in class for marking, especially in a scenario where the class population is huge. This allows the students to interact with mistakes that

their colleagues' might be making and as a result learn from them. Additionally another 10% indicated that they do not mark the assignment. This might also be attributed to the teachers handing over answers for students to discuss and later asks the students if they require further elaboration or more discussion on the topics covered.

Headteachers have the responsibility to ensure that curriculum in their respective schools is implemented and to ensure smooth running of day to day activities in schools. The study therefore undertook an inquiry to establish whether teachers are observed while teaching and the findings were as shown in Figure 4.13.

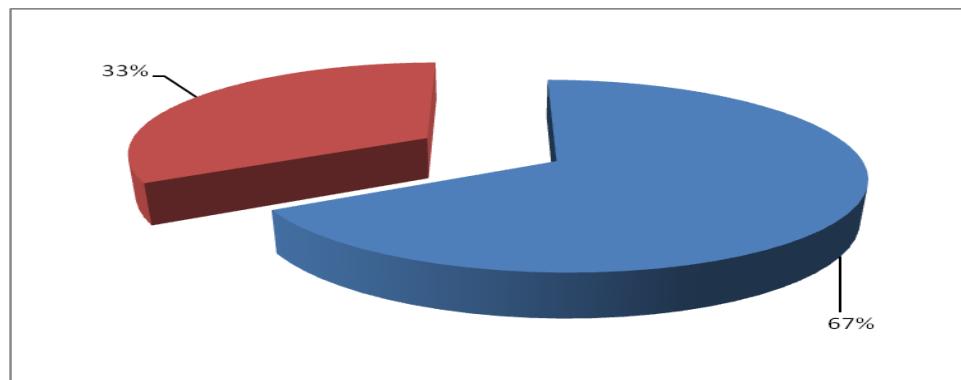


Figure 4.13 Teachers' response on whether headteachers observe them teaching in class

The Figure 4.13 shows that 67% of the teachers mentioned that headteachers observe them while teaching. This implies that most of the headteachers in the

selected schools always make sure that teachers do what they are required to do at all time. However 33% of the teachers indicated that the headteachers do not observe them while teaching in that regard it might be concluded that head teachers are using students' regular performances as measure of the teachers' responsibility on delivery of service.

Lesson plans are very crucial tools that are used by institutions to schedule what is taught in classes and regular lesson planning is paramount to ensure that teachers duly adhere to the plans and deliberate on their responsibilities as required. Headteachers are managers and serve the purpose of ensuring that teachers and students stuck to the timeline for syllabus completion.

Syllabus completion on time allows students and teachers sufficient time to do revisions. It also boosts the students' confidence to handle exams with courage since they have covered all that was required of them. The study undertook to enquire whether teachers complete their syllabus and when this is done. The results are shown in Figure 4.14

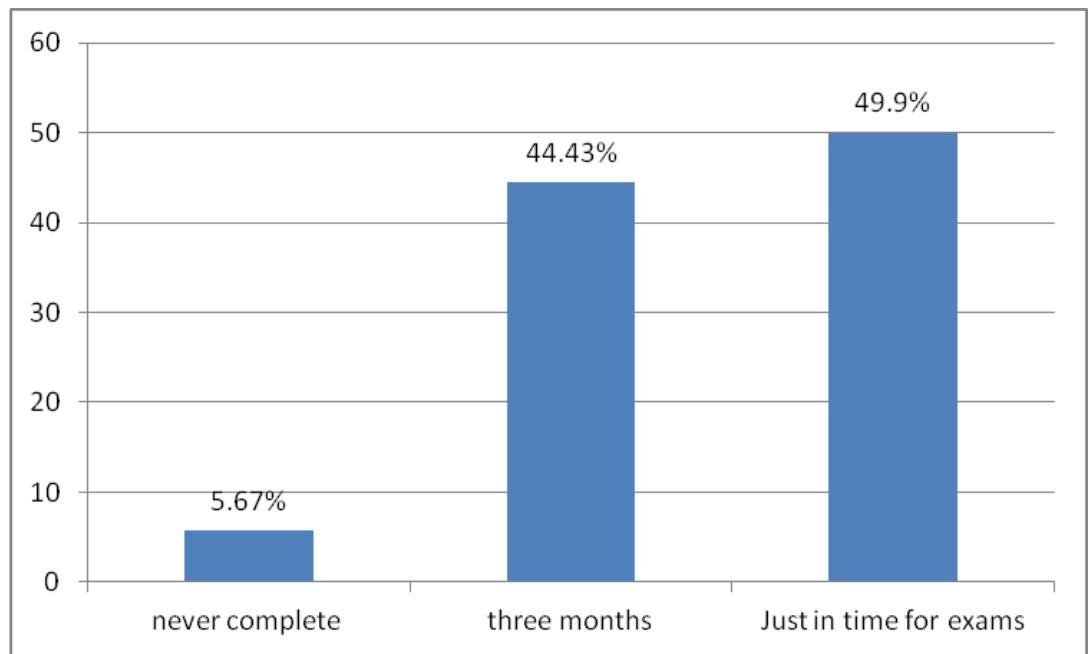


Figure 4.14 Duration taken to complete syllabus

Data from Figure 4.14 indicates that 49.9% percent of the teachers interviewed complete the syllabus just on time for the examinations; this could be attributed to teacher hard work and good lessons attendants. Another 44.43% revealed that they clear examination three months prior to exams. This implies that teachers' might be attending remedial classes so as to increase the areas covered. However 5.67% of the teachers pointed out that they do not clear the syllabus on time. This could be as a result of huge work load amongst the teachers hence some lessons would have been skipped. These findings agrees with Kerlinger (2006) where he argued that Syllabus coverage determines student's performance in examination because students are tested generally

from any topic in the syllabus and if any school doesn't cover all the topics in the syllabus, its students will be disadvantaged.

Table 4.13 Intervals of checking the lesson plans, scheme of work, student register and students progress records

Response	f	%
Once per term	4	23.5
Once per week	8	47.1
Once per month	5	29.4
Once per year	0	0.00

From the findings in Table 4.13 47.1% the head teachers indicated that they check the lesson plans, schemes of work and students' register on a weekly basis this therefore implies that the head teachers ensure that teachers are kept on toes to accomplish their calling. (29.4%) of the headteachers mentioned that they do the checking once a month which could be attributed to their busy schedule or delegation to the deputy head teacher who in turn gives the report to the headteachers on the stipulated time frame as set by school policies. Another (23.5%) of the headteachers indicated that they check professional records once a term which might be attributed their convenience in terms of time.

4.8 Influence of physical facilities on students' performance

Physical facilities consist of all types of buildings that are used for academic and nonacademic purpose, Store room, Electricity, Play ground, Fire extinguisher, classroom facilities, furniture, instructional materials, laboratory materials, Office equipment, library and Teachers' houses. They play a crucial role in the smooth running of teaching and learning process. The study requested headteachers to indicate the adequacy of the materials and the findings were as shown in Table 4.14.

Table 4.14 Availability of physical facilities and equipment in schools

Physical facility/equipment	N	Not available (%)	Adequate (%)	Inadequate (%)	Does adequacy affect students' performance
Headteachers' office	17	0	75.7	24.33	No
Store room	17	28.4	25.7	46.0	No
Classrooms	17	0	34.1	65.9	Yes
Electricity	17	5.0	45.3	49.7	Yes
Dining hall	17	20.1	30.8	49.1	No
Play ground	17	0	41.0	59.0	No
Teachers' houses	17	43.6	23.4	33.0	No
School bus	17	31.5	35.7	32.8	No
Laboratory	17	12.0	34.0	53.9	Yes
Library	17	6.8	15.1	78.2	Yes
Fire extinguisher	17	35.7	16.8	47.6	No
Office equipment	17	10.1	30.5	59.5	No

Table 4.14 shows that most of the headteachers (65.9%) indicated classrooms are inadequate since congestion is witnessed in most of the schools where on average the number of students were above 40 per class. The DQASO also concurred with the same mentioning that most of the schools in the Sub-county had classes that contained over 50 students. 78.2% of the respondents

also pointed out that the libraries are inadequate. Akisanya (2010) argued that educational resources are important because the goal of any school depends on adequate supply and utilization of physical and material resources among other factors as they enhance proper teaching and learning. This explains why this study is important.

Headteachers were asked to state whether adequacy of physical facilities had any effect on students' performance and results are indicated on table 4.15

Table 4.15 Headteachers' response on effect of adequacy of physical facilities on students' performance

Physical facility	F	%
Headteachers office	3	17.6
Store room	0	0
Classrooms	17	100
Electricity	10	58.8
Dinning hall	2	11.7
Playground	4	23.5
Teachers' houses	6	35.2
School bus	5	29.4
Laboratory	16	94.1
library	11	64.7
Fire extinguisher	4	23.5
Office equipment	7	41.1

The findings on Table 4.15 indicate that all headteachers (100%) in the area of study agreed that adequacy of classrooms affects KCSE performance followed by (94.1%) who said that adequacy of laboratories affects students' performance. Another (58.8%) cited that adequacy of electricity affects students' performance. Since table 4.14 indicated inadequacies in these facilities the same could have led to poor performance of students on KCSE.

4.9 Other factors affecting student performance in KCSE examinations

The study sought the views from teachers regarding other factors affecting KCSE performance in schools. Some of the teachers indicated that fee problem has been witnessed to increase absenteeism among students especially from poor backgrounds. This is because they are sent away most of the time to collect money from their parents and they normally took so long to resume classes. Use of drugs and indiscipline cases was also witnessed to affect performance of students in KCSE examination. The findings also indicated that support of the government was needed in terms of teacher employment and provision of educational facilities. The head teachers should also strive to constantly supervise the work of teachers to ensure quality teaching.

Table 4.16 Head teachers' responses on students' performance from the year 2011-2015

GRADES	KCSE	Years and Percentages									
		2011		2012		2013		2014		2015	
		F	%	F	%	F	%	F	%	F	%
C+		3	11.7	2	11.7	3	17.7	4	23.5	3	17.7
C		4	23.5	5	29.4	3	17.7	2	11.7	4	23.5
C-		6	35.3	7	41.2	8	46.9	7	41.2	5	29.4
D+ and below		4	23.5	3	17.7	3	17.7	4	23.5	5	29.4

The finding in Table 4.16 Indicates that most of the schools in Masinga Sub-county have been performing poorly over years with the majority scoring a mean grade C- and below. The findings reveal that in 2011 for example six schools had a mean grade of C- while other four schools had a mean grade of D+ and below. The same level of performances has been replicated in 2012, 2013, 2014 and 2015. On interviewing the DQASO, he concurred that performance in Masinga Sub-county was below a mean grade C over the previous five years in most of the schools in the Sub -county.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This study aimed at investigating institutional factors affecting students' performance on Kenya Certificate of Secondary Examination.

5.2 Summary of the Study

The independent variables in the study are instructional materials, staffing level and students' teacher ratio, headteachers' supervisory roles and physical facilities. The dependent variable in performance. The study was guided by general systems theory propounded by Ludwing Von Bertalanffy in 1966. The study employed descriptive surveying design. The target population of the survey was 38 secondary schools in Masinga Sub-county. The population of the respondents included 20 head teachers 432 teachers and the Sub-county Quality Assurance and Standards Officer. Stratified random sampling and simple random sampling techniques were used to sample teachers respondents while headteachers and schools were samples were sampled using random sampling techniques. The sample of the respondents consistent of 19 headteachers, 216 teachers and the DQASO.

To achieve the purpose of the study a headteachers' and teachers' questionnaires were utilized. An interview guide was employed on the DQASO. The data was analyzed using SPSS in form of percentages which are presented in table, charts and graphs.

5.3 Findings of the study

5.3.1 Provision of instructional materials and students' performance

The study has revealed that most of the headteachers suggested that the schools had inadequate writing materials (95.7%), adequate textbooks(55.6%) adequate lab equipment (53.9 %) though computers were inadequate as confirmed by (65.7%). This could have been attributed to governments' free tuition program supplying teaching and learning materials to all public schools. This study revealed that although most headteachers (55.6%) suggested that their schools had adequate textbooks, table 4.9, on students textbook ratio indicates that only one school has achieved the ratio of 1:1. The study indicated that in most schools students scramble for textbooks and other learning materials hence affecting their performance on KCSE.

5.3.2 Staffing levels and student teacher ratio on students' performance

The study has revealed that staffing in the schools is inadequate as indicated by 89.7% of teachers and confirmed by 96% of headteachers. Large classes are detrimental to the students' performance since students received less individual attention from teachers. Poor performance is hence a result of overenrolled classes. The study has further established that most of the teachers think that they are overloaded with work. Only 35% of schools have teachers teaching between 20-24 lessons in a week the rest (59%) teach between 20-30 lessons a week with 6% teaching more than 30 lessons a week as indicated in Table 4.11. This is confirmed by the head teachers with 83%

indicating that teachers are overloaded with work affecting their efficiency in syllabus completion, testing and providing feedback to students. The study further established that most of the teachers (58%), have never attended any in-service training while in their schools. This might be due to inadequate time to attend the course or lack of funds.

5.3.3 Influence of Headteachers supervisory role on students' performance

The study has revealed that most of headteachers always supervise teachers to make sure they deliver on the curriculum as required of them. This is indicated by 45% of headteachers who said that they certify teachers' professional documents each term. However findings indicated that only 39% of teachers prepare schemes of work, 36% prepare daily lesson plans and only a small proportion prepare their records of work (10%). Those who prepare students progress records are only 15%.

The failure of the teachers to prepare adequately for teaching could be attributed to heavy workload. The study further revealed that most teachers complete their syllabuses just in time for the exams (49.9%) with very little time left for revision. The study has also established that in-spite of the headteachers supervising curriculum delivery, students' grades have not improved proportionately.

5.3.4 Influence of physical facilities on students' performance

The study has established that most schools lack important physical facilities and equipment which have a direct impact on performance on KCSE. The study revealed that 65.9% of schools have inadequate classrooms, 53.9% have inadequate laboratories while 45.9% have inadequate staffrooms. The Quality Assurance and Standards Officers concurred by saying that most schools have classrooms containing over 50 students. With inadequate classrooms, staffrooms laboratories and libraries among others, the study established that this could adversely affect students' performance in KCSE.

5.4 Conclusions

Based on the findings the study concluded that most schools in Masinga Sub-county do not have sufficient instructional materials. Due to this situation the inadequacy of instructional materials adversely affected performance of students in KCSE in the Sub-county.

It was found that most schools in Masinga Sub-county are seriously understaffed. It was concluded that with large classes and overloading of teachers students' attention from teachers is inadequate and this has immensely contributed to low performance of students in KCSE over the last 5 years.

From the findings on the influence of principals' supervisory roles, it was concluded that supervision Perse cannot improve students' performance. More needs to be done in order to ease teachers' workload so as to provide them

with enough time to pay adequate attention to students and also prepare their professional documents adequately.

5.5 Recommendations

Based on the findings and conclusions of the study, the following recommendations were made:

The Ministry of Education should increase funds for free secondary tuition to finance the procurement of more instructional materials.

The Ministry of Education should employ more professional trained teachers to cater for understaffing in secondary schools.

The Board of Managements should facilitate construction of more classrooms staffrooms, libraries and laboratories through donations, Constituency Development Fund (CDF), Local Authority Transfer Fund (LATF) and fund raising.

The headteachers should advise Boards of Managements (BOM) and Parents Teachers Associations (PTA) to employ part time teachers to provide temporary relief to understaffing as they wait more teachers to be recruited by TSC.

5.6 Suggestions for further research

Suggestion for further research are as follows:

Since the study was confined to DQASO, headteachers and teachers as respondents leaving out other stakeholders such as parents, PTA, and BOM

members, a related study should be carried out involving them since they are equally involved in day to day running of public secondary schools.

A study be carried out on other factors influencing students' performance on KCSE other than institutional factors.

A replica of this study be carried out in a large area for example the whole of Machakos county so as to ascertain the actual influence institutional factors on students' performance on KCSE.

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APPENDICES

APPENDIX I

Introduction Letter to the Respondents

University of Nairobi

Department of Administration / Planning

P.O. Box 30197-00100

Nairobi

The principal,

.....Secondary School.

Dear Sir/Madam,

RE: PARTICIPATION IN RESEARCH

I am a post graduate student in the University of Nairobi currently carrying out a research on "**Institutional factors influencing students' performance in KCSE examination in public secondary schools in Masinga Sub-County, Machakos County**". As a stakeholder in education, you have been selected to participate in the study. Identity of the respondents will be treated with utmost confidentiality. The purpose of this letter is to request you to complete the questionnaire. Kindly respond to all items. Your positive response will be highly appreciated.

Yours faithfully,

Daniel N. Kaswili

APPENDIX II

Sub-County Assurance and Standards Officers Interview Guide

This interview guide is designed to gather data about institutional factors influencing students performance in KCSE examination in Masinga Sub-County, Machakos county. You are kindly requested to complete this questionnaire indicating your honest response by placing a tick (✓) against

your opinion and fill in the blanks []. Please do not write your name or the name of your school.

- 1) How old are you?
- 2) For how long have you been an Assurance and Standards Officer in Masinga Sub-county?
- 3) What is your professional qualifications?
- 4) In your opinion do all secondary schools in Masinga sub-county have enough instructional materials?
- 5) Do you think adequacy of instructional materials affects students' performance on KCSE in Masinga sub-county?
- 6) Does Masinga sub-county have adequate teachers?
- 7) In your opinion does staffing level and student teacher ratio influence students' performance in Masinga sub-county?
- 8) From your experience as an Assurance and Standards Officer in Masinga sub-county, do principals effectively perform their supervisory roles on teaching and learning process?
- 9) In your opinion does principals supervisory roles on teaching and learning process influence students performance in KCSE in Masinga sub-county?
- 10) What can you say about availability of physical facilities in the secondary schools in Masinga Sub-county?
- 11) In your opinion does the availability of physical facilities influence students performance on KCSE in Masinga sub-county?

Thank you for your participation

APPENDIX III

Questionnaire for Headteachers

This questionnaire is designed to gather data about institutional factors influencing students performance in KCSE examination in Masinga Sub-County, Machakos county. You are kindly requested to complete this questionnaire indicating your honest response by placing a tick (✓) against

your opinion and fill in the blanks []. Please do not write your name or the name of your school.

SECTION A: Background information

- 1) What is your gender? Male [] Female []
- 2) In which age bracket do you belong in years?
30 and below [] 31 – 39 [] 40 - 48 [] 49 – 60 []
- 3) What is your teaching experience in years?
0 – 5 [] 6 – 10 [] 11 – 15 [] 16 - 20 []
and above []
- 4) How many years have you headed your current institution?
0 – 5 [] 6 – 10 [] 11 – 15 [] 16 - 20[]
21 and above []
- 5) What is your professional qualification?
Masters degree [] B.Ed. degree [] Diploma []
Others []
Specify.....
- 6) Indicate the category of your school in the following tables.

Mixed day	Boys boarding	Girls boarding	Girls day
Girls day and boarding	Boys day and boarding	Mixed day and boarding	Boys day

SECTION B: Provision of instructional materials and students' performance

- 1) Please indicate student textbook ratio in your school
1:1[] 2:1 [] 3:1 [] 4:1 []
- 2) On average, student: text book ratio per class is adequate?

Strongly agree [] Agree [] Neutral [] Strongly disagree []
Disagree []

- 3) The amount of books, Lab equipment, maps, charts and reference materials contribute to the students' performance in KCSE?

Materials	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
Books					
Lab Equipment					
Maps					
Charts					
Reference materials					

Section C: Teaching staff and students' performance

- 1) The number of teachers influence students' performance in KCSE
Strongly agree [] Agree [] Neutral [] Strongly disagree []
Disagree []

- 2) What is the student teacher ratio in your school

Below 20:1 [] Between 21-40:1 [] Between 41-50:1 []
Above 50:1 []

- 3) What effect do you think the teaching load has on students' performance in KCSE?
-
.....

Section D: Head teachers' supervisory roles and students' performance

- 1) How often do you check on teachers' lesson plans, schemes of work, students' registers and students' progress records?

	Weekly	Monthly	Termly	Yearly	Not at all
Schemes of work					
Lesson plans					
Lesson notes					
Teachers record of work					
Students' register					
Students' progress records					
Students notebooks					

- 2) Does headteachers' supervision of teachers' professional documents affect students' performance? Yes [] No []

Section E: Effects of physical facilities on students' performance

- 1) Below is a table of physical facilities and equipments the school may be having. Tick as appropriate.

Physical facility/equipment	Very inadequate	Adequate	Average	Inadequate	Very Inadequate	Does adequacy

						affect students performan ce Yes or No
Headteachers' office						
Store room						
Classrooms						
Electricity						
Dinning hall						
Play ground						
Teachers' houses						
School bus						
Laboratory						
Library						
Fire extinguisher						
Office equipment						

- 2) What other factors in your opinion influence students' performance in your school?.....
- 3) Please indicate the adequacy of the following instructional materials in the school in the table below.

A-Adequate I-Inadequate NA-Not Available

Instructional	A	I	NA
---------------	---	---	----

materials			
Textbooks			
Writing materials			
Laboratory equipments			
Computers			

- 4) Does adequacy of instructional materials affect students' performance in KCSE?

Yes [] No []

Section F: Students' performance

- 1) How do you rate the performance of students in your school in the KCSE Examination for the last five years.

Grade	2011	2012	2013	2014	2015
C+					
C					
C-					
D+ and below					

Thank you for your participation

APPENDIX IV

Questionnaire for Teachers

This questionnaire is designed to gather data about institutional factors influencing students performance in KCSE examination in Masinga Sub-County, Machakos county. You are kindly requested to complete this questionnaire indicating your honest response by placing a tick (✓) against your opinion and fill in the blanks []. Please do not write your name or the name of your school.

Section A: Background Information

- 1) What is your gender? Male [] Female []
- 2) In which age bracket do you belong in years?
30 and below [] 31 - 39 [] 40 - 48 []
49 – 60 []
- 3) What is your teaching experience in years
0 – 5 [] 6 – 10 [] 11 – 15 [] 16 - 20 []
21 and above []
- 4) What is your professional qualification?
Masters degree [] B.Ed. degree [] Diploma []
Others []
Specify.....

Section B: Instructional materials and effect on students' performance

- 1) Kindly indicate your agreement or disagreement with the following statements concerning instructional materials in your school where
1=strongly disagree 2= disagree 3=neither disagree nor agree 4=agree
5=strongly agree

Instruction materials	SA 5	A 4	N 3	D 2	SD 1
The school has enough text books					
Wall maps are well displayed					
Charts are used during lessons					
The school provides exercise books to teachers and students					
Extra revision books are acquired by the school regularly					

- 2) Overall adequacy of teaching/learning materials contribute to students' performance in KCSE

Strongly agree [] Agree [] Neutral [] Strongly disagree []
 Disagree []

Section C: Teaching staff and effect on Students' performance

- 1) The school has adequate teaching staff

Strongly agree [] Agree [] Neutral [] Strongly disagree []
 Disagree []

- 2) What is the student teacher ratio in your school

Below 20:1 [] Between 21-40:1 [] Between 41-50:1 []
 Above 50:1 []

3) How do you rate this student teacher ratio?

Low [] Moderate [] High []

4) Have you ever attended any in-service course while in your current station?

Yes [] No []

If yes, specify.....

5) What effect do you think teaching load has on the students' performance?

6) How many years have you taught in your current school?

0 – 5 [] 6 – 10 [] 11 – 15 [] 16 – 20 []

21 and above []

7) I am assigned to teach subjects that you were not trained for

Strongly agree [] Agree [] Neutral [] Strongly disagree []
Disagree []

Section D: Head teachers supervisory roles and effect on students' performance

1) Please indicate which professional document you prepare in your teaching activities?

Scheme of work [] Lesson plans [] Record of work []

Students progress records []

2) Headteacher often make follow-up to ensure that these documents are prepared as required

Strongly agree [] Agree [] Neutral [] Strongly disagree []
Disagree []

3) I have been observed in class while teaching by headteacher

Strongly agree [] Agree [] Neutral [] Strongly disagree []
Disagree []

4) When do you normally complete the syllabus for your subjects?

Never complete [] Three months before exams []

Just in time for exams [] iv) Any other
(specify).....
.....

- 5) In your opinion, what are the other factors that affect the academic performance in KCSE in your school?
-
.....

Thank you for your participation

APPENDIX V

Research Permit

National Commission for Science, Technology and Innovation National Commission for Science, Technology and Innovation National Commission for Science, Technology and Innovation National Commission for Science, Technology and Innovative
National Commission for Science, Technology and Innovation National Commission for Science, Technology and Innovative
National Commission for Science, Technology and Innovation National Commission for Science, Technology and Innovative
National Commission for Science, Technology and Innovation National Commission for Science, Technology and Innovative
National Commission for Science, Technology and Innovation National Commission for Science, Technology and Innovative
National Commission for Science, Technology and Innovation National Commission for Science, Technology and Innovative
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.

NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

NATIONAL RESEARCH CLEARANCE PERMIT

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REPUBLIC OF KENYA

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APPENDIX VI

Letter of Authorization

