FACTORS INFLUENCING STUDENTS' PERFORMANCE IN THE KENYA CERTIFICATE OF SECONDARY EDUCATION (KCSE) EXAMINATION IN MERU SOUTH DISTRICT, KENYA

BY
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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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This research project has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

This work is dedicated
to my Loving husband
Mr. G. Mugambi and
My lovely children,
M. Mawira, C. Makena
and M. Mwende.

ABSTRACT

This study investigated factors that influenced students' performance in KCSE examination in Meru South District. The study sought to achieve five objectives:- to examine whether there was any relationship between class size and students performance in KCSE examination: to assess the extent to which learner characteristics influenced performance in KCSE examination: to determine in KCSE examination: to establish whether the availability of resources in schools was related to students' performance in KCSE examination and finally, to establish whether there was any relationship between class size and students performance in KCSE examination.

A review of related literature was carried out under the following sub-titles: School related factors. learner related factors and non schools related factors in relation to academic performance.

The study used Ex-post study design. The instruments were piloted and tested for validity and reliability. The reliability index for teachers' questionnaire was 0.9085 and that of the teachers was 0.9482. The questionnaires were therefore used for the study. The research instruments were questionnaires. Three sets of questionnaires for head teachers, teachers and students were used. Descriptive and inferential statistics were used in the data analysis. The Chi-square test was used to test various research questions.

The findings were as follows:

1. In most schools, KCSE performance was found to be average.
2. There was a significant relationship between students' performance and teachers' age, teaching experience, academic qualifications and teacher commitment to school work.
3. Gender of students was not significant in KCSE performance. Additionally entry mark was significant in determining performance.
4. There was a relationship between category of school and performance. Boarding schools and single sex schools were found to be performing better than day schools and mixed schools.
5. There was a significant relationship between availability of textbooks, school laboratory, library and desks and KCSE performance.
6. Class size did not influence performance in KCSE.

Based on the above enumerated findings, the following recommendations were made:

1) In-service programmes be organized for teachers to give them further experience since experience was significant in influencing performance.
2) Higher entry mark to schools be considered for students joining secondary schools.

3) Single sex schools be encouraged since their performance was better.

4) Parents of children in day schools be sensitized for example during parents days to provide more study time to their children at home to improve on the performance.

5) Schools should provide adequate resources in their schools which could also be enhanced through improvisation.

6) The need to improve on students discipline since it was cited as a factor influencing performance. This could be done by strengthening the guidance and counseling programmes in schools.

Suggestions for further research were also made:

1. Similar studies to be undertaken in other districts in the country for comparison purposes.
2. Researchers to investigate on other variables that were not covered in the study.
3. A similar study to be carried out in private schools in the district for comparison.
4. A similar study to be carried out in an urban setting to give a balanced view on the factors which influence students' performance in public secondary schools.

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ABBREVIATIONS

ASESP	-	African Social Studies Programme.
D.E.O.	-	District Education Officer
EFA	-	Education for all.
IIEP	-	International Institute of Educational Planning.
IQ	-	Intelligence quotient.
KCSE	-	Kenya Certificate of Secondary Education
MOE	-	Ministry of Education.
MOEST	-	Ministry of Education, Science and Technology.
SACMEQ	-	South African Consortium for Monitoring Education quality.
SPSS	-	Statistical Package for Social Science.
UNESCO	-	United Nations Educational, Scientific and Cultural Organisation
UNICEF	-	United Nations Children's Fund
USAID	-	United States Agency for International Development

CHAPTER ONE

INTRODUCTION

1.0 Background

Education is an investment whose returns are highly valued throughout the world. Worthen and Sanders (1987) observed that in most advanced nations, education is increasingly viewed as a primary means of solving social problems. Pratt (1994) notes that a school shapes the social life, self-concept and the occupational future of the youth. This explains why nations invest large sums of money in education. Developed nations such as United Kingdom, United States and Australia provide free elementary and secondary education and highly subsidized tertiary education. In 1984, for instance the United States government spends three million on formal education (Pratt 1994:3).

Lockheed and verspoor (1991), while supporting the value of education, state that in the developing nations, adults who have higher levels of education have better paying employment, higher individual earnings and greater agricultural productivity.Scholars such as Shultz (1961) and Psacharapolous (1985) have identified and documented the benefits of education as: improving the productive capacity of society, reducing poverty by mitigating its effects on population, health and nutrition, increasing the value and efficiency of labour offered by the poor, enhancing democracy and good governance among others.

Since independence in 1963, Kenya has endeavored to provide quality education to help her people. The Report of Kenya Education Commission (Ominde 1964) and the report of the National Committee on Educational Objectives and Policies

(Gachathi Report, 1976) recommended free education for social and economic growth of the country. Education is viewed as an important tool for self-enhancement. It is commonly believed that educated people are better of socially and economically in terms of productivity (Meir, 1965 in Asuga, 2002).

George Saitoti, Kenya's former Minister of Education, in his speech during the national conference on Education held in Nairobi in November 2003, stated that education is an important catalyst for national development because it enhances the development of appropriate knowledge, skills and attitudes and imparts values all of which enhance integrity and expertise for production. It prepares the youth to play an active role in the life of the nation. It is for these reasons that education in Kenya is allocated over thirty percent (30%) of Government recurrent voted expenditure, (MOEST, 2003).

A regional study of Africa by the World Bank (2001) states that secondary education is crucial for economic growth. Globalization, the increasing importance of information, communication and technology in the 21st century and the rapid technological change have made knowledge essential for competing in the world economy. According to this study, secondary education can provide countries with the skills and knowledge needed for economic growth, increasing further learning and training of professionals such as technicians, scientists and entrepreneurs. Secondly, secondary education helps to socialize young people targeting the youth. Because this age group has the greatest potential for changing its behavior, secondary education can be decisive in fostering positive social and civic values. Finally, secondary education yields considerable private returns,

offering young people the chance to acquire attitudes and skills that are unlikely to be developed in the primary grades. This in turn enables the youth to develop job-oriented skills, participate fully in society, take control of their own lives, and continue learning.

According to MOEST/KIE (2003) some of the objectives of secondary education in Kenya are: to provide the learner with the opportunity to:

- Develop the ability to inquire, develop critical thinking and ability to make rational judgement.
- Acquire knowledge, skills and attitudes for the development of the self and the nation.
- Build a firm foundation for further education and training.
- Identify individual talents and develop them.
- Enable the learner to choose with confidence and cope with vocational education after school.

In an effort to achieve these objectives, the Ministry of Education provides maximum support to education by providing financial and material resources for teacher training programmes, teachers' salaries, supervision and inspection of schools among other activities to ensure that the school environment is appropriate for teaching and learning. The Ministry also organises for curriculum review to ensure that education is focused towards the dynamic social and economic needs of the country. Abagi and Odipo (1997) observed that curriculum reforms undertaken in developing countries are aimed at making education a vehicle for national development.

One of the means of judging academic achievement is through examination results. Good performance in the Kenya Certificate of Secondary Education (KCSE) determines the whole destiny of the high school student. Failure in KCSE would mean that future opportunities for proceeding with education and finally landing in good jobs are shattered, while passing could open many avenues for future advancement in education, careers and job opportunities. MOEST(1996) observes that internationally, pupils' scores in examinations are accepted as a proxy of achievement in education. Kyalo (1992) states that the certificate awarded to successful candidates must not only certify that such a candidate has fulfilled the requirements of the examining board but also that their attainment compares favourably with that of a similar cohort elsewhere.

In Kenya, public examinations are regarded with a lot of reverence, (Wamai, 1991). Wamai states that examination results are taken as a valid measure of a pupil's educational achievement and that Kenya regards examinations as a trustworthy instrument for categorizing students into groups of achievers and non achievers. Usually, examinations results are waited for with a lot of anxiety because of the meaning they carry for future of the student. The East African Standard 26th February 2000:13), while reporting on the release of KCSE examination results described the ex-candidates and the teachers as being very anxious because of the judgment they were awaiting in regard to performance.

The secondary cycle is an important level as it is the transitional stage, during which the youth of ages 14 to 18 years are prepared to join high education and training and thereafter, the world of work. The value attached to this level of education is reflected in the attention it receives from the government, parents and the public in general. For instance, according to MOEST (2003) the government expenditure in secondary education in 2002 was Ksh. 12.6 billion. With the heavy investment at the secondary level of education by the government, parents and the community, good results are expected from students as individuals and schools in general. Student achievement at this level is measured using the KCSE examination. Candidates' results are graded from the highest grade (A) to the lowest grade (E) on a twelve (12) point scale. Most courses offered at the tertiary institutions of learning require at least that the candidate score a mean grade of C+, which is an equivalent of seven (7) points on the twelve (12) point scale. A C+ grade is considered an indicator that a student has the capacity to advance to the next level in the education ladder. The main worry however is that many students attain grades lower than C+. This is especially so among schools in Meru South District.

1.1. **Statement of the problem**

The Kenya Certificate of Secondary Education results in Meru South District have generally been poor over the years. This can be observed in Appendix V,

which shows the mean scores for secondary schools in Meru South District in Kenya Certificate of Secondary Education (K.C.S.E) from 2000 to 2004.

Table 1 Mean Scores in KCSE examination for Meru South District 2000 - 2004.

Year	2000	2001	2002	2003	2004
Mean score	4.194	5.026	4.789	5.167	5.146

Source: DEO's office, Meru South District.

On the average, the district's performance is far below the required mean grade of C+ (mean score of 7 points), which is necessary for students to be admitted in institutions of higher learning. What this means is that those who attained the C+ grade and above were so few that they could not influence the district's mean score positively. In the year 2004 for example, only 365 students out of 3029 attained at least the grade of C+ to qualify for higher education (see appendix VI).

This situation is very worrying considering the financial and material investment made by the government, parents and other stakeholders to provide education to the learners in the District. According to Eshiwani (1983), poor performance leads to undesirable wastage through dropouts and repeaters. It also denies pupils the continuation of schooling through formal system of education. He goes further to point out that if any region of the country lags behind either in number of pupils who attend school or in number of pupils who pass National examinations, then,

that region cannot efficiently participate in the democratization of education. Poor results jeopardize student's opportunities for future job placement and reduce his/her chances of meaningfully participating in National development. The performance in KCSE in Meru District is an issue that requires urgent attention from educators and researchers. This study therefore aims to investigate factors influencing performance in KCSE in Meru South District. The factors could be teacher, learner or school based in nature.

1.2 **Purpose of the study**

The purpose of the study was to investigate on factors that influence students' performance in the KCSE Examination in Meru South District.

1.3 **Objectives of the study**

The objectives of the study were:

1. To establish if teacher characteristics had any influence on students performance in KCSE examination.
2. To assess the extent to which learner characteristics influenced performance in KCSE examination.
3. To determine the relationship between the category of school and students' performance in KCSE examination.
4. To establish whether the availability of resources in schools was related to students' performance in KCSE examination.
5. To establish whether there was any relationship between class size and students performance in KCSE examination.

1.4 Research Questions

The following research questions were developed to facilitate the achievement of the purpose of the study.

1. Is there any relationship between category of school and students' performance in KCSE examination?
2. What is the relationship between the availability of resources in schools and students' performance in KCSE examination?
3. Is there any relationship between learner characteristics and students' performance in KCSE examination?
4. Is there any relationship between teacher characteristics and students performance in KCSE examination?
5. Is there any relationship between class size and students' performance in KCSE examination?

1.5 Significance of the study

The findings of this study may be significant in a number of ways. First, the findings may provide leads to facilitate interventions towards improving performance in KCSE examination. For example, the Ministry of Education may utilize the findings to eliminate those factors identified as contributing to low academic performance. Secondly, the research will contribute to the existing knowledge on factors that influence performance in KCSE examination. The study may help future researchers in identifying priority areas in which to carry

our more research in secondary schools specifically in Meru South District and in other parts of the country. Thirdly, it will lead to the growth of knowledge on factors affecting students' academic performance. Finally, the findings may serve as useful feedback to the educational policy makers, curriculum developers and implementors.

1.6 **Delimitations**

The study was conducted in Meru South District. This is a predominantly rural district; hence, findings should be generalized to urban areas with caution. The study was conducted only in public secondary schools that had presented candidates for KCSE examinations for the last five years. This left out private schools and other recently established schools in the area. Respondents of the study included head teachers, form four class teachers and form four students. There are varied factors that influence the performance of students in examinations, the study sought to establish the effect of factors related to school, teachers and learners.

1.7 **Limitations of the study**

The study adopted an ex-post facto design. According to Kerlinger (1993), Ex post facto research is a systematic empirical inquiry in which the scientist does not have direct control of independent variables because their manifestation has already occurred or because they are inherently not, manipulable. The performance being considered was for students that had already left schools

where the study was carried out. The data therefore was from a secondary source. The study was also limited to a few selected schools and respondents considering available funds and the study period. The findings of the study may not apply to other geographical regions outside Meru South District unless prevalent circumstances do exist. Accessibility problem to some schools was experienced considering that the larger part of Meru South District is hilly with poor infrastructure.

1.8 **Basic Assumptions**

In conducting this research, it was assumed that:

- Respondents would cooperate and give honest and reliable information when responding to the items in the questionnaire.
- Examinations were acceptable measure of candidates' performance and were appropriate for differentiating between good, average and less able students.
- The examination data obtained from KNEC and District education office was reliable.

1.9 **Definition of significant terms**

Achievement

The successful completion of a job, solutions to problems and the seeing of good results.

Attitude

An attitude is an organization of concepts. beliefs. habits and motives associated with a particular object.

Drop out

Any student who leaves secondary school without completing the designated cycle.

KCSE

Examination given to students at the end of secondary cycle of education.

Knowledge

The information. understanding and skills that a person gains through education or experience.

Learning

Change of behaviour in the desired direction.

Learning/teaching resources

These refer to materials and equipment that facilitate teaching & learning.

Mean score

Refers to average point showing individual or group achievements in examination performance.

School administration

It is the total process through which appropriate human and materials resource are made available and effectively used for accomplishing the purpose of a school.

Teaching

Teaching is an activity of changing learner's behaviour or character in accordance with age, ability of pupils and in the desired direction.

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System of education in Kenya introduced in 1985 following recommendations by the presidential working party on the second university (Mackay Report) where primary education takes 8 years, 4 years for secondary education and a minimum of 4 years university education.

1.10 Organization of the study

The study was organized in five chapters. Chapter One contains the background to the study, the problem statement, the purpose of the study, the objectives, research questions, significance of the study, delimitations and limitations and the basic assumptions of the study. Terms used in the study were defined at the end of chapter one. Chapter Two presents literature review derived from relevant studies carried out on factors that influence students' academic performance. At the end of the chapter a conceptual framework depicting the relationships among factors that influence students' performance in KCSE examination is provided. Chapter Three presents the research methodology that was applied in the study. It covers the research design, target population, sample and the sampling procedure, research instruments and data collection and analysis procedures employed in the study. Chapter Four covers data analysis and discusses the results of the analysis of data. Chapter Five presents summary of the findings, conclusions and recommendations and suggestions for further research.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This section reviews related literature on factors that impact on educational achievement of a learner as gauged through public examination results. These factors are divided into three broad categories; Factors that relate to the school environment, the learner and to the students home background. The school based factors include the type of the school, availability and quality of teachers and the availability of the teaching and learning resources. Factors that relate to the learner include learners self concepts, inherited personal characteristics, set and intention. Factors related to the student's home background include parental/guardian involvement in affairs related to the students education.

A general review of factors that influence achievement in examination

KCSE examination is a form of summative evaluation, which measures the outcomes of the teaching/learning process. Achievement that falls below a set standard is a reflection of a disadvantaged educational process (Indongole 1987).

Learning environment for students vary widely and depending on their quality will reflect negatively or positively on final examination performance. Indongole further observes that factors that affect candidates performance in examination can be socio-psychological, cognitive or environment in origin.

Carron and Chau (1996) argue that it is difficult to generalize the factors and there is certainly no one single factor or few factors in isolation which can explain the differences in performance between one learner and another.

In their review of research on achievement, Schiefelbein and Simmons (1981), quoted in Eshiwani (1993) identified three determinants of achievement in the third world countries:

- School resources and processes, including class size, text books, school administration and management, library and laboratory services.
- Teacher characteristics such as teacher qualifications, teacher-pupil ratio, professional commitment and transfer index and
- Student traits which include previous school experience and social characteristics.

Eshiwani (1983) grouped these factors into two categories, that is social factors and environmental and school factors.

The sixth forum on education in Africa (2003) identified barriers to learning as multifunctional; prenatal conditions, social economic factors, poverty, hunger, and the genetic make up of the child and the inability of the education system to

meet the needs of the learners among others. Many learners experience barriers to learning or drop out primarily because of the inability of the system to recognize and accommodate the diverse range of learning needs. Children with special needs end up moving through inclusion schools and classes with very little educational attainment and marked emotional problems. Many children in addition to the barriers in learning have other co-existing conditions such as behavioral problems, attention deficit disorder, anxiety and depression. Duignan (1986), identified the following factors as influencing the performance of learners in examinations; leadership and decision making, school culture and social climate, teacher behaviour, student behaviour, parental support and involvement and social economic background of students.

The literature review for this study will focus on

- school related factors.
- learner related factors.
- non-school related factors.

2.1 **School related factors**

The school related factors deal with teacher qualities, instructional approaches, teaching and learning resources, physical facilities, class size, school administration.

2.1.1 Teacher Qualities and activities

Motivational level

Ochieng (2001) in a study on motivation factors influencing the science teachers in public secondary schools in Migori district established that motivation is fundamental to the successful operation of any institution. For the school to realize maximum out put in its concerns, the pupils and the professional staff must be appropriately motivated. Despite frequent attempts to motivate teachers in general by the Kenya government, persistent lack of motivation among teachers has been prominent. This has harmfully affected both the teaching and learning.

Gatheru (1987) in a study on factors that contribute to job satisfaction and dissatisfaction among primary school teachers in Nyeri municipality indicates that in 1964 there was a high staff turnover in the teaching profession. People moved from teaching to other professions which offered better terms of services including salaries. This led to decline of educational standards. This happened in a time when the government required qualified teachers in the formerly European managed schools.

Other occurrences that show the teacher dissatisfaction in their jobs can be cited from the following news headlines: The East African Standard (23/09/90); "Teachers totally frustrated", the teachers wanted to go on strike so as to force the Ministry of Education and Teachers Service Commission(TSC) to implement a scheme of service for non-graduate teachers and technical lecturers. On October 1st 1997 teachers went on strike demanding for better pay; the daily nation

16/10/98. On 1st October 1998 teacher went on strike again. Other citations include: The East African Standard 01/12/2000, an article by Nyakundi Nyambuga: "Teachers salary dispute put off indefinitely, 02/12/2000 an article by a nation correspondent; 'teachers form union". This union was by post primary teachers and was registered on 26/11/2000 because they felt that Kenya National Union of Teachers (KNUT) failed to address their rights especially during the abortive October 5th 2000 strike. The daily nation articles by nation correspondents; 12/12/2000, 'teachers demand November salaries", 16/12/2000, "delay in salaries angers teachers", 19/12/2000 "interdicted teachers still out", 30/12/2000, "KNUT warns over December pay". In an article "low self-esteem affects teachers too" by Hezron Mugamba in Daily Nation dated 13/05/2002,the writer suggests that it is critical for heads and senior teachers to understand teachers and help them out if they have psychological problems. The daily nation; 04/09/2002, "police beat teachers in Nakuru", "strikers defy sacking threat", 16/09/2002; "Teachers support strike call". The People Daily, 19/09/2002, "No cash, Permanent Secretary tells teachers". The East African Standard, 12/09/2002, "Government to evict striking teachers from houses". Kenya Times 24/09/2002, "Teachers strike cripples school" The People Daily, 25/09/2002, "Government adamant on day two of teachers strike". The East African Standard, 25/09/2002, "Government revokes 1997 teachers pay deal", Kenya Times 26/09/02, "Striking teachers salaries stopped". Sunday Nation, 20/10/2002, "teachers up in arms over new pay plan", Teachers angry with pay terms between September and October 2002 – teachers went on a twenty-five

days strike. These are powerful indications of lack of motivation and teachers who are frustrated cannot effectively implement any curriculum.

During a workshop held in Accra (1995) Accra review (1995), it was stressed that there was need to:

- Improve teaching conditions. salaries and working conditions.
- Develop more efficient information systems.
- Create an enabling environment by improving professional development and support for teachers in both pres-service and in-service programs.

The workshop, which was in response to a need arising from studies in various Eastern Africa countries revealed:

- ❖ An inadequate managerial capacity among principals and other school teachers to cope with the ever changing demand for their jobs.
- ❖ Inadequate training and support opportunities for principals and other school leaders, to reinforce existing managerial skills and acquire new ones.
- ❖ An inadequate supply of training materials and resources in educational institutions that has reduced the impact of programs directed towards enhancing school management effectiveness.

Karagu (1980) in an investigation on job satisfaction among elementary school teachers and head teachers in Nairobi Kenya and a comparison of their perception

of fourteen selected job factors from Hertzberg two factor theory notes that people seen as the best teachers and head teachers have resigned from their jobs and moved out in search of what they regard as better employment in the private sector. Dissatisfaction among secondary school teachers has been manifested in acts like apathy, high staff turnover, lateness, low job morale, poor performance of students in national examinations and absenteeism among teachers. Mutie (1993) used facet/overall satisfaction model to study secondary school teachers and administrators in Kitui District, Kenya. He found out that teachers were only marginally satisfied with their job. Blair (1975) says that motivational conditions at the time of learning can either facilitate or interfere with learning and overall achievement. Many ideas about the role and importance of motivation in education tend to portray it as a form of personal quality, which can directly affect teaching and learning.

This can be confirmed by investigations such as that by Cattell and child (1972), who found that in addition to the effects of ability and personality, teachers level of motivation independently accounted for about twenty percent(20%) of variance in performance.

Teachers experience and commitment

Waweru (1982) established that teacher's experience and commitment to student learning emerge as key characteristics to successful learning and achievement. Teacher's attitudes, self-concept, behaviour and teaching practices are the most significant implications for schools and learners level of achievement. Students

learn better. learn more and remember more if they find pleasure in the learning experience. It is therefore important to bring about desirable change in students attitudes for when learning is associated with a pleasurable experience, it becomes a life-long endeavor. A World Bank report (1987) noted that the number of years of experience of a teacher was the most consistently positive and significant contributor to pupils academic achievement. Ngaru (1987) concurred with these findings for his study found out that not only did the teacher professional qualification matter but also their academic qualifications.

Studies on teacher experience and effectiveness in teaching consistently show that new teachers, those with fewer than three years of experience tend to be less effective than more experienced teachers (Murnane and Phillips, 1981; Moskowitz and Hayman, 1974; Rottenberg and Berliner, 1990). In unsupported environment most beginning teachers, experience a wide range of problems in learning to teach; problems with classroom management, motivating students, being aware of and dealing appropriately with individual learning needs and differences, and developing diverse repertoire of instructional strategies among others (Veenman, 1984; Johnston and Ryan, 1983; Rottenberg and Berliver 1990). Researchers have also identified what expert veterans do in the classroom that distinguishes their teaching from that of novices. Among other things, expert teachers are much more sensitive to student needs and individual differences; they are more skilled at engaging and motivating students, and they can call upon a wider repertoire of instructional strategies for addressing students needs (Berliner, 1986; Schulman, 1987; Gross man, 1990).

The extent and kind of teacher preparation are especially important in determining the effectiveness of teachers in "school-based" subjects (those subjects that students tend to learn primarily in school rather than through informal learning outside the school), (Bents and Bents 1990; Grossman, 1989, 1990) A number of studies have found out that teachers who enter classrooms without full preparation are less able to plan and redirect instruction to meet students' needs (and are less aware of the necessity to do so), less skilled in implementing instruction, less able to anticipate students knowledge and potential difficulties and less likely to see it as their job to do so, often blaming students if their teaching is not successful (Bents and Bents, 1990).

According to Wilson, (1988), "great teachers are reputed to poses certain basic kinds of skills". These are listed as follows:

- Charisma: innate/personal charisma or what he called power of magnetic personality enhanced by a strong moral character that enables the teacher to engage in mutual instructional interactions, with members of the learning group with necessary understanding, rapport and support.
- Knowledge of subject matters; this is one of the teachers major assets during their instructions act; the teacher must possess thorough knowledge of the subject matter to be taught.
- Language skills; teaching is a "linguistic craft". One of the most useful tools during the instructional act is excellent use of language (verbal and

body communication), it is necessary that it constitutes one of the major assets of the teacher.

- Pedagogical/craft skills

  These are the skills for structuring knowledge for learning, questioning, developing and exploiting the potential resources, as well as managing groups and individual teaching. The teacher must be a person of wide intellectual interests and capabilities than the average person, and be able to make the subject relevant to learners' lives, interesting and worthwhile to learn.

Teacher labelling of students

Kagan (1990) outlines a comprehensive model on how teachers alienate low achievers by making assumptions about their behaviour and achievement, thus labeling and tracking them into a second class status in classrooms and schools. Once a label is attached to a student, according to Kagan, the teacher tends to adjust his or her teaching methods so that they are consistent with the label ("underachiever", "slow learner", "disabled learner", and so on). This has overwhelming effects upon the student. Little wonder, then, that some theorists such as Ogbu (1987) attribute academic failure of some black students to an oppositional culture frame of reference, an oppositional identity and a continuous distrust of white education. Dropping out of school for some low achievers and minority students might be regarded as a process of disengagement from a school, away of alleviating the negative effects associated with low self-concept, low

motivation and low achievement. Ornstein (1995) notes that teachers who develop rigid or stereotyped perceptions of students are likely to have harmful effect on them. The teacher who understands that differences exist and adopts realistic methods and content accordingly will have the most positive effect on students. According to supporters of stimulus – response techniques in learning (S-R), teachers need to offer appropriate incentives and rewards in order to motivate children to perform certain tasks and to behave in a socially acceptable manner. Prizes, good reports, examination success and teacher approval are all examples of extrinsic motivation to learners (Downey, 1985).

Use of groups and groupings

According to Orstein, (1995), many educators and psychologists have urged teachers to use small sub-groups within a class, not only to provide for individual differences but also to allow all pupils an opportunity for maximum participation in learning. However, the most common form of class organization is whole group instructions. Teachers generally gear their teaching on the "mythical" average student on the assumption that this level of presentation will meet the needs of the greater number of students. Here Orstein says, the teacher lecturers, explains and demonstrates on a topic, asks and answers questions in front of the entire class. The critics of this whole group instructions content that it fails to meet the needs and interests of individual students. Teachers who use this method tend to look at students as a homogeneous group with common abilities, interests, styles of learning and motivation.

Instructional Approaches

One of the most common criticism that general public tends to make of educational practice is that it is very liable to sudden swings and changes. Principles of effective teaching rest on a few fundamental assumptions about optimizing curriculum and instruction. The assumptions are that:

- School curriculum subsume different types of learning that call for different types of teaching and so no single teaching method such as direct instruction, social construction of meaning can be the method of choice for all occasions.
- Within any school subject or any learning domain, students instructional needs change as their expertise develops, consequently, what constitutes an optimal mixture of instructional methods and learning activities will evolve as student: school years, instructional units and even individual lessons progress.
- Students need to learn at high levels of mastery yet progress through the curriculum steadily. This implies that at any given time, curriculum content and learning activities need to be difficult enough to challenge students and extend their learning but not difficult so as to leave many students confused and frustrated. Effective instruction need to focus on the zone of proximal development which is the range of knowledge and skills that students are not yet ready to acquire on their own but can acquire

with the help of their teachers. One of the most interesting research on teaching is that of relationship between indirectness and pupil achievement by Dunkin and Biddle (1974) and cognitive levels of teachers. questions and narrative and pupils' achievement by Winnie (1979). From these studies. strong linear relationship was found.

Research on teaching has identified a set of variables that are quite beneficial for virtually all students. All students benefit from structure in their learning environment although highly anxious students tend to benefit more. Interactive teaching (that is teachers working directly with groups of students or individual students) has consistently been found to be associated with higher levels of students' achievement for all types and all levels of students. Classrooms that are work centered and purposeful result in positive student achievement as well as change of attitude.

There is a big gap between research on 'what to teach' and research on 'how teach'. Perhaps educators are not aware of the scope and importance of these distinctive aspects of research in education. After all, the 'what to teach' and how to teach constitute the two central concerns of an educational process. As Fyle (1993) puts it, most African states tend to lay emphasis on 'what to teach', while 'how to teach' has been almost entirely neglected.

2.1.2. Teaching and learning resources

The availability of the teaching and learning resources makes a difference to the achievement of students Court and Ghai (1974) found that the distribution of resource such as books and equipment account for scholastic difference among schools. Douglas (1984) observed that good teachers as they teach keep in mind what they teach and what they teach with. Learning will be passive and boring if learning resources are not incorporated effectively, organized and exploited in the learning process. It is the proper organization of the learning resource and the use of appropriate teaching and learning strategies that will enhance the acquisition of the subject matter.

Eshiwani (1988) indicates that most schools which performed poorly spent less money on the purchase of the teaching resources. Availability of adequate relevant textbooks makes teaching task easy. In Philippines, a textbook project initiated by the World Bank yielded a sizeable impact on pupils academic achievement in science, mathematics and the gains were not confined to a few classrooms but seen over the country. School textbooks have long been considered an essential education resource, but one that can be turned on or off in its use. Studies have found instructional materials especially textbooks and library activity to be consistently related to achievement (Fuller, 1985). Studies have also shown that a large part of elementary school students learning time and the teachers instructional time, upto seventy five percent (75%), is focused on textbook use (Stodolsky 1988). Since a variety of textbooks are in use, it is the responsibility of the classroom teacher to assess the appropriateness of these

books for their own students and classrooms contexts (Airasian 1994). As early as 1975. Heymanman (cited in world bank report (1995) reported that "From the evidence we have so far. the availability of books appear to be the single most factor in predicting academic achievement". In both Nicaragua and the Philippines. for example. testing in the early 1980's found that students with text books scored significantly higher by about one third of a standard deviation. than students without those resources (Lockheed. 1993; Psacharapoulos and Woodhall, 1985). The textbook is the main resource for teachers especially in setting out the general guidelines of the syllabus in concrete form. providing a guide and foundation to the content. ordering and pacing of information. supplying exercises and assignments for students to practice what they have learned. It is both a source of essential information and the basis for examination and appraisal. Books in short are essential to achieving the goal of education for all (The Jomtein Declaration on education for all, 1990).

Studies on textbook availability propose that the ideal target of textbook: pupil ratio of 1:1. An often quoted experiment in the Philippines suggest that, when school books are a property of the school and not taken home, there is only a marginal difference between the ratios of 1:1 and 1:2, and some experts have suggested that a ratio of 1:3 should be regarded as satisfactory (Brunswick and Hagger. 1992).

A summary of book sector studies in eight African countries found generally low levels of textbook provision at the primary level. Angola, Kenya, Nigeria and

Tanzania recorded primary level textbook: pupil ratio of 2:3 or better in urban areas. but 1:20 or worse elsewhere. At secondary level. few textbooks were available. in Kenya. Nigeria and Sierra Leone the ratios were 1:10 and 1:28 implying only one to two textbooks per class. Most of the textbooks had been repaired and maintained for years. When it comes to the use of textbook. studies have found that schools. which provide supplementary materials. performed better than those. which did not. According to a survey conducted by the United Nations educational. scientific and cultural organization (UNESCO). United Nations Children's fund (UNICEF) (EFA forum secretariat 1996). the majority of schoolchildren have no access to other reading materials apart from textbooks.

Mwangi (1983) investigated on factors that influence achievement in mathematics in secondary schools in Kenya and found out that availability of materials like cards and dice for teaching probability and log papers for teaching concepts such as coordinates significantly correlated with achievement in KCSE Mathematics results. MOEST (2003) points out those textbooks whether designed for use in activities led by teachers or independently by pupils offer the most explicit instructional design format.

Kyalo (1984) conducted a study to find out the factors that affect the teaching of science in Changwithya location in Kitui district, and established that lack of teaching equipment in most rural schools discouraged teachers from doing their best. He concluded that if schools were well equipped. it would motivate the teachers to facilitate learning. However, Kyalo noted that most teachers were not

innovative enough and failed to utilize and improvise from resources available in the school environment to improve their teaching. SMASSE (2001) notes, that many science teachers complained about lack of teaching/learning resources for their subjects even though they themselves were guilt of not efficiently using what was available, as evidenced by expired chemicals in laboratories. In addition, teachers ignored the fact that with improvision they could afford numerous activities for their students. SMASSE also noted that many of the school managers had wrong priorities when it came to the management of school resources.

Financial resources were misdirected towards non-academic activities such as building dining halls and administration blocks and buying of school buses among others. While essential facilities such as laboratories and laboratory equipment/materials and textbooks were inadequate or were altogether not available. Equally, non-academic activities such as music, games, drama took preference over textbooks, equipment/chemicals.

Teaching resources enhance retention of about eighty percent (80%) of what is learned ASESP (1994). Obonyo (1987) concurs with this theory as he notes that instructional materials such as textbooks, visual and audio materials not only enhance communication between the teacher and the learner but also facilitates child-centered learning and learning through discovery. They motivate and encourage participation by the learner in the learning process, and help clarify concepts and add meaning to the texts. However, he argues that teaching/learning resources can only facilitate learning if they are compatible with the instructional

objectives. A good teacher is one who is creative in selecting the appropriate teaching and learning resources and strategies which motivate the interests of learners.

2.1.3 **Physical Facilities**

Physical facilities like classrooms, laboratories, libraries and the nature of learning environment contributes to both teaching and learning. Poor learning environment in developing countries has often been identified as one of the factors that lead to poor learning in public secondary schools (UNICEF, 1990). According to Wamai (1991) over enrolment in public secondary schools is usually done with the full knowledge of MOEST. Increasing enrolment without at the same time expanding the physical facilities results in over-stretching of resources and consequently affects effectiveness in teaching and learning results to low academic achievement.

Heymemann and Loxley (1993) in their study on effect of availability of physical facilities on learning found out that the presence of a school library, related significantly to achievement in Brazil, China, Botswana and Uganda. According to South Worth and Lofthouse (1990) a sound physical environment reflected in the school amenities, decorative order and immediate surroundings have a positive advantage to pupils' progress and achievement. According to MOEST (2003), studies carried out by the World Bank in Kenya show that seventy percent (70%) of the school visited had no libraries. Other studies carried out in Kenya by

the Southern African consortium for monitoring educational quality (SACMEQ) in 1991 revealed a critical shortage of textbooks and physical facilities in many schools. MOEST agrees with the findings and attribute poor examination performance in many schools to this situation.

According to the development plan (2002 – 2008), the government plans to improve the quality of education by among other ways, instituting the following measures;

- Identifying educational institutional needs for improvement.
- Having regular reports made to MOEST on quality of education at National, Provincial and District school levels.
- Monitoring performance with all round standard performance indicators.
- Ensuring equitable distribution of teachers by working out curriculum based establishment in secondary schools and class-based establishment for primary schools.

2.1.4. **Class Size**

The question "Are smaller classes better than larger classes?" continues to be debated among teachers, administers and in the research community, (Hussein and Postethwaite, 1985). The proponents of small classes argue that both teachers' morale and amount of attention to individual pupils are increased. According to Finn and Achilles (1990), teachers' were found to have a more

positive attitude in smaller classes and were pleased with the case of managing and teaching in small class settings.

According to Shapson, Wright and Fitzgerald (1980), the observation of class process variables revealed very few effects of class size. Class size did not affect the amount of time teachers spent taking about course content or classroom routines nor does it affect choice of audience for teachers. When they change classes, teachers do not alter the proportions of their time spent interacting with the whole class, group or individuals. A World Bank report (1987) on school learning in Thailand reported that students in schools with higher student ratio learn less than students in schools with lower student ratio. Meangwe (1985 in his study on factors affecting performance in KCSE noted that overcrowding in classrooms affected learning negatively, class sizes in Kenyan secondary schools vary. Some schools with small size classes have also posted good results. Large classes (of over 40 students) have been informally cited by teachers to negatively affect teaching. It is therefore the purpose of this study to investigate whether class size can be used to explain variations in academic achievement among secondary school students.

2.1.5 **School Administration**

Administration is away of working with people in an institution to achieve the goals of that administration. Griffin (1996) argues that school administrators have direct bearing on achievement of learners because they have a key role to play in coordinating, directing and facilitating the learning process. He contents that

many schools are brought down by poor management. Eshiwani (1983) noted that school administrators have an impact on teaching and learning. Good performance in school is relatively equated to good administration. Eshiwani points out that schools which consistently perform well tend to have sound and efficient administration. Duignan (1986) concurs with Eshiwani and adds that school administration is a crucial factor in the success of a school. The qualities that are expected of a school principal include setting an atmosphere of order, creating a climate of high expectations for staff and collaborative leadership and building commitment to school goals among students and staff.

Raju (1973) noted that the administrative role of the head teacher involves, directing, controlling and management of all matters pertaining to educational enhancement in the school. This implies that all the activities done in the school are performed on behalf of the head teacher. Musango (1982) in his study in Uganda on factors influencing performance found out that a head teacher's negative attitude towards a subject led to lack of teaching and learning of that subject. Hellinger and Heck (1995) noted that in many ways the head of an institution played a pivotal role in the school. Through their managerial skills, head teachers set the schools direction so as to realize suitable learning and working environment. According to Campbell (1986) the Principal should be held responsible for seeing that suitable learning and working environments are established and maintained. Head teachers also need to put in place deliberate interventions to meet the specific needs of students' performance.

Githinji (1990) identified administrative problems that face head teachers such as lack of sufficient teaching and learning resources for teacher and learners, accounting and auditing, raising and obtaining adequate funds to finance school programmes, ensuring teachers are committed to duty, and lack of administrative experience. Kombu (1998) in her study on factors influencing performance in Kenyan secondary schools observed that differing organizational and administrative structure of many public secondary schools have influenced school performance. Whereas the students of a given school are of high aptitude and have highly qualified teachers and the required school facilities, good organization and administrative structure are invaluable inputs.

A weak administration results in dissatisfaction and lack of morale among teachers. In his study on factors influencing performance among primary and secondary schools in western province of Kenya, Eshiwani (1993) related cases of head teachers who from their schoolwork are engaged in private business during working hours. Such practice often leads to dissatisfaction by both teachers and students and commitment to teaching and learning is affected. His study also showed that schools that had shown signs of good performance had sound and effective leadership.

Sifuna (1977) noted that lack of communication, poor relationship between teachers and students, inefficient instructional policies and practices and leaving parents out of school practices are some of the significant factors contributing to poor learning and academic achievement. Okoth (2002) in a study of the effect of

leadership styles on performance in KCSE examinations in Nairobi province found out that schools whose head teachers exhibited democratic leadership had a higher performance index than those exhibiting autocratic leadership style.

2.1.6 **Type of school**

Different schools have their unique characteristics that exert positive or negative influences on the academic achievement of the students. Some are high cost as opposed to the low cost ones, a factor which determines availability of facilities. Others are mixed while some other are single sex schools, some others are day while others have boarding facilities.

In Kenya, examination results of many high cost and well-established schools are always better than those of low cost schools. Most of the low cost schools are poorly equipped with learning resources and facilities and in most cases fail to attract the best teachers. For instance, from the KNEC 2004 order of merit analysis, well-established schools Precious Blood Girls Riruta, Starehe Boys Centre, Nairobi School among others and the private ones such as Strathmore and Kianda Schools appeared at the top of the list in the KCSE examination results while schools like Kikuyu Day Secondary school or Uthiru Girls secondary schools appeared bottom on the list.

The population council of Kenya (1997) in a study that sought to establish the effect of material input on performance in examinations revealed that mixed

schools most of which were formerly 'harambee' started schools were poorly equipped while single sex schools were better equipped and recorded good examination results. Mutea (2000) reports that provincial and district schools in Kenya have been said to perform poorly in KCSE perhaps because of the government policy that requires that eighty five percent (85%) of all the students in provincial schools be from the district where the school is located and 100% of students enrolled in a district school be from primary schools in that district. Mutea concludes that this contributes to poor performance particularly in English because students use their mother tongue and Kiswahili relegating English to a second or third place.

It is also notable that most single sex schools perform better than mixed schools in KCSE examination. Njuguna (1998), in a research on head teachers leadership styles and students KCSE examination performance in public secondary schools in Nairobi province found out that it was more difficult handling students of both sexes in the same school than it was handling students of single sex schools in the administration of schools. It was also noted in the same study that, head teachers in single sex schools found it easier to give direction and had more concern of the welfare of the teachers than in mixed schools.

Njuguna concluded that the difficulties experienced in the administration of mixed schools to a large extent contributed to poor performance in the KCSE examination.

The government through the Ministry of Education recognizes the poor state in most of the public secondary schools in the country. According to the national

development plan 2002 – 2008 the government plans to improve education during the plan period by giving priority to improving access. quality. relevance and management of schools through among other ways expanding and rehabilitating the existing schools to improve their physical quality.

2.2. Learner Related factors

2.2.1. Self-concept and Academic achievement.

Educators believe that an understanding of what is involved in self – concept. and of what it is, is essential if education is to achieve its ultimate goal – the development of man's fullest possible potential. The individual is the focus and the point of departure in terms of experiencing the world and acting upon it in adverse and complex manner (Reck, 1980). From the point of view of Humanistic psychology, as expounded by Maslow (1954) and Rogers (1969), the importance of self concept is viewed as the hall –mark not only of academic achievement but, more broadly, of the healthy person. (Reck, 1980, p. 49). Numerous studies linking self – concept and academic achievement in subjects such as language and Mathematics and examination performance generally have been carried out in Africa and elsewhere. Some of these studies are reported here. Omizo Hammett and Michael (1981) carried out a study with a sample of 296 Mexican – American standard seven students. The purpose of the study was to relate students' self-concept and their performance in Total Language (vocabulary, spelling, grammar and reading comprehension), Total Mathematics (Mathematical concepts, application and computational skills) and their composite scores on the lower tests

and basic skills (total level of development and achievement including work and study skills). One of the reasons for this study was a review of literature, which had shown that poor academic performance by Mexican – American students was a function of low self-concepts. The study showed that more male subjects (168) than female subjects (128) had a high level of self-concept, and that performance on the tasks was linked with a positive self-concept. Similarly, Song and Hattie (1984) studied self concept among 537 and 611 Korean boys and girls respectively. The subjects were randomly selected from schools in Seoul and ranged in age of 14 to 15 years. The relationship between the self-concept and academic performance was greater among boys than girls. On the other hand, other studies have observed no distinction between male and female self-concept (Marsh, Relish, Smith, 1983; Ezeilo, 1983). They point out that in single sex schools no significant difference was observed between boys and girls, whereas in co-educational schools, 'sex differences are accentuated in the direction of traditional sexual stereotypes' (p. 184). In his study of 226 male and female in Nigerian secondary, tertiary and university ranging in age from 14 to 50, Ezeilo (1983) observed that male and female subjects self concept were comparable and not significantly different.

Similar results are reported by Wolf and Blix (1981) for their study of 2429 subjects drawn from standard 1 to 8. The study showed that a pupil's attitude to Mathematics serves as a predicator of his performance in Mathematics. Central to this finding is self-concept in the sense that a person with a positive self-concept

is more likely to lead to good performance. Interestingly enough, the study showed that achievement in Mathematics, or any other subject for that matter, is determined by one's attitude to the subject rather than one's attitude being determined by one's achievement in the subject. Shavelson and Bolus (1982) elaborate that self concept is a moderation and possibly a cause of academic achievement.

Schofield (1981) agrees with the findings. He points out that relevant literature shows that school achievement, particularly in Mathematics, is influenced by favourable attitudes. It is argued that children who enjoy a given subject are likely to spend more time and energy gaining mastery of the subject. As a result they are reinforced by the success they achieve, which in turn continues to reinforce them to perform well in the subject. Such interest can be facilitated by the teacher's interest too:

.... teachers who like the subject and are good at it are well endowed to stimulate favourable attitudes in their pupils that are essential for learning, whereas teachers who dislike the subject or are not competent in it are likely to infect their pupils with similar feelings of dislike and similar cognitive incompetence (Ibid, p. 463).

The Link between academic achievement and self-concept gains further support from research carried out in Africa. In Uganda Hyneman(1979) hypothesized that '.... a child who felt more confident and more self assured would perform better in the primary learning examination'. His subjects were 2293 randomly chosen

standard seven pupils from five districts in Uganda and he found that the level of self-confidence was related to school achievement in the area of Mathematics, English language, and general knowledge, irrespective of sex, ethnic group and district (Heyneman, 1979). Heyneman therefore holds the view that in Uganda academic performance will suffer due to pupils' lack of confidence and not due to their impoverished background. But if someone is not poor and does not lack confidence, then academic performance even on the most rigid of examinations need not be handicapped by poverty.

In a study of 80 boys chosen from a secondary school in Nigeria, Maqsud (1983) observed that self-concept was significantly related to better performance in mathematics and English. He also observed that a change in self-concept precipitated a similar change in academic achievement. Thus, it can be argued that a pupil's academic performance can be enhanced by enhancing his or her self-concept. It is important, therefore, that educators bear in mind that self-concept is essential in facilitating quality education and that teachers can play a great role in this area. Teachers should consider self-concept a vital and important aspect of learning and development, which the school, through its educational process, should seek to promote and foster in every child Purkey (1984).

In response to the need and public call for quality education at primary level in the Republic of Botswana, Mwamwenda and Mwamwenda (1987) proposed self-concept as one of the variables contributing to quality education. The primary

objective of the research was to establish whether in the context of Botswana a pupil's self-concept could be used as a predictor of his or her academic achievement at the end of the seven year period of primary education. The relationship between the two variables was to be examined on the basis of a pupil's performance overall as well as his or her performance in Mathematics, English, Science and social studies. The sample consisted of 2559 standard 7 pupils selected from 51 schools covering every district in Botswana. There were 1042 boys and 1517 girls and their ages ranged from 12 to 14 years, with a mean age of 13, 9 years. With the aid of research assistants from the University of Botswana, two personality tests-the self-appraisal scale and the Canadian self-esteem inventory were administered to each subject. On the basis of their scores in these tests, the subjects were divided into pupils with good self concept and pupils with poor self-concepts, and the performance of the two groups in the national final examination written by all Botswana school children at the end of their seven years of primary education were compared. The results indicated that there was a relationship between a pupil's self-concept and his or her performance in the final set of examinations. This held true for both good and poor self-concepts. Pupils with good self-concepts performed significantly better than pupils with poor self-concepts. This held true not only for overall performance, but also for the individual subjects examined (Mathematics, English, Science and Social Studies). Thus, the hypothesis of the research was supported, confirming, as it did, that a pupil's self-concept can serve as a reliable predictor of his or her academic achievement.

Clearly, teachers can play an important role in facilitating pupil's self-concepts, which is likely to influence academic achievement. Curtis and Shaver's (1981) findings, show that self-concept can be facilitated within the classroom setting by allowing pupils with poor self-concept to experience success and by challenging the pupils' intellectually. Pupils should be given tasks, which they are able to complete successfully, since this is likely to contribute positively to self-concept. According to Mwamwenda (1990, p.272) self-concept among African children can be improved in the following ways:

- Appropriate responses should be acknowledged by positive comments such as "That's a good question", "very good", "good point", among others or simply by a nod or smile in recognition of desirable behaviour.
- Pupils should be allowed the freedom to express their views, which differ from those presented during the lesson, so long as such views are supported by logical reasoning.

- As far as possible, pupils should be treated equally, and as much as possible should be given the opportunity to contribute to the proceedings during any teaching time.

- A teacher should show his pupils that he cares about them and regard them as his friends.

- As far as possible. teachers should avoid the use of physical force in disciplining pupils and instead capitalize on reinforcing positive behaviour.

- A teacher should set reasonable tests, assignments and examinations, so that every pupil who has studied diligently stands a good chance of doing well.

- The teacher must learn each pupil's name and use it as often as possible.

2.2.2 **Inherited personal characteristics**

This means that inherited personal traits, such as high or low intelligence quotient may enhance or limit academic achievement. Children with special needs because of some physical, psychological, cognitive or social factors are the children who will find difficulty in reaching their full educational potential. To the educationist and teacher, such children present a challenge. In addition they can present more difficulties than other children, particularly in cases where educational and allied resources are scarce and financial help is limited (Siann and Ugwuegbu 1984 p. 115).

2.2.3 **Language factor**

The inadequate development of language skills either because of deficiency in IQ or because of poor preparation in the medium of instruction results in poor achievements Gitau Rwantabagu and Makatiani (1993). According to sixth forum

on education in Africa (2003), language in schools is an enormous barrier to learning. Many children whose mother tongue is not English are learning in English without any immersion or extra help. In fear of ridicule from other, students keep off participation in class, which has negative effect on academic achievement.

2.2.4 Set and intention

According to Ochieng (2001), all human behaviour can be regarded as a result of arousal or internal tension that serves as an energy source or spring board of action. Motivation is therefore a force to perform. The theory proposes that the force to perform an action is as a result of internal process of perception of an individual's ability to perform an action. Without purposeful intention to learn, the student may perform rote activities time after time without acquiring the skills and learning that represent the teacher's objectives.

2.3 Non-School related factors

Basically, the academic achievement of a pupil is determined by two factors:
(i) He's will to achieve and (ii) his ability to achieve (Ansu 1984). Both these may be influenced directly by the school the pupil attends. A number of social factors have a bearing on the student's will and ability to perform well in the academic field. Some of these factors according to Ansu (1984) are

(i) the subculture of the ethnic community to which the pupil belongs, be it race, tribe, linguistic community or religious group:

(ii) the pupil's social class or stratum;

(iii) the family's and

(iv) pupils peer group

All these are likely to expose the pupil to certain attitudes, values (defined as the basic principles in life which guide an individual thoughts and actions), and levels of aspirations. The social stratum class and the family provide, in addition, a certain type of material environment, depending on the income and wealth with which they are associated.

2.3.1. **Sub-culture of the ethnic community**

The sub-culture of an ethnic group may have some influence on the academic performance of the students because it may be instrumental in transmitting certain ideas and attitudes affecting motivation and levels of aspirations; personality traits that may bear on academic ability and linguistic expressions and logical concepts which mediate the learning process. Research findings in Nigeria among the Ibo reveal that culture that emphasis on individual achievement and initiative; and one with a preference for egalitarian leadership, are values that produce persons who are likely to strive for high income, status and political power through their own efforts, and by the manipulation of newly introduced opportunities in the filed of education and economy. On the other hand, a culture that emphasizes traditional

values such as a scriptive leadership. submission to established authority and rejection of innovation results in individuals who are less motivated to seek personal achievement outside the traditional community. or even make use of new opportunities available within it. An example of this comes to Kenya where. in the two districts of Narok and Kajiado in the Rift Valley. the utilization of educational opportunities has been assessed with reference to primary school enrolment of the Kikuyu. the Kipsigis and the Masai. The assessment reveals that Masai enrolment lags far behind that of other ethnic groups despite various compensatory measures (such as provision of barding facilities and the waiving, or at least the lowering. of school fees in some cases) which have been in force in Masailand for several decades.

In the Northern Nigeria state of Bauchi. a sum of 200 000 was set aside especially for educating the children of nomad Fulani herdsmen. Education, in this case, is tied up with the question of settling the nomads on a more permanent basis. The government of the state attempted to settle the Fulani by providing them with grazing hand. Inspite of such efforts only limited success was achieved. A report by UNESCO (1995) reveals that many cultural factors militate against the education of girls. In countries where girls marry at the age of 12 or 13 years, the school is considered as a hindrance to the normal development of the young girl. School enrolment for girls in Nigeria for example is a case in point. Here, cultural traditions (early marriage, seclusion) are in conflict with the school as an institution. The high rate of school dropout which occurs very early in the first

years of learning is a form of resistance against coercive methods used in the schools.

Wamahiu (1988) in a study in Kwale District, Coast Province of Kenya found that undertakings of traditional roles by girls led to their irregular attendance of school and interfered with participation in school activities. The same study also established that several factors in traditional education among the Digo of Coast province acted as barriers to effective participation in formal education of students.

2.3.2 **The social stratification/social class and family.**

One of the most important social factors that bear on academic achievement is the system of social stratification in a given country. Social stratification refers to the arrangement of members of society into categories and groups based on superiority and inferiority in terms of a specific criterion. Thus with reference to income earned, economic factors is significant in educational achievement of students. Society is characterized by inequalities of wealth and other aspects. Such economic differences are accompanied by different material conditions, life styles, social prestige, ideas and attitudes, language use, and even patterns of infant and childcare all of which have a bearing on academic achievement. Of course, the school operates to some extent as a counterweight to the family (Ansu 1984).

Tyler (1977 in Ayoo 2002) argues that social-economic background of students tend to influence their achievement. They maintain that students whose parents are educated tend to provide environments conducive for learning. They are also encouraged by their parents to study and read relevant books and literature. Ndiriti (1999) noted that children from well to do socio-economic background tend to do better. This is as a result of high incomes of parents which enable them to buy supplementary textbooks and other study materials. According to Duncan (1989), one way in which family's social economic background affected school performance was through the type of school attended. Children from deprived homes, despite their mental potential tended to go to cheaper low performing schools whereas their counterparts whose ability could be average went to well performing schools because their parents could afford. Choice of school according to her study was found to be a main determinant of educational achievement.

According to UNESCO (1995), other economic aspects that have implications on academic achievement relate to high birth rates in Agrarian societies, which give rise to both cultural and economic problems. In certain countries, generally where income is low, the education of the young girl is seen as waste of resources, since the time spent in school could be invested, in domestic work or paid employment. In Gambia, ten percent (10%) of children who leave primary school have to occupy themselves with the care of sisters and brothers. In Mauritania, Senegal, Mali, Algeria and Chad, girls work as house maids in the large towns and are

expected to take care of their own needs, as well as supplement family income. Kenya similarly is affected: The East African Standard daily newspaper of November 24th 1988 reported the Ministry of Foreign Affairs arguing that the withdrawal of government subsidies in secondary schools had left hundreds of children out of school. The paper noted further that at the end of the 20th century, most of African children would be out of school because their parents cannot afford the rising costs of education. Hard economic time and structural adjustment programmes have made the situation even worse.

The family can help or impede the process of education due to size of the family and the nature of relations within it Ansu (1984). The family size is said to affect the learning process of the child at home because it is assumed that the larger the family the less attention the parents can give to the individual children. Relations within the family may also influence the child's mental health and personality traits, which will be closely related to the child's academic achievement. A broken home can prove to be a great obstacle to a child's ability and motivation to succeed academically. It may disturb the child psychologically and emotionally, deprive him or her of valuable parental help, encouragement and guidance, and lead the child ultimately to seek psychological sustenance and security outside the family for example, with the peer group of dropouts, a breeding ground for juvenile delinquency.

Parental level of involvement in the education of a child

Parental involvement in students work has been identified as a factor affecting learning and academic achievement. Cullen (1968) noted the importance of parental encouragement on academic performance. Parents of high achieving children seem to take more interest in the child's schooling than those of low achieving children.

Parental attitude and influence have been singled out as major factors that influence achievement of their children. A USAID project in Malawi on girls' attainment in Basic literacy (1993) revealed that parents who had negative attitudes towards girls education had their daughter either dropping out of school or performing poorly. Okriri Akana cited in Ndiritu (1999), in a study of standard seven pupils in Gulu district of Uganda found that parental encouragement, social-economic status, child's educational aspirations and attitudes of parents toward education to be related to some extent to the child's academic achievement.

Parental level of Education

Kativo (1989) in his study on relationship between secondary school students need, achievement and the educational level of their parents showed a strong and positive correlation between fathers level of education and pupils need to achieve. Amalaha (1975) cited in Ayoo (2002) in a study of 370 boys and 112 girls in Nigeria found out that male students with educated parents performed better than male students with uneducated parents.

2.3.3. The peer group

The weakening of the family is partly a consequence of the strengthening of the peer group. Peer group is a reference group to which an individual relates his or her attitudes and is a measure of social achievement by members of the group. It is a source of influence for members. Such influence may help or impede the learner's academic achievement, depending on the values of the group and the effectiveness of the mechanisms for social control exercised by the group over its members (Datta 1984, P. 176)

Role of the community

Bett (1986) carried out a survey on factors that influence performance in KCSE examination in Kericho District, which revealed that poor support from the local community in the provision of resources such as learning materials contributed to poor performance.

2.4 SUMMARY ON LITERATURE REVIEW

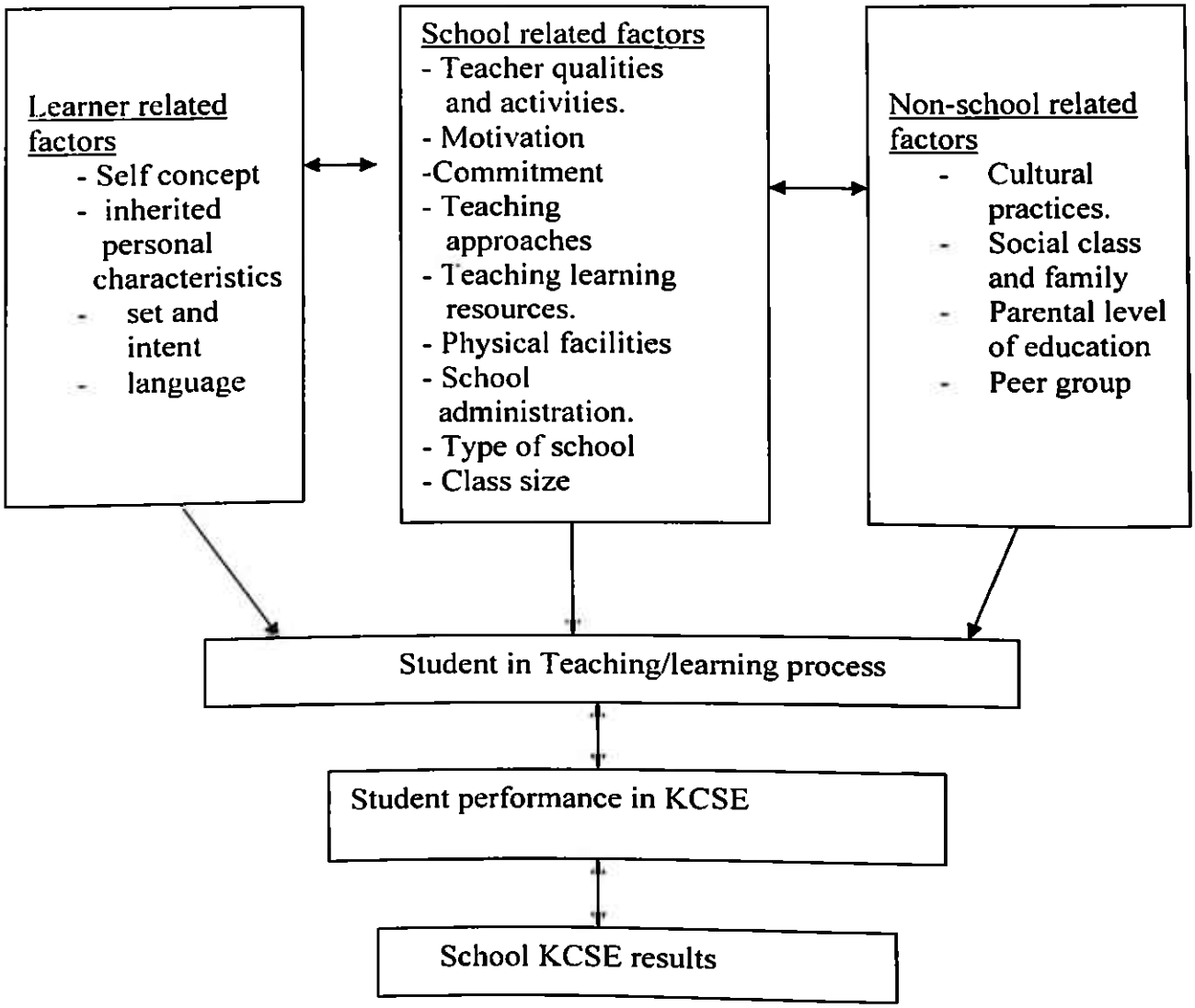
This section has dealt with the various factors that influence performance in public examination not only in Kenya but also in other parts of the world. Three board categories of factors have been examined, namely those related to the school (teacher's quality and teacher activities, teaching and learning resources, physical facilities, class size, school administration, type of school).

The second category is learner related factors (self concept. inherited personal characteristics. language. set and intention) the last category is the one focusing on non-school related factors (sub-culture, social class, family and its involvement in education of a child, parental level of education, the peer group).

The relationship of the factors discussed and how they relate to a student and to a school are summarized using the following conceptual framework, Figure 1.

2.5 **Conceptual framework of the study**

Figure 1



In this study, student's performance is conceptualized as an outcome of interrelated factors. Factors emanating from the learner, the school and the non-school related factors are seen to interact. This inter-relationship is indicated by the two-sided arrow connecting the three sets of factors. As the students go through the teaching/learning process, they are under the influence of the three

sets of factors. This influence is indicated by the arrows that start from the three sets of factors towards the teaching/learning process.

The effectiveness or ineffectiveness of the teaching-learning process determines students' performance as well as the school results in the examination, hence the two sided arrow between these three boxes.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 **Introduction**

This part of the report covers research design, the target population, the sample and the sampling procedure, research instruments, and data collection and analysis techniques.

3.1 **Research Design**

According to Borg and Gall (1989), a research design has been defined as the process of creating an empirical test to support or refute a knowledge claim. The study was conducted through the ex-post facto design. According to Kerlinger (1986) ex-post facto or causal – comparative design is a type of research that starts with the observation of a dependent variable in retrospect for their possible relationship to and effects on independent variables. The ex-post facto design was suitable for this study because it involves studying conditions or events that have already occurred and are not existing. The dependent variable in this case (K.C.S.E. performance) had already occurred while the factors influencing academic performance in K.C.S.E. like the teaching and learning resources cannot be manipulated.

3.2 Target population

Considering that the main purpose of this study was to determine factors influencing students' performance in KCSE examination, the most appropriate target population was the teachers teaching form four students in the thirty-six schools. The teachers were in a position to provide information to be used to explain the factors affecting teaching and learning processes in their schools, which reflect on KCSE performance. The form four teachers were expected to be more knowledgeable on the factors due to constant interaction with the classes and hence provide more reliable information on factors leading to KCSE performance in their schools. The target teacher population in the thirty schools was 560 teachers. The second category of the target population was head teachers of the 36 schools. The head teachers were seen to be useful respondents because they are coordinators and facilitators of the learning activities in the schools.

The other group was of students in their final class of secondary school education. The form four students in 2006 who are preparing to sit for the KCSE examination and then graduate from secondary schools formed one target group. These grade levels was considered suitable for the study because the students have been exposed to the whole course and have been learning in the institutions for the last three years and are likely to be more knowledgeable about factors that affect students' performance in KCSE examination. The target population therefore consisted of all the 2498 form four students in the thirty-six (36) secondary school that had presented students for KCSE for five years in Meru South District (Meru South Education office 2006) (see appendix)

3.3 Sample and sampling procedure

This section describes the procedure used in sampling and gives the sample sizes for the schools, students, teachers and head teachers. Borg and Gall (1989) define sampling as the process of selection of appropriate number of subjects for a defined population. According to Cooper (1989), how large a population should be is a function of the variation of the population parameters understudy and the estimating procession needed by the researcher. Best (1998) states that a sample should be large enough to serve as adequate representation of the population about which the researcher wishes to generalize, and small enough to be selected economically in terms of subject availability and expenses in terms of both time and money.

To determine the sample size, a table designed by Krejcie and Morgan (1970:608) as quoted in Mulusa (1988) was used (see appendix VII). The table gives the required sample size for various population sizes. The target population of 2,498 students required a sample size of 333 students.

Schools that have presented candidates for five years were thirty-six in the district. Using Krejcie and Morgan table, the sample size for schools was thirty-two schools. To ensure reasonable representation for all categories of schools, stratified sampling method was used, according to Table 2.

Table 2: Sampling of schools.

Category of school	Population	Sample size
Mixed boarding and day	11	9
Mixed day	2	2
Mixed boarding	7	6
Boys only boarding	6	6
Girls only boarding	10	9
TOTAL	**36**	**32**

The actual subjects were then selected randomly. The method ensures that all sub-groups are represented in the sample.

Teacher target population was 560 as indicated earlier. From Krejcie and Morgan table the sample size becomes 226 respondents. The thirty-two (32) head teachers of the selected schools participated in the study.

3.4 Research instruments

Data was collected using self-administered questionnaires. The questionnaire was chosen because it saves on time and also the targeted respondents were literate and therefore comfortable for them to respond. The questionnaire also allows uniformity in the way questions are asked ensuring greater comparability in the process (Mouly, 1978:189). In addition, the respondents fell free to give frank

answers to sensitive questions especially if they are not required to disclose their identity (Mulusa, 1988:114).

Three types of questionnaires were used, one for form four students, form four teachers and the other for head teachers.

Headteachers Questionnaire

Part A of the heads teachers' questionnaires collected data on head teacher's gender. age, academic qualifications, administrative experience, teaching experience and school category. Part B comprised of both open and closed ended items to provide information on availability of resources, teaching learning process, students' behavior, schools academic performance and factors influencing performance and suggestions on how performance of their schools could be improved.

Teachers' Questionnaire

Part A of the teachers' questionnaire collected similar data to part A of head teachers' questionnaire but on teachers. Part B of the questionnaire generated information on teaching workload, student assignments, teaching preparation and instructional documents, syllabus coverage, factors that influence students' academic performance, available school facilities and recommendations on what could be done to improve performance.

Students' Questionnaire

Part A of students' questionnaire provided information on students' personal details and information on adequacy of learning facilities. information related to teachers and learning process as well as information on learners and parents. Section B consisted mainly of open-ended questions to gather information on problems that affect performance in KCSE and suggestions on what could be done to improve or maintain the performance.

3.5 Pre-Testing of Research instruments for validity and reliability

The research instrument was pre-tested in three (3) schools in order to check on validity and reliability, identify possible problems during the main study and clarify on the instrument and appropriateness of the language. Bell (1993) contends that the purposes of a pilot exercise is to get the bugs out of the instrument so that subjects in the main study do not experience any difficulties in completing it and so hat one can carry out a preliminary analysis to see whether the wording and format of questions would present any difficulties when the main data was analyzed. The pilot schools were selected randomly from the district. The assumption was that the pilot schools being in the same district as the study schools had similar experience and so the outcome of their responses would be fairly similar. The pilot schools were not involved during the final administration of the questionnaire. Based on feedback from the pilot schools, the questionnaires were revised accordingly. In the three questionnaires, some sections of a related question were eliminated.

Validity

Mugenda and Mugenda (1999) define validity as the accuracy and meaningfulness of inferences, which are based on the research results. In other words, validity is the degree to which results obtained from the analysis of data actually represent the phenomenon understudy. Content validity was ensured by checking whether the items in the questionnaires reflected the research questions.

Reliability

Reliability is the degree to which a research instrument yields consistent results when administered a number of times (Shaw and Wright, 1969). An instrument is reliable when it measures a variable accurately and consistently if used repeatedly under similar conditions. Reliability of a questionnaire is concerned with the consistency of responses to the researchers questions (Mitchell, 1996). According to him, the internal consistency approach was used to assess reliability.

In this approach, responses of each question in the questionnaire were correlated with those of other questions in the questionnaire. The internal consistency was calculated using Cronbach's alpha for each questionnaire.

The calculated reliability indexes were as follows:

- Reliability index for teachers' questionnaire was 0.91
- Reliability index for students' questionnaire was 0.56
- Reliability index for Head teachers questionnaire was 0.95

Since the Alpha coefficient ranges in value from 0 – 1, then all the three questionnaires were considered reliable.

3.6 **Data collection procedure**

Three sets of questionnaires were used. The researcher acquired permission from the Ministry of Education through an introduction letter from the university. Subsequent clearance to carry out the study was obtained from the District Commissioner (DC) and the District Education Officer (DEO) in Meru South District. The researcher personally visited each school and administered the questionnaires through the help of the school administration.

3.7 **Data Analysis techniques**

After fieldwork, the questionnaires were cross-examined to ascertain their accuracy, completeness and uniformity. The collected data was then coded and then organized into different categories. Both descriptive and inferential statistics was used to answer the research questions and objectives in relation to the topic. The research questions were based on seeking to establish relationships between the quantifiable dependent variable (performance) and independent variables. To establish whether there was a relationship between the independent variable and other variables in the study, the chi-test was applied.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.0 Introduction

This chapter deals with the analysis of data, which was collected in 32 schools. The analysis was aimed at addressing the purpose of the study, which was on factors influencing students' performance in KCSE examination in Meru South District. Performance in relation to the various independent variables mentioned in Chapter One are presented and discussed.

4.1 The questionnaire Return-rate

Out of the 32 questionnaires administered to head teachers, all were collected back. This was therefore 100% return rate. For the teachers, 226 questionnaires were administered and the number collected back was 216. This is 95.6% return rate. For student questionnaire, 333 were administered with all of them coming back, that is, 100% return rate. The return rate was therefore considered excellent.

4.2 Teacher characteristics and KCSE performance

The data sought to provide background information on teachers. This included gender, age, academic qualifications, teaching experience, teacher student ratio, teaching load, preparation of instructional documents.

4.2.1 Gender of head teachers

A sample of 32 head teachers indicated their gender. This information is presented in Table 3.

Table 3: The gender of the Head teachers

Gender	Frequency	Percent
Male	21	65.6
Female	11	34.4
Total	**32**	**100.0**

The gender composition of head teachers was such that there were more males than females, that is, 21 males (65.6%) against 11 females (34.4%).

4.2.2 Head teachers age

The head teachers were asked to indicate their age bracket. The findings are presented in Table 4.

Table 4: Age distribution for head teachers

Age in years	Frequency	Percent
Below 25	-	-
25 – 34	-	-
35 – 44	15	46.9
45 – 54	17	53.1
Total	**32**	**100.0**

From the table, it is evident that the majority of head teachers were in the age bracket of 45 – 54 years: this represented 53.1% of the sample. The other age bracket was that of 35 – 45 with 46.9% representation of the sample. This may be explained by the fact that experience is considered for promotion to the post of head teachers. The 53.1% representation may also mean that head teachers have remained in the teaching profession.

4.2.3 Gender of teachers

A sample of 226 teachers from the 32 schools was used in the study. The gender composition was such that there were more male teachers compared to female teachers, that is, 60.2% males against 35.5% females. The small percentage of female teachers could mean that the female teachers may have moved with their husbands working in other sectors or in urban areas. The information is presented in Table 5.

Table 5: The gender of the teachers

Gender	Frequency	Percent
Male	130	60.2
Female	86	39.8
Total	**216**	**100.0**

4.2.4. Age bracket of teachers

Teachers were asked to indicate their age bracket in one of the items in the questionnaire. Analysis of the findings is presented in Table 6.

Table 6: Age distribution of teachers

Age in years	Frequency	Percent
25 and below	8	3.7
26 – 35	64	29.6
36 – 44	106	49.1
45 – 54	38	17.6
Total	**216**	**100.0**

Concerning the age of teachers, there were more teachers between 35 and 44 years of age (49.1%) than in other age groups. Those below 25 years accounted for only 3.7% of the sample. This reveals that most of the teachers were mature. Ten (10) teachers did not indicate their age bracket.

4.2.4 Academic qualifications of Head teachers and Teachers

The head teachers and teachers indicated their academic qualifications. Findings on this are presented in Table 7.

Table 7: Academic qualifications of Head teachers and Teachers

Academic Qualification	Headteachers		Teachers	
M.Ed	5	15.6	8	3.7
B.Ed	22	68.8	137	63.4
BA/B.Sc. with PGDE	5	15.6	-	-
B.A./B.Sc. General	-	-	4	1.9
S1/Diploma	-	-	63	29.1
Technical Teacher One	-	-	4	1.9
TOTAL	**32**	**100.0**	**216**	**100.0**

The above table revealed that the majority of head teachers, 68.8%, had Bachelor of Education degree. This concurs with the government policy, which emphasis employment for graduate teachers to teach in secondary schools. Only five(15.6%) of the head teachers had M.Ed and another 15.6% with BA/B.Sc. with PGDE.

Concerning teachers, the findings showed that 63.4% of teachers had a Bachelor of Education degree. The 29.2% of teachers with either S1 or Diploma. This can be explained by the fact that these teachers were trained to teach in secondary schools immediately after independence as a way of bridging the gap of

inadequate staffing in secondary schools. From this information, it can be noted that majority of both head teachers and teachers were highly qualified. The small percentage of those with a M.Ed indicate some aspect of professional growth by both teachers and head teachers.

4.2.6 **Teaching experience of head teachers**

Head teachers were asked to indicate their teaching experience which could be used to explain performance in KCSE. The information from the analysis is presented in Table 8.

Table 8: **Teaching experience of Head teachers**

Number of years	Frequency	Percentage
11 – 15	6	18.8
16 – 20	17	53.1
Over 20l	9	28.1
Total	**32**	**100.0**

The data in this table revealed that most head teachers (53.1%) had teaching experience of 16 – 20 years. Those with over 20 years accounted for 28.1% and those with experience of 11 – 15 years accounted for 18.8% of the sample. This information indicates that before one is promoted to the status of a head teacher, he/she needs to have some teaching experience.

4.2.7 Head teachers administrative experience

Head teachers were asked to indicate their administrative experience in one of the questionnaire items. The results of the analysis are presented in Table 9.

Table 9: Head teachers administrative experience

No. of years	Frequency	Percent
1 – 3	4	12.5
4 – 6	15	46.9
7 – 10	9	28.1
11 – 15	2	6.3
Over 15	2	6.3
Total	**32**	**100.0**

Table 9 indicates that majority of head teachers (46.9%) had teaching experience of 4 – 6 years. Those with over 15 years of experience accounted for 6.3% of the sample. This indicates that most head teachers had experience in administration.

4.2.8 Teaching experience of teachers

Teachers were requested in one item to indicate their teaching experience which could be used to explain KCSE performance. The findings of the study is presented in Table 10.

Table 10: Teaching experience of teachers

Range of years	Frequency	Percent
Less than 1 year	4	1.9
1 – 2	8	3.7
3 – 5	36	16.7
6 – 10	58	26.9
Over 10 years	110	50.9
Total	**216**	**100.0**

From the data presented in Table 9, it is evident that most teachers had an experience of over 10 years (50.9%). Those with 6 – 10 years of teaching experience accounted for only 26.9% of the sample. A small percentage of 1.9 had teaching experience of less than one year. This is good indication that most schools had teachers with a lot of experience in the teaching profession.

4.2.9. Teacher – student ratio

Headteachers were asked to indicate the teacher – student ratio in their schools. Table 11 presents this information.

Table 11: Average teacher – student ratio in schools

Ratio	Frequency	Percent
1:30	5	15.6
1:40	25	78.1
1:50	2	6.3
Total	**32**	**100.0**

The table reveals that the ratio of 1:40 was very frequent with 78.1%, 15.6% of the sample had a ratio of 1:30 while 6.3% had a ratio of 1:50. This indicates that all schools were not in line with education regulations as outlined in section 19 of the Education Act; the legal notice 106/1968, which clearly states that no class in any secondary school from form one to four should exceed 30 pupils. This could be explained by the high population and the demand for education.

4.2.10 Teaching load of teachers per week

Head teachers were asked to indicate the average teaching load of teachers in their schools. The output of the analysis is presented in Table 12.

Table 12: Teaching load of teachers per week

Range of lessons	Frequency	Percent
20-24	17	53.1
25-30	15	46.9
Total	**32**	**100.0**

From the table, the teaching load of most teachers (53.1%) was between 20 - 24 lessons per week while 46.9% of the sample had lessons ranging between 25 – 30.

4.2.11 Preparation of instructional documents

Head teachers were asked to indicate whether or not teachers' in their schools prepared the specified documents. The results of analysis are presented in Table 13.

Table 13: **Head teachers' responses on preparation of instructional documents by teachers**

	Response	
Document	Yes %	No%
Schemes of work	93.8	6.3
Lesson plans	71.9	18.8
Records of work	87.5	12.5
Students' progress records	100	-

From the table, it is evidence that most teachers prepared the necessary instructional documents.

4.2.12 Head teachers response on subject allocation to teachers

The head teachers' were requested to indicate whether teachers in their schools were assigned to teach subjects they were not trained in. They were further asked to give reasons for assigning them to teach the subjects they were not trained in if it occurred. Data from analysis is presented in Table 14.

Table 14: **Response on subject allocation to teachers**

Response	Frequency	Percent
Yes	11	34.4
No	21	65.6
Total	**32**	**100.0**

The table revealed that 65.6% of the teachers were assigned to teach subjects they had been trained in while 34.4% of the teachers were assigned to teach subjects they had not been trained in. The reason given for assigning teachers to teach subjects they were not trained in was teacher shortage problem. The teacher shortage ranged from 1 – 4 and different subjects were affected. Table 15 represents information on teacher shortage.

Table 15: **Teacher shortage in schools**

Shortage in numbers	Frequency	Percent
1	6	18.8
2	8	25.8
3	2	6.3
4	7	21.9
Total	**23**	**71.9**

4.2.13 Teacher characteristics based on pupils' opinions

Students were asked to give their opinions about teachers characteristics in one item in their questionnaire. They were required to use the choice of:

Strongly agree = SA

Agree = A

Undecided = U

Disagree = D

Strongly Disagree = SD

To make a response to a number of statements relating to teachers. The information from the students is presented in Table 16.

Table 16: **Students responses concerning teacher characteristics in percentages.**

STATEMENT	SA	A	U	D	SD
Teachers explain concepts in subjects clearly.	24.8	61	4.5	6.3	.6
Teachers are very committed to their work.	30.8	48.3	10.3	7.3	2.7
Teachers use variety of teaching aids in lessons	20.2	50.8	7.9	15.4	5.1
Teachers give extra work in subjects to enhance understanding	34.1	50.2	5.1	8.8	1.8
Teachers always mark assignments/homework.	10.0	42.6	7.3	29.0	11.2
Teachers give a lot of encouragement and reward good performance	38.7	35.3	11.2	11.2	3.6
Teachers pay attention to weak students in class and organize for remedial work	13.0	32.6	13.0	28.7	12.7
Some subjects lack teachers at times	16.0	20.5	3.9	35.3	22.7

From the table 24.8% students strongly agreed that teachers explained concepts in subjects clearly 61.0% agreed with the same statement 4.5% of the students were undecided on the same while .6% of the students strongly disagreed with the statement. From the data, it was concluded that majority of teachers explained concepts in subjects clearly. 2.1% of the students did not respond.

On teacher commitment, 30.8% of the students strongly agreed that teachers were committed to their work. 48.3% of the students agreed on the same. Only 2.7% of the students strongly disagreed with the statement. Point six percent of the students did not provide a response

Twenty point two percent of the students strongly agreed that teachers used a variety of teaching aid when presenting lessons, 50.8% agreed, 15.4% disagreed on the use of teaching aids while 8.1% strongly disagreed. .6% of the students did not provide a response. From the data, it is evident that most teachers were using teaching aids in lesson presentations.

On marking of assignments/homework, (10.0%) students strongly agreed with the statement, (42.6%) agreed with the statement, 29.0% of the students disagreed with the statement and (11.2%) strongly disagreed with the statement. From the responses on strongly agree and agree, it was concluded that most teachers were marking assignments always.

In connection with giving of extra work in subjects, over 70% of the students sampled agreed that teachers were giving extra work. A small percentage of only 20 either disagreed or strongly disagreed with the

statement. These percentages revealed that in most schools, teachers gave extra work in their subjects.

On encouragement and rewarding of good performance, about 73% of the students either agreed or strongly agreed with the statement. About 16% disagreed or strongly disagreed with the statement.

On teachers paying attention to weak students in class, 13% strongly agreed with the statement, 32.6% agreed with the statement while 35.2% strongly disagreed and 22.7% disagreed with the statement. From the findings on this, it is necessary that teachers should pay more attention to individual students whenever possible to take care of existing differences of learners.

On the statement that some subjects lacked teachers at times, most students (35.3%) disagreed with the statement while (27.7%) strongly disagreed with the same. This therefore indicates that over 50% of the subjects did not lack teachers. This could an indication that teacher shortage was not very acute in schools and that teachers were committed to teaching.

4.3 Learners characteristics and KCSE performance

The data sought to provide background information on learners. This included students gender, marks scored in KCPE, occupation of parents/guardians.

4.3.1 Students' gender

A sample of 331 students were used in the study from 32 schools in the district. The gender composition of the pupils was such that there were more males than females, that is; 182 boys (55%) against 147 girls (44.4%). The information is presented in Table 19.

Table 19: **Students' gender**

Gender	Frequency	Percent
Male	182	55.0
Female	147	44.4
Total	**229**	**99.4**

This data revealed that the male population was higher in schools than that of females.

4.3.2 Range of marks scored in KCPE

Students were asked to indicate marks scored in KCPE, which could be used to explain performance in KCSE. The information is presented in Table 20.

Table 20: **Range of marks scored in KCPE**

Marks	Frequency	Percent
151 - 200	12	3.6
201 - 250	14	4.2
251 - 300	71	21.5
301 - 350	234	70.7
351 - 500	-	-
Total	**331**	**100.0**

The table shows that majority of the students (70.7%) had scored over 300 marks, 21.5% scored marks in the range of 251 – 300, 4.2% of the sample scored marks in the range of 201 – 250 with a small percent (3.6%) scoring marks in the range of 150 – 200 marks. This revealed that most of the students admitted to most secondary schools in Meru South District were average performers. Most of them were far below the maximum 500 marks in KCPE.

4.3.3 Number of students' in class

Students' were asked to indicate how many they were in class. This information from students is presented in Table 21

Table 21: **Number of students in class**

Number in class	Frequency	Percent
20 – 30	3	.9
31 – 40	105	31.7
41 – 50	217	65.6
Above 51	6	1.8
Total	**331**	**100.0**

Information on class size revealed that majority of the schools (65.6%) had students' ranging from 40–50 in a class 31.7% had class size ranging between 30-40, 1.8% of the sample had classes with over 51 students' while a very small percentage of schools (.9%) had classes ranging between 20 – 30 students in a class. The information therefore reveals that most of the schools have the class size larger than the class size of not more than 30 pupils as per the Education Act.

4.3.4 Parents/guardians occupations

The students were asked to indicate their parents/guardians occupations in one of the items in the questionnaire.

(i) Fathers' occupation

The results in the questionnaires are indicated in Table 22.

Table 22: **Fathers' occupations**

Occupation	Frequency	Percent
Teacher	104	31.4
Farmer	76	23.0
Doctor	7	2.1
Army officer	5	1.5
District Education Officer	6	1.8
Engineer	6	1.8
Agricultural officer	3	.9
Town Clerk	9	2.7
Watchman	6	1.8
Butcher	6	1.8
Business man	26	7.9
Lawyer	2	.6
Banker	9	1.2
Administrator	3	.9
Policeman	3	.9
Driver	3	.9
Clinical officer	2	.6
Total	278	84.0

These results indicate that a large number of fathers 31.4% were teachers while 23% were farmers. Other occupations accounted for small percentages.

(ii) **Mothers' occupations**

The results from the item requesting for information on mothers' occupations are given in Table 23.

Table 23: **Mothers' occupations**

Occupation	Frequency	Percent
Teacher	58	17.5
Farmer	121	36.6
Nurse	33	10.0
Business woman	32	9.7
Housewife	18	5.4
Accountant	2	.6
Designer	3	.9
Total	**267**	**80.7**

The most common occupation of mothers in the district was farming (36.6%), followed by teaching (17.5%). Those with professional occupations such as nursing, accounting or designing accounted for only a small percentage of the sample. Businesswomen constituted 9.7% of the sample, housewives accounted for 5.4% of the sample. 19.3% of the students did not provide information on the occupation of their mothers. The large number of students reporting on their mothers to be farmers can be explained by the fact that Meru South District which a

predominantly rural district has farming as the major source of livelihood.

(iii) **Guardians' occupations**

The results from the students' questionnaire requesting them to indicate the occupation of their guardians indicated that only 35 students (10.6%) responded on this. Table 22 indicates the results. The guardians were mainly farmers although the percentage (4.5) was small. 1.5% of the sample indicated that there guardians were teachers, another very minimal percentage were those representing nurses. businesswomen and doctors. This again shows that most of the guardians depended in farming for their livelihood. The information on all occupations revealed that not many parents/guardians were not in profession occupations

Table 24: **Guardians' occupations**

Occupation	**Frequency**	**Percent**
Teacher	5	1.5
Farmer	15	4.5
Doctor	3	.9
Nurse	3	.9
Business woman	2	.6
Business man	2	.6
Student	5	1.5
Total	**35**	**10.6**

Some students did not seem to interpret the meaning of the word guardian as the researcher probably that is why 1.5% of the students indicated their guardians to be students.

4.3.5 Payment of school fees

The students were asked to indicate whether or not their school fees was paid on time and if not paid in time to indicate how their learning had been affected. The results from the findings are indicated in Table 23.

Table 25: **Payment of school fees**

Response	Frequency	Percent
Yes	163	49.2
No	161	48.6
Total	**324**	**97.9**

The table revealed that 49.2% of the students had their school fees paid on time while, 48.6% of the sample indicated that their fees was not paid on time. The figures therefore revealed that almost 50% of the students had problems related to non-payment of fees. Due to non-payment of fees on time, students' were affected in various ways in regard to learning which in turn affected their performance. 34.1% of the sample indicated that they had been sent away for school fees and missed out learning in the process, 10.6% of the sample indicated that they continuously obtained low grades which discouraged them, 8.2% of the sample revealed that their learning was affected since they tended to concentrate on problems in their homes. The information is presented in Table 26.

Table 26: **How learning was affected due to non-payment of fees.**

Effect on learning	Frequency	Percent
Concentration on problems at home.	27	8.2
Missing lessons while sent home for fees.	113	34.1
Poor performance and poor grades obtained hence discouraged.	35	10.6
Total	**175**	**52.9**

4.3.6 Problems experienced by learners that could affect performance in KCSE Examination

Students were asked to indicate whether or not they were experiencing problems that could be used to explain performance in KCSE. The results from analysis are presented in Table 27.

Table 27: **Students responses on whether or not they were experiencing any problems that could affect performance in KCSE examination.**

Response	Frequency	Percent
Yes	188	56.8
No	140	42.3
Total	**328**	**99.1**

The table clearly indicates that a large proportion of students (56.8%) were experiencing some problems. 42.7% of the sample reported that they were not experiencing any problems.

Table 28 provides information on problems specified by students as affecting them. From the information presented, the problems students were experiencing were home, school, and teacher or self-based in origin.

Table 28: **Problems specified by students as affecting them**

Problem experienced	Frequency	Percent
Love affairs and difficulties in	50	15.1
concentration.	34	10.3
Incompetent teachers.	4	1.2
Poor teacher-student relationship.	2	.6
Lack of students' discussion.	2	.6
Hard concepts in subjects.	2	.6
Lack of libraries for references.	2	.6
Poor syllabus coverage.	3	.9
Tendency to concentrate on family problems.		
Total	**104**	**31.4**

Having considered responses from students' on leaner characteristics, response on the same from the Head teachers and teachers were considered. The respondents were asked to indicate the frequency of the student behaviour that could be used to explain performance in KCSE.

4.3.8 **Students' behaviour as perceived by head teachers**

Head teachers were asked to indicate students' behaviour in their schools based on criteria to show how frequent the behaviour was. The information from analysis is presented in Table 29.

Table 29: **Students' behaviour as perceived by head teachers**

	Behavior	**Frequency**		
		Frequent	**Sometimes**	**Rarely**
1	Sneaking/truancy	% 18.8	-	% 81.3
2	School strikes	% 12.5	-	% 87.5
3	Absent due to fees problems	% 59.4	% 28.1	% 6.3
4	Absent due to suspension	-	% 65.6	% 21.9
5	Absent due to punishment	% 6.3	% 59.4	% 28.1

This table revealed the following concerning students behaviour:

Sneaking/ Truancy: - Most head teachers 81.3% indicated that this behavior was rare in their schools while 18.8% reported that, truancy was common in their schools.

School strikes: 87.5% head teachers reported this as very rare in their schools. 12.5% head teachers indicated that school strikes were frequent in their schools.

Absent due to fees problems: 59.4% head teachers reported this as very frequent among students in their schools, 28.1% indicated that students had this problem sometimes and 6.3% head teachers reported that absence due to fees problems was very rare in their schools. 6.3% head teachers did not respond.

Absent due to suspension No cases of frequent suspension were reported. 65.6% head teachers reported that students were suspended sometimes with 21.9% head teachers indicating that suspension was rare in their schools. 12.5% head teachers did not provide a response on frequency of suspension.

Absent due to punishment 6.3% head teachers indicated that student punishments were frequent in their schools, 59.4% head teachers reported that student punishments were

sometimes. 28.1% head teachers reported rare cases of punishment. 6.3% head teachers did not provide a response on the same.

4.3.9 Students behaviour as perceived by teachers

Teachers were asked to indicate the frequency of students' behaviour in their school. The findings are presented in Table 30.

Table 30: **Learner characteristics as perceived by teachers.**

	Behaviour	Frequency		
		Frequent	**Sometimes**	**Rarely**
1	Truancy/Sneaking	-	% 37.0	% 57.4
2	School strikes	% 7.4	%14.8	% 77.8
3	Absent due to fees problems	% 74.1	% 20.4	% 5.6
4	Absent due to suspension	% 13.0	% 79.6	% 7.4
5	Absent due to punishment	% 37.0	% 53.7	% 3.7

The table revealed the following concerning students behavior:

Truancy/sneaking: More than 50% of the teachers revealed that truancy was a rare behaviour among students in their school while 37.0% reported that the behaviour only occurred at times.

School strikes: 7.4% of the teachers indicated that school strikes were frequent in their schools, while 77.8% reported that strikes were rare in their schools.

Fees problems 74.1% of the teachers reported that students absence due to fees problems was very frequent in their schools. 20.4% teachers reported that students were absent sometimes due to fees problems and 5.65 revealed that absence due to fees problems was rare.

Absent due to suspension: 13.0% teachers reported that absence due to suspension was frequent in their schools, 79.6% indicated that student suspension was sometimes and 7.4% indicated that absence due to suspension was rare in their schools.

Absent due to punishment 37.0% teachers indicated that punishments were frequent in in their schools, 53.7% teachers indicated that students were absent due to punishment sometimes while, 3.7% teachers reported that absence due to punishment was rare. 5.6% teachers did not indicate a response for the same.

From the respondents given by both head teachers and teachers it is evident that the two concurred in reporting that truancy and school strikes were rare in their schools.

4.3.10 Teachers' response on students' completion of assignments

Teachers' were requested to indicate whether students completed assignments on time. If not completed on time the teachers were asked to indicate reasons that students gave. Table 31 shows the outcome of analysis.

Table 31: **Teachers responses on completion of assignment**

Response	Frequency	Percent
Yes	114	52.8
No	95	44.0
Total	209	96.8
Total	**209**	**96.8**

The table indicates that 52.8% of students completed assignment on time while 44.0% did not. The reasons given for failer to complete the work were lack of adequate time with 14.8% of the sample representation. The other reason was too many assignments with a representation of 18.1%, lack of text books 1.9%, work too difficult 1.9%, laziness of students 7.4%. The results are as indicated in Table

32.

Table 32: **Reasons for not completing assignment**

Reason	Frequency	Percentage
Lack of adequate time	32	14.8
Too many assignments	39	18.1
Lack of text books	4	1.9
Too difficult work	4	1.9
Laziness of students	16	7.4
Total	**110**	**50.9**

4.4 Category of school and KCSE performance

Both teachers and head teachers were asked to indicate the category of their schools in one item in their questionnaire. Using head teachers questionnaire, the data obtained revealed that there were 5 categories of schools in Meru South District; Mixed boarding and day (28.1%) of the sample, girls boarding (28.1%), boys boarding (18.8%), mixed boarding 18.8% and mixed day (6.2%) of the sample. This may be that most parents preferred boarding schools. The information is presented in Table 33.

Table 33: **Category of school**

Category	Frequency	Percentage
Mixed boarding and day	9	28.1
Mixed day	2	6.2
Boys only boarding	6	18.8
Girls only boarding	9	28.1
Mixed boarding	6	18.8
Total	**32**	**100.0**

Mean scores in performance of the various school categories were analysed and presented in Table 34.

Table 34: **Mean scores of schools in categories**

School category	Mean score
Girls boarding only	6.759
Boys boarding only	6.515
Mixed boarding	6.234
Mixed boarding and day	4.929
Mixed day	3.745

Using the mean score, boarding schools that were single sex were found to perform better in the KCSE examination. The mixed boarding schools followed in

performance with day schools attending low scores. On the overall, the boarding schools seem to perform better. This therefore indicates that there is a relationship between school category and KCSE performance. This difference in performance was attributed to more available study time for the boarders compared to the day scholars. It is therefore recommended that parents of day scholars to be sensitized on the need to provide their children with more study time while at home.

4.5 **Resources and KCSE Performance**

Teachers, head teachers and students were asked to indicate the adequacy of various facilities and resources in their schools. The alternative choices for adequacy were as follows:

Adequate	-	A
Satisfactory	-	S
Inadequate	-	I
Not available	-	NA

The analysis was done under various headings as indicated below based on the three categories of respondents.

4.5.1. **Head teachers' response on adequacy of facilities and resources**

The information is presented in Table 35.

Table 35: **Head teachers' responses on the adequacy of facilities and resources in percentage**

School facilities and resources	A	S	I	NA
Staffroom	68.8	31.3	-	-
Classrooms	53.1	40.6	6.3	-
Library	6.3	21.9	65.6	6.3
Science Laboratories	28.1	40.6	25.0	6.3
Home Science Block	21.9	6.3	25.0	46.9
Dormitories	25.0	34.4	28.1	6.3
Teachers' houses	12.5	12.5	62.5	12.5
Playing fields	62.5	18.8	18.8	-
School Dining hall	53.1	25.0	21.9	-
Electricity	87.5	6.3	-	6.3
Classroom furniture	81.3	12.5	6.3	-
Library furniture	46.9	12.5	34.4	6.3
School laboratory equipment & furniture	37.5	28.1	34.4	-
Home science equipment	40.6	6.3	12.5	40.6
Teachers' reference books an guides	75.0	18.8	6.3	-
Students text books	25.0	50.0	25.0	-
Wall maps and charts	12.5	15.6	65.6	6.3
Laboratory chemicals	28.1	59.4	12.5	-
Library books	12.5	12.5	62.5	6.3
Chalkboard and chalk	56.3	31.3	12.5	-
Other stationary	62.5	31.3	6.3	-
Time for syllabus coverage	78.1	21.9	-	-

The results in table 35 revealed the following on facilities and resources:

Staffroom: Most schools had adequate staffroom (68.8%) 31.3% indicated their staffroom to be satisfactory.

Classrooms: Over fifty percent of the schools had adequate classrooms (53.1%), 40.6% with satisfactory classrooms and only 6.3% of the schools had inadequate classrooms.

Library: Only 6.3% of the sample indicated that their libraries were adequate with another 6.3% indicating that they did not have the facility in their schools.

Science Laboratories: Majority of the schools indicated that the science laboratories were satisfactory (40.6%). Only 28.1% of the schools had adequate science laboratories. Two schools (6.3%) did not have this facility. Those with inadequate laboratory facility were 25% of the sample.

Home science block: This facility was lacking in most schools. 46.9% of the sample indicated that the facility was lacking in their schools. This could be explained by the fact that Home Science is a very expensive subject and thus many schools in Meru South District may not be offering it.

Dormitories: In most schools, dormitories were indicated to be satisfactory 34.4%. The inadequate response was 28.1%, schools with adequate dormitories accounted for only 25%, while 6.3% of the sample did not have dormitories. The lack of the dormitories is explained by the fact that some schools are day.

Teachers' houses: From the table (62.5%) of the head teachers reported that teachers houses were inadequate in their schools. 12.5% indicated that they did not have staff houses in their schools.

Play fields: All the schools had play fields. In 20 schools (62.5%) the play fields were adequate while in 6 (18.8%) the play fields were satisfactory. In another 6 (18.8%) fields were inadequate.

School dining hall: The table revealed that all the schools had a dining hall. In 17(53.1%) the dining halls were adequate while, in 8 (25.0%) it was satisfactory and inadequate in 7(21.9%)

Electricity: In 28 schools (87.5%), electricity was adequate while in 2 schools (6.3%) it was satisfactory. In two schools, (6.3%) there was no electricity.

Staffroom furniture: In 21 schools (65.6%), furniture was adequate while in 8 schools (25.0%) it was satisfactory. For this facility, there were 3 missing systems. It was not therefore possible to tell if all schools had a staffroom.

Classroom furniture: The table indicated that all schools had this furniture. In 26 (81.3%) furniture was adequate; in 4(12.5%) it was satisfactory while in 2(6.3%) classroom furniture was inadequate. This can be interpreted to mean that most schools had tried to make their learners comfortable during the teaching-learning process.

Library furniture: In 15 schools (46.7%) library furniture was adequate while in 4(12.5%) furniture was satisfactory, in 11(34.4%) the furniture was inadequate while in 2 (6.3%) library furniture was not available.

School laboratory equipment and furniture: - The table revealed that 37.5% of the sample had adequate equipment and furniture while 34.4% of the sample indicated that these two were inadequate in their schools.

Home Science equipment: The table revealed that in (40.6%) of the schools equipment were adequate while in (6.3%) they were satisfactory. In (12.5%) of the schools equipment were inadequate and lacking in (40.6%) of the schools.

Dormitory furniture: In 13 (40.6%) the furniture was adequate while in 6 (18.8%) it was satisfactory. In 5 (15.6%) the furniture was inadequate and finally was not available in 8 (25.0%).

Teachers' reference books These were available in all the 32 schools. In 24 (75.0%) they were adequate, in 6 (18.8%) books and guides were satisfactory, while in 2 (6.3%) they were inadequate.

Students' text books: At least all the schools had text books for students. In 8(25.0%) books were adequate, in 16 (50.0%) they were satisfactory. The same was inadequate in 8(25.0%)

Wall maps and charts: In most schools 21 (65.6%), maps and charts were inadequate while in 5 (15.6%) they were satisfactory. In

4 (12.5%) the maps and charts were adequate and the same was not available in 2 (6.3%). This could be explained by the fact that teachers were not preparing charts or the schools were not providing for them.

Laboratory chemicals: All the 32 schools had the chemicals. In 19 (59.4%) they were inadequate, in 9 (28.1%) chemicals were adequate while in 4 (12.5%) they were inadequate. The availability could be explained by the fact that students are required to pursue two science subjects for KCSE examination.

Library books: From the table only 4 schools (12.5%) had adequate library books, while 20 (62.5%) had inadequate books, in 4 (12.5%) the books were satisfactory and were not available in 2 (6.3%).

Chalkboard and chalk: All schools had these. In 18 (56.3%) these were adequate, in 10 (31.3%) chalkboard and chalk was satisfactory and inadequate in 4 (12.5%).

Other stationary: In 20(62.5%) stationary was adequate, in 10 (31.3%) it was satisfactory and inadequate in 2 (6.3%).

Syllabus coverage: From the table, 25 (78.1%) indicated that time for syllabus coverage was adequate while 7 (21.9%) reported that it was satisfactory. This could be interpreted to mean that all the schools were able to cover their syllabus before examination time.

Having looked at the head teachers responses on the adequacy of resources, attention was focused on the teachers' responses on the same.

4.5.2. Teachers' responses on adequacy of facilities and resources

The results are as represented on Table 36.

Table 36: **Teachers' responses on the adequacy of facilities and resources in percentages**

School facilities and resources	A	S	I	NA
Staffroom	77.8	16.7	1.9	-
Classrooms	66.7	18.5	5.6	1.9
Library	14.8	20.4	51.9	5.6
Science Laboratories	28.1	40.6	25.0	-
Home Science Block	22.2	24.1	3.7	35.2
Dormitories	42.6	25.9	20.4	9.3
Teachers' houses	6.9	20.4	48.1	20.8
Playing fields	42.6	22.2	31.5	1.9
School Dining hall	33.8	36.6	25.9	1.9
Electricity	72.2	11.1	5.6	7.4
Staffroom furniture	72.2	16.7	9.3	-
Classroom furniture	69.0	25.9	3.2	-
Library furniture	23.6	27.8	26.4	11.1
Laboratory equipment and furniture	36.1	44.0	13.0	3.2
Home Science equipment	23.6	25.9	7.4	30.1
Dormitory furniture	40.7	29.6	11.1	9.3
Reference books and guides	57.4	20.4	16.7	-
Students text books	46.3	33.3	16.7	1.9
Wall maps and charts	14.8	137.0	22.2	22.2
Laboratory chemicals	35.6	36.6	13.0	-
Library books	19.9	18.5	4.85	3.7
Chalk boards and chalk	66.7	25.9	1.9	-
Other stationary	50.0	29.6	5.6	1.9
Time allocated for syllabus coverage	40.7	22.2	31.5	-

The results in Table 36 revealed the following on the teachers' responses on adequacy of school facilities and resources.

Staffroom: (77.8%) of teachers felt that the staffroom facility in their school was adequate while (16.7%) felt it as satisfactory. only (1.9%) of the teachers felt that the staffroom facility was inadequate.

Classrooms: From the table, (66.7%) of the teachers indicated that their schools had adequate classrooms, (18.5%) revealed that the classrooms were satisfactory, (5.6%) cited them as inadequate.

Library: (14.8%) of the teachers indicated that they had adequate library facility in their school, (20.4%) described them as satisfactory while (51.9%) cited that school libraries were inadequate. A few teachers (5.6%) of the sample revealed that libraries were not available in their schools.

Science laboratories: Those teachers who indicated the science laboratories to be adequate were (35.2%), adequate (53.7%) and inadequate (5.6%). (5.6%) teachers did not respond on the same.

Home Science block: Those who indicated the block as being adequate were (22.2%) teachers, satisfactory (24.1%), inadequate (3.7%). (32.2%) revealed that the Home Science blocks were not available in their schools.

Dormitories: (42.6%) indicated that the dormitories in their schools were adequate, while (25.9%) indicated that they were satisfactory 4 (20.4%) felt that dormitories were inadequate and (9.3%) revealed that their schools did not have dormitories. The lack of dormitories in some schools meant that the teachers were in day schools.

Teachers houses: (6.9%) of the teachers described teachers houses as adequate. (20.4%) felt that teachers houses were satisfactory, (20.8%) of the teachers revealed that their schools did not have teachers houses.

Playing fields: (42.6%) teachers felt that the play fields in their schools were adequate, (31.5%) of the teachers indicated that playfields were inadequate and (1.9%) reported that play fields were not available in their schools.

School dining hall: Those who described dining hall as adequate were (33.8%) of the sample, while (25.9%) felt that their school halls were inadequate. A few teachers (1.9%) indicated that their schools did not have the facility.

Electricity: (72.2%) teachers revealed that electricity was adequate in their schools, (11.1%) described it as satisfactory, and (7.4%) of the

teachers revealed that their schools lacked electricity. 8(3.7%) teachers did not give a response.

Staffroom furniture: (72.2%) teachers indicated that the furniture was adequate, (16.7%) felt that the furniture in their schools was satisfactory and (9.3%) reported it to be inadequate.

Classroom furniture: (69.0%) teachers described classroom furniture in their schools as adequate, (25.9%) as satisfactory, (3.2%) teachers described the furniture as inadequate.

Library furniture: (23.6%) teachers felt that their schools had adequate library furniture, (27.8%) teachers described library furniture as satisfactory, (26.4%) of the teachers describing the same as inadequate. (11.1%) teachers revealed that their schools lacked this furniture.

Laboratory equipment and furniture (36.1%) teachers reported that the facilities were adequate, (44.0%) reported them as satisfaction 28 (13.0%) as inadequate and (3.2%) indicated that the equipment and furniture were not adequate in their schools.

Home Science equipment: (23.6%) teachers indicated that the equipment were adequate in their schools, (25.9%) teachers described them as satisfactory, (7.4%) as inadequate (30.1%) reported these facilities were lacking in their schools.

Dormitory furniture: (40.7%) teachers indicated that the furniture was adequate in their schools, (29.6%) described it as satisfactory, (11.1%) as inadequate while (9.3%) reported that the furniture did not exist in their schools.

Reference books and guides: (57.4%) of the teaches indicated that the resources were adequate in their schools, (20.4%) felt that these were satisfactory and (16.7%) described these resources as inadequate in their schools.

Student text books: The table revealed that (46.3%) of the teachers revealed that the books were adequate in their schools, (33.,3%) described them as satisfactory, (16.7%) as inadequate with (16.7%) teachers reporting that their schools lacked student text books.

Wall maps and charts: (14.8%) revealed that their schools had adequate of these resources. (37.0%) had satisfactory maps and charts. (22.2%) teachers reporting that these resources were inadequate in their schools and (22.2%) reported that their schools lacked these resources.

Laboratory chemicals: (35.6%) of the teachers reported that their schools had adequate chemicals. (36.6%) reported them to be satisfactory and (13.0%) reporting them as inadequate in their schools.

Library books: (19.9%) teachers revealed that their schools had adequate library books, (18.5%) reported that the books were satisfactory, (48.5%) teachers described library books as inadequate and (3.7%) revealed that their schools lacked library books.

Chalk boards: and chalk (66.7%) teachers reported them to be adequate in their schools, (25.9%) felt that these were satisfactory and (1.9%) revealed that chalkboards and chalk was not adequate in their schools.

Other stationary: (50.0%) teachers reported that their schools had adequate stationary, (29.6%) teachers described stationary as satisfactory, (5.6%) reported that the stationary was inadequate. (1.9%) teachers felt that stationary was not available in their schools.

Time allocated for syllabus coverage (40.7%) teachers indicated that the time allocated for syllabus coverage was adequate, (22.2%) teachers reported that the time was satisfactory, while (31.5%) reported that the time was not adequate.

4.5.3 Students responses on adequacy of resources

Students who are asked in one of the items in their questionnaire to indicate the adequacy of the resources in their schools. The findings are presented in Table 37.

Table 37: **Students responses on adequacy of resources**

Facilities	Adequate	Inadequate	Not available
Text books	N 230 % 69.5	N 85 % 25.7	-
Laboratory materials and apparatus	N 228 % 68.9	N 97 % 29.3	N 5 % 1.5
Library	N 143 % 43.2	N 153 % 46.2	N 34 % 10.3
Desks	N 318 % 96.5	N 13 % 3.9	-
Chairs	N 316 % 95.5	N 13 % 3.9	-
Chalkboards	N 322 % 97.3	N 6 % 1.8	N 3 % .9

The table revealed the following from the students on adequacy of resources:

Text books: 230 (69.5%) students described text books in their schools as adequate with 85 (25.7%) students describing them as inadequate.

Laboratory materials and apparatus 228(68.9%) students revealed that this facility was adequate in their schools. 97(29.3%) students described them as inadequate and 5 (1.5%) indicated that the equipment and materials were lacking in their schools.

Library: 143 (43.2%) students reported that their school libraries were adequate. 153 (46.2%) students revealed that their libraries were inadequate and 34 (10.3%) indicated that their schools lacked libraries.

Desks: The students who indicated that desks were adequate in their schools were 318 (96.1%), with 13 (3.9%) indicating that desks were inadequate in theirs.

Chairs: 316 (95.5%) students revealed that chairs were adequate in their schools with 13(3.9%) reporting that chairs were not adequate.

Chalkboard: 322 (97.3%) students indicated that the chalkboard was adequate in their schools. 6(1.8%) reported that the same was inadequate in their schools.

4.6. Class size and students performance in KCSE

Students were required to indicate the range of students in their classes in one of the questionnaire items. The results are as indicated in Table 38.

Table 38: **Class sizes as indicated by students**

Class size	Frequency	Percent
20 – 30	3	.9
31 – 40	105	31.7
41 – 50	217	65.6
Above 51	6	1.8
Total	**331**	**100.0**

From the table, it is clear that most classes were in the range of 41 – 50 students (65.6%). The second-class size was that of between 31 – 40 students with (31.7%). Classes with over 51 students had a percentage of 1.8% while, classes of 20 – 30 had a very minimal percentage of (.9%). This means that majority of the classes in Meru South District were large.

4.7 Relationship between performance in KCSE Examination and other variables under study.

To establish whether there was a relationship between theory scores with categories "above average", "average" and "below average were cross-tabulated against the categorized data.

4.7.1 Relationship between KCSE performance and teacher characteristics.

The characteristics considered were:

- Age of the teacher
- Academic qualifications of teachers
- Teaching experience and
- The commitment of teachers

Table 39: Relationship between KCSE performance and Age of teachers.

	Age of teachers' (in years)				
	25 and below	26 - 35	36 - 44	45 - 54	**Total**
Performance	N	N	N	N	**N**
Above average	2	10	14	8	**48**
Average	3	30	64	17	**124**
Below average	3	24	26	15	**44**
Total	**8**	**64**	**104**	**40**	**216**

$\chi^2 = 10.21$

df = 4

$\alpha = 0.05$

The tabulated critical value χ^2 at the level of significance of 0.05 with 4 degree of freedom was 9.45 while the calculated χ^2 was 10.21. This showed that there was a relationship between performance in KCSE examination and age of teachers.

Table 40: Relationship between KCSE performance and academic qualification of teachers.

	Academic qualifications					
Performance	M.Ed	B.Ed	B.A/B.Sc General	S1/Diploma	Technical	**Total**
	N	N	N	N	N	**N**
Above average	0	97	1	5	0	**103**
Average	5	28	3	28	4	**68**
Below average	3	12	0	30	0	**45**
Total	**8**	**137**	**4**	**63**	**4**	**216**

$\chi^2 = 64.82$

df = 4

$\alpha = 0.05$

The tabulated critical value χ^2 at the level of significance of 0.05 with 4 degree of freedom was 9.45 while the calculated χ^2 was 64.82. This indicated a statistically significant relationship between performance in KCSE examination and academic qualification of teachers.

Table 41: Relationship between KCSE performance and Teaching experience of teachers.

	Teaching experience (in years)					
Performance	Below 1	1-2	3-5	6-10	Over 10	**Total**
	N	N	N	N	N	**N**
Above average	0	0	4	30	67	**101**
Average	3	5	16	15	36	**75**
Below	1	3	16	13	7	**40**
Total	**4**	**8**	**36**	**58**	**110**	**216**

$\chi^2 = 26.75$

df = 4

$\alpha = 0.05$

The tabulated critical value χ^2 at the level of significance of 0.05 with 4 degree of freedom was 9.45 while the calculated χ^2 was 26.75. This indicated a relationship between KCSE performance and teaching experience of teachers. This concurs with a World Bank report (1987) which noted that the number of years of experience of a teacher was the most consistently positive and significant contributor to pupils academic achievement.

Table 42: Relationship between KCSE performance and teachers commitment to school work.

	Responses on teacher commitment by students					
Performance	Strongly agree	Agree	Undecided	Disagree	Strongly agree	**Total**
	N	N	N	N	N	**N**
Above average	66	110	6	12	7	**201**
Average	25	32	29	7	2	**85**
Below average	11	18	9	5	2	**45**
Total	**102**	**160**	**34**	**24**	**11**	**331**

$\chi^2 = 42.89$

df = 3 $\alpha = 0.05$

The chi-square value obtained at three degree of freedom (3df) was 42.89, while the critical value at 3df was 10.49 at 0.05 level of significance. Since the obtained cir-square was greater than the critical value, there was indication of a relationship between KCSE performance and commitment of teachers. This concurs with findings by Waweru (1982) which established that teacher commitment to school work was a key characteristic to successful learning and achievement.

4.7.2 Relationship between KCSE performance and learner characteristics.

The characteristics considered were:

- Students gender
- Students entry points

Table 43: Relationship between students KCSE performance and gender

	Students gender		
Performance	Male	Female	**Total**
	N	N	**N**
Above average	93	**78**	**171**
Average	61	65	**126**
Below average	29	5	**34**
Total	**183**	**148**	**331**

$\chi^2 = 9.21$

df = 4 $\alpha = 0.05$

The Chi-square value obtained at 4 degrees of freedom was 9.21, while the critical value of Chi-square at 4 df is 9.49 at 0.05 level of significance. Since the obtained Chi-square value is smaller than the critical value then there is no relationship between performance in KCSE performance in examination and students' gender.

Table 44: Relationship between KCSE performance and students entry points (KCPE)

	Entry points					
Performance	151-200	201-250	251-300	301-350	351-500	**Total**
	N	N	N	N		N
Above average	2	2	36	56	20	**121**
Average	3	4	14	90	18	**129**
Below average	7	5	21	40	8	**81**
Total	**12**	**11**	**71**	**186**	**46**	**331**

$\chi^2 = 17.35$

df = 4

$\alpha = 0.05$

The tabulated critical value χ^2 at the level of significance of 0.05 with 4 degrees of freedom was 9.45 while the calculated χ^2 was 17.35. This indicated that there was a relationship between performance in KCSE and students entry points.

4.7.3 Table 44: Relationship between KCSE performance and school category

	School Category					
Performance	Mixed Boarding and day	School Mixed day	Boys Boarding	Girls Boarding	Mixed Boarding	**Total**
	N	N	N	N	N	
Above average	2	-	2	3	-	**7**
Average	5	1	3	3	2	**14**
Below average	2	1	1	3	4	**11**
Total	**9**	**2**	**6**	**9**	**6**	**32**

$\chi^2 = 15.188$

df = 4

$\alpha = 0.05$

The tabulated critical value χ^2 at the level of significance of 5% (0.05) with 4 degree of freedom was 9.45 while the calculated χ^2 was 15.188. This showed a statistically significant relationship between performance in KCSE examination and category of schools.

4.7.4 Relationship between KCSE performance and adequacy of resources

The resources covered in this analysis of relationship are:

- Textbooks
- School laboratory
- Library
- Desks

Table 45: Relationship between KCSE performance and Textbooks

	Adequacy of text books		
Performance	Adequate	Inadequate	**Total**
	N	N	N
Above average	138	32	**170**
Average	62	21	**83**
Below average	38	40	**78**
Total	**238**	**93**	**331**

$\chi^2 = 125.97$

df $= 4$ $\alpha = 0.05$

The tabulated critical value of χ^2 at the level of significance of 5% (0.05), and 4 df was 9.49. while the calculated value of χ^2 was 125.97. This indicated that a high significant relationship existed between adequacy of textbooks and the performance of students in KCSE examinations.

Table 46: Relationship between performance in KCSE and adequacy of laboratory the school

Performance	Adequacy of laboratory			
	Adequate	Inadequate	Not available	**Total**
	N	N	N	**N**
Above average	126	58	-	**184**
Average	91	13	3	**107**
Below average	12	26	2	**40**
Total	**229**	**97**	**5**	**331**

$\chi^2 = 52.88$

χ^2 Critical (4) = 9.49

The χ^2 value obtained of 52.88 is greater than the critical value and therefore indicates a significant relationship between students' performance in KCSE and adequacy of laboratory.

Table 47: Relationship between performance in KCSE and adequacy of Library

	Adequacy of library			
Performance	Adequate	Inadequate	Not available	**Total**
	N	N	N	**N**
Above average	105	43	3	**151**
Average	33	40	10	**83**
Below average	6	70	21	**97**
Total	**144**	**153**	**34**	**331**

$\chi^2 = 40.4$ df = 4 $\alpha = 0.05$

The tabulated critical value χ^2 at the level of significance of 5% (0.05) with 4 degree of freedom was 9.45 while the calculated χ^2 was 40.4. This showed a statistically significant relationship between adequacy of library and students performance in KCSE examination.

Table 48 Relationship between KCSE performance and adequacy of desks.

Performance	Adequacy of desks		
	Adequate N	Inadequate N	**Total**
Above average	178	2	**180**
Average	90	8	**98**
Below average	50	3	**53**
Total	**318**	**13**	**331**

$\chi^2 = 33.18$

df = 2

$\alpha = 0.05$

The Chi-value obtained at two (2) degree of freedom was 33.18 while the critical value of Chi-square at 2 df is 5.99 at 0.05 level of significance.

Since the obtained Chi-square value is greater than the critical value, there is indication of a relationship between KCSE performance and adequacy of desks.

4.7.5 **Table 49: Relationship between KCSE performance and class side**

	Class size range				
Performance	21 – 30 N	31 – 40 N	41 – 50 N	Above 50 N	**Total**
Above average	-	2	78	1	**81**
Average	1	68	114	3	**186**
Below average	2	35	25	2	**64**
Total	**3**	**105**	**217**	**6**	**331**

$\chi^2 = 7.38$

df = 3

$\alpha = 0.05$

The chi-square value obtained at three degree of freedom (3df) was 7.38, while the critical value at 3df was 10.49 at 0.05 level of significance since the obtained Chi-square was smaller than the critical value, there was indication that there was no relationship between class size an performance in KCSE performance. This concurs wit the World Bank report (1987) on studies conducted in Thailand on effect of class size on learning which established that students in schools with higher students ratio learn less than students schools with schools with lower student ratio.

4.8 Opinion of teachers, head teachers and students on performance in their schools

Teachers, head teachers and students were asked to indicate whether the school performance was above average, average or below average.

4.8.1. Teachers rating on performance in their schools

This information is presented in Table 50.

Performance	Frequency	Percentage
Above average	16	7.4
Average	169	78.2
Below average	24	11.1
Total	**209**	**96.8**

Majority of the teachers 78.2% reported performance in their schools as average. 7.4% of the sample indicated that performance in their school was above average while 11.1% of the teachers indicated that performance in their schools was below average. Seventeen (17) teachers did not give a response.

4.8.2. **Head teachers rating on performance in their schools**

The information provided by the head teachers is presented in Table 51.

Performance	Frequency	Percentage
Above average	7	21.9
Average	13	40.6
Below average	12	37.5
Total	**32**	**100.0**

Majority of the head teachers (40.6%) indicated that performance in their schools was average, 29.9% of the head teachers indicated performance that was above average while 37.5% indicated performance that was below average.

4.8.3 **Students rating on performance in their schools**

Information given by students is presented in Table 52.

Performance	Frequency	Percentage
Above average	35	10.6
Average	201	60.7
Below average	15	4.5
Total	**251**	**75.8**

The table revealed that majority of the students (60.7%) indicated their schools to have average performance. 10.6% of the students indicated performance that was

above average while a few students (4.5%) reported that performance in their school was below average.

From the three tables on rating it is evidence that the three categories of response concurred in their rating that; is average performance had the highest response followed by average performance and lastly below average performance. Eighty students did not provide a response on this.

4.8.4 Head teachers suggestions on what could be done to improve performance in schools

- Schools should be provided with adequate staff and textbooks.
- Teachers needed to be motivated.
- Taking measures to improve study habits of students.
- Providing enough laboratory equipment and materials.
- Students with higher marks be admitted to the schools
- Administrators should encourage intrinsic motivation of learners.
- Fees related problems for needy students could be eradicated through bursary scheme.

The details on this is presented in Table 53.

Table 53: **Head teachers opinion on what could be done to improve performance**

Suggestion	Frequency	Percentage
Provide adequate textbooks. staff and motivate teachers.	3	9.4
Improve study habits of students, revision materials and time management.	7	21.8
Provide enough lab equipment.	4	12.5
Admit students with high marks.	4	12.5
Encourage intrinsic motivation among students.	8	25.0
Provide proper supervision of curriculum.	2	6.3
Eradicate fees related problems for needy students	2	6.3
Total	**30**	**93.8**

Two (2) head teachers did not respond on this item.

4.8.5 Teachers opinion on factors that influence performance in their schools

- Poor school discipline
- Low moral and lack of cooperation by students
- Fees related problems
- Love affairs
- Unmet psychological needs of both students and teachers

- Overloaded teachers, curriculum and overcrowded classrooms
- Teachers lacking hard working culture.
- Lack of adequate facilities
- Students negative attitudes towards some subjects.
- Low entry mark

Information on this is presented in Table 54

Table 54: **Teachers opinion on factors that influence performance in their schools**

Opinion	Frequency	Percentage
Students indiscipline, low morale and lack of cooperation.	31	14.4
Fees problems and love affairs.	8	3.7
Unmet physical needs of students and teachers.	15	6.9
Lack of dedication by teachers.	4	1.9
Motivation and team work.	12	5.6
Willingness of students to learn.	8	3.7
Overloaded teachers and curriculum, and overcrowded classes.	4	1.8
Lack of hard working culture among learners.	16	7.4
Concentration and seriousness of students.	4	1.9
Good leadership and good examination preparation.	8	3.7
Family background and laziness.	4	1.9
Hurry coverage of syllabus.	28	13.0
Lack of facilities and negative students attitudes.	8	3.7
Interschool competition.	16	7.2
Peer pressure.	8	3.7
Low entry marks and poor teaching culture.	11	5.1
Committed school heads.	4	1.9
Total	**189**	**87.9**

Forty seven teachers did not give their opinions.

4.8.6 **Teachers suggestions on what could be done to improve performance**

- Instilling discipline among learners
- Counselling of students to be encouraged in schools
- Schools to provide conducive learning environment by improving learning facilities.
- Encourage a study culture among students.
- Both students and teachers to be motivated.
- Admission of classes that are manageable
- Give students individual attention
- Bursaries be made available to the needy students to avoid absenteeism due to fees related problems
- Schools to employ more teachers.

Information on this is presented in Table 55.

Table 55: **Teachers opinion on what could be done to improve performance in their schools**

Suggestion	Frequency	Percentage
Instill discipline among learners.	15	6.9
Counselling to be encouraged.	16	7.4
Improve facilities to provide a conducive environment.	28	13.0
Encourage study culture among learners.	36	16.7
Improve entry mark.	15	6.9
Motivate both teachers and learners.	43	19.9
Admit manageable classes.	8	3.7
Improve discipline.	4	1.9
Give students individual attention.	16	7.4
Provide bursary to the needy students.	11	5.1
Employ more teachers.	4	1.9
Total	**196**	**90.7**

Thirty teachers did not respond.

4.8.7 Factors cited by students as influencing KCSE performance in their schools

- Teachers failing to explain concepts in subjects clearly
- Lack of adequate revision materials
- Low commitment by students
- Lack of self confidence by learners
- Teachers concentrating only on high performers in class

Detailed information is presented in Table 56.

Table 56: **Factors cited by students as influencing KCSE performance**

Suggestion	Frequency	Percentage
Good discipline and enough resources.	33	10.0
Lack of proper teaching and incompetent teachers.	57	17.2
Lack of enough revision materials.	23	6.9
Peer pressure.	2	.6
Lack of commitment by students.	4	1.2
Lack of adequate time management.	4	1.2
Lack of self confidence by learners and the tendency by teachers to concentrate on high performers.	4	1.2
Lack of a conducive learning environment.	2	.9
Motivation and commitment by stake holders.	3	.9
Total	**135**	**39.9**

4.8.8 Suggestions by students on what could be done to improve KCSE performance in their schools

- Teachers should be more committed
- Improve counselling and teacher – student relationship
- Students to be motivated to work harder
- Schools and teachers to encourage discussions among students
- Head teachers to improve on teacher management
- Schools to ensure that form one selection was based on merit.

More information on this is provided in Table 57

Table 57: **Suggestions by students on what could be done to improve KCSE performance in their schools**

Suggestion	Frequency	Percentage
Learners to be encouraged through teaching.	2	.6
Fees to be paid on time.	4	1.2
Improve counselling, and teachers-students relationship.	6	1.8
Teachers to treat learners equally.	2	.6
Syllabus to be covered in good time.	6	1.8
Schools to encourage discussions among learners.	13	3.9
Prepare students on how to answer questions.	5	1.5
Head teachers to manage teachers strictly.	5	1.5
Avoid sending students away for fees many times.	11	3.3
Select form ones on merit.	6	1.8
Total	**69**	**18.2**

Summary on Research findings

This chapter attempted to establish if there was statistically significant relationship between students' performance in KCSE and in the variables under study.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary of the study, conclusions drawn from the findings of the study and the recommendations for possible action and for further research.

The main aim of the study was to investigate factors that influence students' performance in the KCSE Examination in Meru South District. The impetus for the study was the continuous district's performance far below mean grade of C+ (mean score of 7 points out of 12 points) in KCSE examination, which was a requirement for entry into institutes of higher learning.

In this study, the dependant variable was KCSE performance. This was investigated in relation to selected independent variables, the teacher characteristics, learner characteristics, category of school, resources in schools and class size.

Thus, the objectives of this study were:

1. To establish if teachers characteristics had any influence on students performance in KCSE examination.
2. To assess the extent to which learner characteristics influenced performance in KCSE examination.

3. To determine the relationship between category of school and students' performance in KCSE examination.
4. To establish whether the availability of resources in schools was related to students performance in KCSE examination.
5. To establish whether there was any relationship between class size and students performance in KCSE examination.

Stratified sampling was used to cater for all school categories and then simple random sampling was used to select the respondents. A total of 32 schools out of a population of 36, 331 students out of a population of 2498, 226 teachers out of a population of 560 and 32 head teachers of the sample schools were used in the study. There were three sources of data: teachers who taught form fours, the head teachers of the sample schools and the form four students. Data collection was done through the use of teachers, head teachers' and students' questionnaires. Both descriptive and inferential statistics were used to analyse the obtained data. In particular, the chi-square statistic was used to establish the relationship between the various variables.

5.1 Summary on findings

5.1.1 Personal data

Data from the head teachers questionnaire indicated that the majority of head teachers were mature aged 40 years and above. They were professional qualified with majority holding Bachelor of Education Degree. The study also indicated that the head teachers had a long service in the teaching profession.

Pertaining to teachers majority of teachers were males (60.2%). Most of them were mature and professional qualified.

Data from pupil question questionnaire show that the male were slightly more than the females. Additional, majority had an entry mark of above 300 marks

5.1.2 Students performance in KCSE in relation to teacher characteristics

- There was a relationship between age of teachers and performance in KCSE.
- Academic qualification of teachers was significant in influencing performance in KCSE.
- The experience of teachers influenced students performance in KCSE. It was related to the performance.
- The commitment of teachers was very significant in KCSE performance.

5.1.3 Students performance in KCSE in relation to learner characteristic

The Chi-square test was done to find out if there was any relationship between students' gender and entry point with performance. The statistic indicated that

- There was no relationship between KCSE performance and students gender.
- There was a relationship between students entry points and performance in KCSE.

5.1.4 Students performance in relation to category of school

- The chi-square test revealed a statistically significant relationship between KCSE performance and category of school.

5.1.5 Students performance in KCSE in relation to availability of resources to the school.

- There was a relationship between availability of textbooks and KCSE performance.
- Adequacy of the school laboratory contributed significantly to performance in KCSE.
- There was a statistically significant relationship between adequacy of library and students performance in KCSE.
- Adequacy of desk was significant in KCSE performance

5.1.6 Students performance in KCSE in relation to class size.

There was no relationship between class size and KCSE performance.

5.1.7 Problems affecting performance

The research findings on KCSE performance derived from head teachers, teachers and students indicated that the main problems that affecting performance were those related to

- Poor discipline among students
- Non payment of school fees

- Lack of self drive among students
- Lack of adequate revision materials
- Lack of self confidence by learners

5.2 Conclusions

From the fore going findings, it can be concluded that :-

1) Teacher characteristics were very significant in influencing KCSE performance.
2) The entry marks of candidates greatly influenced performance in KCSE
3) The category of school was significant in influencing performance.
4) Availability of resources by the school significantly influenced performance.
5) Class size does not affect performance.

5.3 Recommendations

The following are the recommendations based on the findings and conclusions of the study:-

1) Since teachers experience was significant in performance, teachers should be provided with opportunities for more exposure through in-service programmes.
2) A higher entry level to the schools be considered for students joining secondary school and selection be based on merit to various schools.

3) Single sex schools be encouraged since there performance was better than that of mixed schools. Boarding schools were found to be performing better than day schools. Parents should be sensitized to provide more study time to their children while at home. This can be done during school meeting.

4) That schools should strive to provide adequate resources. Where schools are limited in ways of finances improvisation should be encouraged where possible.

5) Schools should enhance discipline among learners since this was a problem hindering good performance. To deal with this, guidance and counseling programmes could be organized and strengthened at the school level.

6) Arrangement be made by the schools so that they identify needy learners financially and look for ways of assisting them through constituency development fund or bursaries through the Ministry if possible

5.4 Suggestions for Further Research

1. Given that this study focused only on Meru South District, a similar study in other districts in the country would be useful for comparative purposes.
2. This study investigated a limited number of factors that impact on performance in KCSE, namely, adequacy of facilities/resources in schools, class size, category of school, teacher and learner

characteristics. There are however, several other factors that may influence students' performance in KCSE, including attitudes towards subjects, school-community relations, administrative setting among others. It would therefore be necessary to explore the extent to which these other factors affect performance in KCSE.

3. Only public schools were considered for the study, a similar study could be carried out in private schools in the district for comparison purposes.
4. The study focused on a rural setting, a similar study could be carried out in an urban setting to give a balanced view of the factors, which influence students' performance in public secondary schools.

REFERENCES

Abagi. O. & Odipo (1997), *Efficiency of Primary Education in Kenya: Situational analysis and implementation for education reform.* Institute of policy analysis and research: Nairobi.

Airasian. P.W. (1994). *classroom Assessment.* New York: McGraw-Hill

Ary,D.Jacob, L. & Ravavich, A. (1972) *Introduction to Research in Education.* New York: Holt, Rinehart and Winston.

Ansu. E.E. (1984), *Sociology of Education.* London and Lagos: Longman

ASESP. (1994). *Social Studies Curriculum and Teaching Resource book for Africa* ASEP/KIE: Nairobi.

Asuga, G.N. (2002), *Factors influencing Kenya Certificate of Primary Education Performance in Mbogoini Division, Nakuru District.* Unpublished M.Ed. Thesis uon.

Ayoo, S. (2002). *Factors affecting students performance in Kenya Certificate of secondary Education in public secondary schools in Maseno Division.* Unpublished M.Ed. Thesis, University of Nairobi.

Bell, J. (1993) Doing your Research Project (2nd ed.). Buckingham: Open University Press.

Bents, M. & Bents. S.R. (1990), *Perceptions of good teaching among novice, advanced beginner and expert teacher.* A paper presented at the annual meeting of American Educational Research association. Boston.

Berliner, D.C. (1986),In *pursuit of the expert pedagogue.* New York:Longman:

Best, W.J. (1998). Research in Education. Printer Prentice: New York.

Bett. J. (1986). *A survey of the factors that influence performance in KCSE Examination in Kericho district.* Unpublished M.Ed. Thesis Kenyatta University

Blair, M.G., Stewart, J.R & Simpson, R.H. (1975), *Educational Psychology (4th Ed.)* Macmillan: New York.

Borg, R.W. & Gall, M.D (1989) *Educational Research.* New York: Longman:

Brunswick, K. & Hagger, H. (1992). *Planning textbook development for Primary Education in Africa. Report of IIEP seminar, Maputo 1991* International institute for educational planning and Swedish International development Authority; Paris.

Bunyi & Okemo (2002), *A study on effect of distance on education for girls.* Dakar:
UNESCO

Campell. T.I. (1986), *Secondary school at work.* London: Routledge:

Carron, G. & Chau. N. (1996). *The quality of primary schools in different development context.* International institute of education planning: Paris.

Cattell & child (1992) *Effects of Ability, personality and teacher level of motivation on performance.* New York.: Routledge

Cooper, S.P. (1989), Research Methods for Education. Boston: Prentice-Hall

Court, D & Ghai (1974), *Education, society and development. New perspective from Kenya. Nairobi: Oxford University press;*

Culten, K. (1968), School and family social factors in educational attainment. New York.:Dublin Gills and Macmillan

Curtis, C.K. & Shaver S.J. (1981) *Improving slow learners' self esteem in secondary school social studies classes.*

Journal of educational research 1981. Boston: Macmillan

Douglas, J. (1984), *The home and the school.* London: Gibbon and Kee

Downey, M. & Kelly, A.R. (1985) *Theory and practice of education: an introduction (3rd ed.)* New York:Rinehart & Winston

Duigna, R.(1986), *Research on effective schooling; some implications for improvement.* Journal of educational administration. Vol. XXXIV, No. 1. Boston: Houghton Miffline company:
Dunkin, N.J. & Biddle, B.J. (1974), *The Study of teaching.* Holt, Reinhart and Wiston: New York.

Eshiwani, G.S. (1983), *Education and development in western province of Kenya.* A paper presented at the leaders conference organized by the chamber of commerce.
Ehsiwani, G.S. (1988), *Education in semi arid areas: A study of determinants of school achievement in Kajiado District.* Unpublished study, bureau of educational research: Kenyatta University.

Eshiwani, G.S. (1993), *Factors influencing performance among primary and secondary schools in western province of Kenya.* Unpublished research report, Bureau of educational research: Kenyatta University.

Ezeilo. B.N. (1983), *Age, Sex and Self concepts in a Nigerian population* International Journal of behavioural development volume VI. Berkeley: University of California press:

Fuller, B. (1986), *Raising school quality in developing countries. What investments boost learning,* World Bank discussion paper. Education and training series.

Fyle, C. (1993), *Educational research and teaching methodologies in African states. Educational research for development in Africa.* UNESCO/ASESP.

Gatheru, J.M. (1987), *A study of factors that contribute to job satisfaction and dissatisfaction among primary school teachers in Nyeri municipality* unpublished M.Ed. Thesis: Kenyatta University.

Gitau F.N. , Rwantabagu, H & Makatiani, M.I. (1993), *Comparative education.* Nairobi:
University of Nairobi

Githinji, S.M. (1990), *A study of administrative problems faced by primary school head teachers in Nyeri municipality.* _Unpublished M.Ed. thesis Kenyatta University.

Grossman, P.L. (1989), *Learning to teach without teacher education.* Teacher's college press: New York.

Grossman, P.L. (1990) *The making of a teacher; Teacher knowledge and teacher education.* New York: Teachers' College Press

Griffin, G. (1996), *School Mastery.* Nairobi: Lectern publishers limited: Nairobi.

Hellinger, P. & Heck, R. (1995), *Exploring the principals' contributions to school effectiveness.* Boston: Greenfield Allyn and Bacon.

Heymemann S. & Loxley, W. (1993), *The effect of primary school quality on academic achievement across 29 high school and low income countries.* American journal of sociology vol. 88.

Hyneman, P. (1979) *Why impoverished children do well in Uganda schools.* Belmont:Wadsworth

Indongole, C.J.P. (1987), *The new 8-4-4 education system and its' implication for educational policy and practice in Kenya.* Unpublished M(Ed) Dissertation. University of Lancaster.

Johnson, J.M. and Ryan, K. (1983) *Research on the beginning teacher.* New York: Longman

Kagan. D. (1990), *"How teachers alienate students at Risk".* New York: Teachers' college press. Colombia University:

Karagu, G. (1980), *An investigation on Job satisfaction among elementary school teachers and head teachers in Nairobi, Kenya and a comparison of fourteen selected job factors from Hertzberg two factor theory.* Unpublished P.H.D. Dissertation: University of Illinois USA.

Kativo (1989), *A study of relationship between secondary school student needs to achieve and the educational level of their parents.* Unpublished M.Ed. Thesis, University of Nairobi.

Kerlinger, F.N. (1993), *Foundations of Educational Research.* New York: Rinchart and Winston.

Kombo, D.K. (1998) *Factors influencing students performance in the KCSE examination among Harambee secondary schools in Kathiani Division of Machakos District.* Unpublished Thesis, Kenyatta University.

Kyalo, F. & Kithuka, M. (1992), *Curriculum evaluation, the role of KNEC;* A paper presented in a seminar organized by centre for curriculum studies in Africa at Kenyatta University on 5th June 1992.

Kyalo (1984), *Study to find out the factors that affect the teaching of science in Changwithya location in Kitui District* Unpublished M.Ed. research report, University of Nairobi.

Lockheed, M.E. & Verspoor, A.M. (1991) *Improving primary education in Developing countries.* Washington DC: Oxford University press

Lockheed, M.E. & Hanusheck, E.A (1993) *Improving educational efficiency in developing countries. What do we know?* World Bank studies.

Maqsud, M. (1983) *Relationships of focus of control of self-esteem, Academic achievement and prediction of performance among Nigerian secondary schools pupils.* British journal of education psychology vol. 53.

Meangwe, T. (1985), *Investigation of factors influencing poor performance in rural areas.* A case study of Kisii unpublished PGDE report: University of Nairobi.

MOEST (1996). International Conference on Education. July 1996.

MOEST/KIE (2003) Needs assessment Survey Report on the Secondary Education Curriculum. Nairobi: Kenya Institute of Education.

MOEST (2003). *Report of the sector review and development.* Nairobi: Government printers.

Moskowitz, G. & Hayman, J.L. (1974) *Interaction patterns of first year typical and best teachers in inter-city schools.* Journal of educational research vol. 67.
Mulusa, T. (1988) Evaluating: Education and Community development programmes. Nairobi: University of Nairobi and Deutsche Stifford.

Murname,R.J. & Philips, B.R.(1981) *Learning by doing.* Longman: New York.

Musango, M. (1982), *Factors that influence pupils at 'O' level art examinations in Uganda.* Unpublished PGDE. Thesis, University of Nairobi.

Mouly, G.J. (1978) Edicatopma; Researcj. Boston: Allyn and Bacon.

Mutie, E. (1993) *"Factors and overall satisfaction of secondary school Administrators and Teachers in Kitui District, Kenya,"* M.Ed. Thesis, University of Saskatchersan.

Mwemwenda, T.S. and Mwamwenda, B.B. (1987) *Self-concept and Academic achievement in Botswana primary school earning examinations. Perceptual and motor skills.* Journal of education research vol. 65.

Mwamwenda, T.S. (1990), *Educational psychology: An African perspective* Cape town: Butterworth

Mwangi, D.T. (1993), *Factors that affect achievements in Kenya.* Bureau of educational research: Kenyatta University.

Ndiritu, W.A. (1999), *A study of factors which influence performance of Kenya Certificate of Secondary Education in selected public secondary schools in Nairobi and Central province of Kenya.* Unpublished M.Ed. Thesis; University of Nairobi

Ngaru (1987) *Analysis of factors, which influence performance in KCSE. Selected public secondary schools in Nairobi and central province in Kenya.* Unpublished M.Ed. Thesis, University of Nairobi.

Njuguna, F.W. (1998). *'A study of headteachers' leadership styles and students KCSE performance in public secondary schools in Nairobi province.'*. Unpublished doctorate Thesis. University of Nairobi.

Obonyo, N.L. (1987), *'The impact of teaching aids in secondary schools performance in KCE and KACE examination.* A case study of s elected government and private schools in Kisumu Municipality. Unpublished M.Ed. project. Kenyatta University.

Ochieng', O.M. (2001) *'Motivation factors influencing science teachers in public secondary schools. A case study of girls and co-educational schools in Migori District.* Unpublished M.Ed. research report, University of Nairobi.

Ogbu, J.U. (1987), *Variability in minority school performance. A problem in search of explanation.* San Francisco: Jossey – Bass

Okoth, A.U.(2002). *A study of the effects of leadership styles on performance in KCSE examination in Nairobi province.* Unpublished research report; University of Nairobi.

Omizo, M.M. Hammett, v.v. & Michael, W.B. (1981), *The dimensions of self concept as predictors of academic achievement among Mexican – American Junior high school students.* Educational psychology measurement. New York: Macmillan

Ornstein, A.C. (1995) *Strategies for effective teaching (4th ed.).* Chicago: Brown communications
Population Council and Republic of Kenya (1997), *Schooling and experience of adolescent girls in Kenya.* Nairobi: Government Printer

Pratt, D (1994), *Curriculum planning: A handbook for professionals.* Harcourt Brace college: Forthworth.

Psacharapolous, G. (1985), *Information an essential factor in educational planning and policy. Paris: UNESCO.*

Psacharapolous, G & Woodhall,M. (1985) Education for development: An analysis of investment choices. Oxford University press for World bank.

Purkey, W.W. (1984), *Inviting school success: A self concept approach to teaching and learning (2nd edn.)* Belmont: Wadsworth

Raju, B. (1973), *Education in Kenya: problems and perspective in educational planning and administration.* London: Heinemann

Reck, U.L. (1980), *Self-concept, school and social setting:* A comparison of rural Appalachiani and urban non-Appalachiani 6th grades. Journal of Educational Research.

Rottenberg, C.J. & Berliner, D.C. (1990) *Expert and Novice teachers' conceptions of common classroom activities.* A paper presented at the annual meeting of the American Educational Research Association: Boston.

Republic of Kenya (1964), *Kenya Educational Commission on Objectives and Policies (Ominde Report).* Nairobi: English Press

Republic of Kenya (1968), The Education Act Cap 211. Nairobi: Government Printers.

Republic of Kenya (1976), *Report of the National Committee on educational objectives and policies* (Gachathi Report).Nairobi: Government Printers.

Republic of Kenya, *Development plan (2002 – 2008).* Nairobi: Government printers

Kenya National Examinations Council Results Analysis Reports (2000, 2001, 2002, 2003, 2004). Nairobi.

Saunders, M. & Lewis, P. (2003). *Research methods for Business Students (3rd ed.)* London: Prentice Hall.

Schofield, H.L. (1981), *Sex, grade level and the relationship between Mathematics attitudes and achievement in children.* Journal of educational research.

Schiefelbein, E, & Simmons, J. (1981), *The determinants of school achievement. A review of research for developing countries.*

Schulman, J.H. (1987), *Case methods in teacher education.* New York: Teachers' College press, Colombia University

Shapon, S.M., Wright E.N. & Fitzgerald, J. (1980) *An experimental study of effects of class size.* American educational research journal 17(2)

Shavelson, R.J. & Bolus, S.R. (1982) *Self concept: The interplay of theory and methods.* Journal of educational psychology 74.

Shaw, M.E. & Wright, J.M. (1969). *Scales for the measurement of attitudes.* New York: McGraw – Hill book company.

Schultz, T.P. (1961) *Investment into human capital.* American economic review.

Sifuna, D.N. (1977), *Factors determining effectiveness among primary schools teachers.* Kenyatta University press: Nairobi.

Stodolsky, S.S. (1988), *The subject matters.* University of Chicago.

Southworth, G. & Loft house, B. (1990), *The study of primary education. A source book vol. 2 school organisation and management.* London: Falmer press.

UNESCO (1995), *Report on the state of education in Africa.* Education strategies for the 1990s: orientations and achievements. Dakar: UNESCO.

UNICEF Report (1990) *The girl child, An investment in the future.* New York: UNICEF.

Veenman, S. (1984), *Perceived problems of beginning teachers.* Review of educational research 54(2)
Wamahiu, S.P. & Mwiria K.(1995), *Issues in Educational Research in Africa.* Nairobi: East African Educational Publishers.

Wamai, O.M. (1991), *"Scratching the surface: Results of the first secondary examination under the new curriculum in Kenya"* Unpublished M.Ed. Long essay, school of education: university of Leeds.

Waweru, J.M. (1982), *Social economic background as an influence in pupils achievement in primary schools in Embu District.* Unpublished M.Ed. Thesis. University of Nairobi.

Winnie, P.H. (1979), *Experiments relating teachers' use of higher cognitive questions to student achievement.* Review of educational research, 49.

Wolf, F.M. & Blix, S.I. (1981), *A cross- sectional cross-lagged panel analysis of mathematics achievement and attitudes: implications for the interpretation of the direction of predictive validity.* Educational and psychological measurements, 41. London: Allen and Urwin.

World Bank (1987), *School and classroom effects on students' learning in Thailand.* Washington DC.: World Bank:
World Bank (1995), *Priorities and strategies for education.* A World Bank review. Washington D.C.:World Bank.

Worthen, B.R. & Sanders, J.R. (1987), *Educational evaluation. Alternative approach and practical guidelines.* New York: Longman.

NEWSPAPERS

The Daily Nation, 16th October, 1988

The Standard, 23rd September, 1990

The Standard, 1st October, 1998

The Standard, 1st December, 2000

The Daily Nation, 2nd December, 2000

The Daily Nation, 12th December, 2000

The Daily Nation, 12th May, 2000

The People Daily, 1st September, 2002

The Daily Nation, 4th September, 2002

The Kenya Times, 24th September, 2002

The People Daily, 25th September, 2002

APPDENDIX I

Letter to the respondents

Dear Respondent,

REF: FACTORS INFLUENCING ACADEMIC ACHIEVEMENT IN KCSE EXAMINATION IN MERU SOUTH DISTRICT.

I am a postgraduate student at the University of Nairobi, currently carrying out a study on the above stated subjects in Meru south District.
I kindly request you to respond to the questionnaire items as honestly as possible. The information you provide will be treated with absolute confidentiality. Neither your name nor that of the school will be recorded.

Thanks for your cooperation.

Yours sincerely,

.....

MERCY M. MUGAMBI

APPENDIX II

Head Teachers' Questionnaire

This questionnaire is divided into two sections, A and B. please complete each section according to the instructions. Do not write your name or the name of your school to ensure complete confidentiality.

SECTION A

Kindly respond to each item by putting a tick [ ] next to the response that is applicable to you.

1. Indicate your gender
   (a) Male [ ]
   (b) Female [ ]
2. What is your age bracket?
   (a) Below 25 years [ ]
   (b) 25 – 34 years [ ]
   (c) 35 – 44 years [ ]
   (d) 45 – 54 years [ ]
3. What is your highest academic qualification?
   (a) M.Ed. [ ]
   (b) B.Ed. [ ]
   (c) BA/BSC with PGDE [ ]
   (d) S1/Diploma in Education [ ]
   (f) Others (specify) .....
4. For how long have you been in the teaching professions?
   (a) 1 – 5 years [ ]
   (b) 6 – 10 years [ ]
   (c) 11 – 15 years [ ]
   (d) 16 – 20 years [ ]
   (e) Over 20 years [ ]
5. For how long have you served as a head teacher?
   (a) 1 – 3 years [ ]

(b) 4 – 6 years [ ]

(c) 7 – 10 years [ ]

(d) 11 – 15 years [ ]

(e) Over 15 years [ ]

6. For how long have you been head teacher in your current school?

(a) less than 1 year [ ]

(b) 1 – 2 years [ ]

(c) 3 – 5 years [ ]

(d) 6 – 10 years [ ]

(e) Over 10 years [ ]

7. What is the category of your school?

(a) Mixed boarding and day [ ]

(b)Mixed day [ ]

(c) Boys only - day [ ]

(d) Boys only boarding [ ]

(e) Girls only day [ ]

(f) Girls only boarding [ ]

SECTION B

For each item in this section, put a tick [ ] against the appropriate response.

PART I – information on availability of resources

8. (a) Please indicate the adequacy and conditions of the following facilities and resources in your school in the table proved below.

The alternative choices are as follows:

Adequate = A

Satisfactory = S

Inadequate = I

Not available = NA

Indicate with a tick ( )

For conditions, use this criteria

Good - 3

Fair - 2

Poor - 1

A. **Schools Facilities**		A	S	I	NA	CONDITION
1	Staffroom					
2	Classrooms					
3	Library					
4	Science laboratories					
5	Home science block					
6	Dormitories					
7	Teachers houses					
8	Playing fields					
9	School dining hall					
10	Electricity					

B.	Teaching/learning resources	A	S	I	NA	CONDITION
1	Teachers reference books and guides					
2	Students' text books					
3	Wall maps and charts					
4	Laboratory chemicals					
5	Library books					
6	Chalk boards and chalk					
7	Other stationery					
8	Time allocated for syllabus coverage					

C	**School furniture and equipment**	A	S	I	NA	CONDITION
1	Staffroom furniture					
2	Classroom furniture					
3	Library furniture					
4	Science laboratory					
5	Home Science equipment					
6	Dormitory furniture					

PART II – Information on inspection of schools

9. (a) Has your school been inspected in the last two(2) years?

Yes [ ] No [ ]

(b) If yes, how many times?

.....

10. What areas are inspected? Tick [ ] as many as appropriate.

AREAS INSPECTED	YES	NO
Finance records		
Lesson plans		
Schemes of Work		
Pupils progress records		
Teachers' records of work		
Adequacy of teachers		

11. (a) In your opinion does inspection have any effect on overall academic performance?

Yes [ ] No [ ]

(b) Briefly explain your answer in (a) above.

.....

.....

.....

PART III – Information on teaching learning process

Please indicate with a tick [ ] against the most appropriate response.

12. What is the average teacher- student ratio in your school?

(a) 1:30 [ ]

(b) 1:40 [ ]

(c) 1:50 [ ]

(d) 1:60 [ ]

(e) Any other specify .....

13. What is the average number of lessons per teacher per week?

(a) Below 20 lessons [ ]

(b) 20 – 24 [ ]

(c) 25 – 30 [ ]

(d) Over 30 [ ]

14. (a) Please indicate whether teachers in your school prepare the following documents. Tick as many as appropriate.

(i) Schemes of work [ ]

(ii) Lesson plans [ ]

(iii) Records of work [ ]

(iv) Student progress records [ ]

(b) How often do you make follow –up to ensure that these documents are prepared as required?

(i) Once a month [ ]

(ii) Twice a month [ ]

(iii) Once a term [ ]

(iv) Twice a term [ ]

(v) Any other (Specify) .....

15. (a) Are teachers in your school assigned to teach subjects they are not trained for?

(i) Yes [ ]

(ii) No [ ]

(b) If your answer to 17(a) is yes, give reasons.

.....

.....

.....

16. (a) Does your school have a shortage of teachers currently?

(i) Yes [ ]

(ii) No [ ]

(b) If your answer in 18 (a) is yes, indicate by how many .....

Specify the affected subject areas

.....

.....

PART IV – Students behaviour and factors affecting performance

17. Please indicate with a tick [ ] the frequency of the following students' behaviour in your school.

	Behaviour	Frequency		
		Frequent	Sometimes	Rarely
1	Absence due to sickness			
2	Absence due to sneaking/truancy			
3	School strikes			
4	Absence due to fee problems			
5	Absence due to suspension			
6	Absence due to punishment			

18. Kindly indicate with a tick [ ] your opinion on the following factors that may influence students' performance in examinations.

The alternative choices are as follows:

Strongly agree = SA
Agree = A
Undecided = U
Disagree = D
Strongly disagree = SD

	STATEMENT	SA	A	U	D	SD
(a)	Teacher training positively influences students performance in examinations					
(b)	In-servicing teachers boosts students' performance in examinations					
(c)	Frequent school-based curriculum monitoring enhances students' performance in examinations					
(d)	Motivating teachers boost students performance in examinations.					
(e)	The time allocated for syllabus coverage influences students' performance					

19. In your opinion. what are the factors that influence students' performance in KCSE examination in your school?

.....

.....

.....

.....

.....

20. (a) How do you rate the school's performance in KCSE?

(i) Above average [ ]

(ii) Average [ ]

(iii) Below average [ ]

(b) In your opinion what can be done to improve this performance

.....

.....

.....

THANK YOU

APPENDIX III

Teachers' Questionnaire

This questionnaire is divided into two sections, A and B. Please complete each section according to instructions. Do not write your name or the name of your school to ensure complete confidentiality. Kindly respond to all questions.

SECTION A

Respond to each item by putting a tick [ ] next to the response that is applicable.

1. Please indicate your gender.
   (a) Male [ ]
   (b) Female [ ]
2. Which is your age bracket?
   (a) 25 years and below [ ]
   (b) 26 – 34 [ ]
   (c) 36 – 44 [ ]
   (d) 45 – 54 [ ]
   (e) Above 54 [ ]
3. What is your highest academic qualification?
   (a) M.Ed. [ ]
   (b) B.Ed. [ ]
   (c) BA/B.Sc with PGDE [ ]
   (d) BA/B.Sc general [ ]
   (e) S1/Diploma in Education [ ]
   (f) Others (Specify) .....
4. What is the category of your school?
   (a) Mixed boarding and day [ ]
   (b) Mixed day [ ]
   (c) Boys only – day [ ]
   (d) Boys only boarding [ ]
   (e) Girls only day [ ]

(f) Girls only boarding [ ]

5. How long have you been in the teaching profession?

(a) Less than 1 year [ ]

(b) 1 – 2 years [ ]

(c) 3 – 5 years [ ]

(d) 6 – 10 years [ ]

(e) Over 10 years [ ]

6. Indicate the subjects you have been trained to teach.

1. .....

2. .....

SECTION B

For each of the question in this section, read the responses and put a tick [ ] against the appropriate response.

7. (a) What is your current teaching work load per week?

(i) Less than 20 lessons [ ]

(ii) 20 – 24 [ ]

(iii) 25 – 30 [ ]

(iv) More than 30 [ ]

(b) How do you rate this work load?

(i) Heavy [ ]

(ii) Moderate [ ]

(iii) Light [ ]

8. Are you assigned to teach subject(s) that you were not trained for?

(i) Yes [ ]

(ii) No [ ]

(b) If your answer in (a) above is yes, give reasons,

.....

.....

.....

.....

9. How do you rate the parents/guardians participation in their children's academic work?

(a) Good [ ]

(b) Satisfactory [ ]

(c) Poor [ ]

10. (a) How often do you give students assignments/homework?

(i) Daily [ ]

(ii) Once a week [ ]

(iii) Once a fortnight [ ]

(iv) Once a month [ ]

(v) Others specify [ ]

(b) Do students complete their assignments/homework as required?

(i) Yes [ ]

(ii) No [ ]

(c) If your answer to (b) above is no, put a tick [ ] against reasons that students give for not completing the work.

(i) Lack of adequate time [ ]

(ii) Too much homework/assignments [ ]

(iii) Lack of text books [ ]

(iv) Work is too difficult [ ]

(v) Any other (specify) .....

11. (a) Please indicate whether you prepare the following documents by ticking [ ] as many as appropriate.

(i) Schemes of work [ ]

(ii) Lesson plan [ ]

(iii) Records of work [ ]

(iv) Students progress records [ ]

(b) How often does the head teachers make a follow-up to ensure that these

documents are prepared as required.

(i) Once a month [ ]

(ii) Once a term [ ]

(iii) Twice a term [ ]

(iv) Any other specify .....

12. When do you normally complete the syllabus for your subject(s)?

(a) 3 months before examinations [ ]

(b) A month before examinations [ ]

(c) Just in time for exams [ ]

(d) Never completes [ ]

(e) Any other (specify) .....

13. Please indicate with a tick [ ] your opinion on the following factors that may influence students' performance in examinations.

The alternative choices are as follows:

Strongly agree = SA

Agree = A

Undecided = U

Disagree = D

Strongly disagree= SD

FACTORS	SA	A	U	D	SD
(a) Teacher training positively influences students' performance in examinations.					
(b) In-serving teachers boosts students performance in examinations.					
(c) Motivating teachers boosts students' performance in examinations.					
(d) Frequent school – based curriculum monitoring enhances students' performance in examinations.					
(e) The time allocated for syllabus coverage influences students' performance.					
(f) When parents are involved in school affairs, student performance improves.					

14. Please indicate the adequacy and conditions of the following facilities and resources in your school, in the table provided below.

The alternative choices provided are as follows:

Adequate - A

Satisfactory - S

Inadequate - I

Not available - NA

Indicate with a tick [ ].

Good - 3

Fair - 2

Poor - 1

	A School facilities	A	S	I	NA	CONDITIO N
1	Staffroom					
2	Classrooms					
3	Library					
4	Science laboratories					
5	Home Science blocks					
6	Dormitories					
7	Teachers houses					
8	Playing fields					
9	School dining hall					
10	Electricity					

	B. Teaching/learning resources	A	S	I	NA	CONDITION
1	Teachers' reference books and guide					
2	Students' textbooks					
3	Wall maps and charts					
4	Laboratory chemicals					
5	Library books					
6	Chalkboards ands chalk					
7	Other stationary					
8	Time allocated for syllabus coveage					

	C. School furniture and equipment	A	S	I	NA	CONDITION
1	Staffroom furniture					
2	Classroom furniture					
3	Library furniture					
4	School laboratory equipment and furniture					
5	Home Science equipment					
6	Dormitory furniture					

15. Please indicate with a tick [ ] the frequency of the following students' behaviour in your school.

Behaviour	Frequency		
	Frequent	Sometimes	Rarely
1. Sickness			
2. Truancy/sneaking			
3. Strikes			
4. Fees problems			
5. Suspension			
6. punishment			

16. In your opinion, what are the factors that influence students' performance in KCSE examination in your school?

.....

.....

17. (a) How do you rate the school academic performance?

(i) Above average [ ]

(ii) Average [ ]

(iii) Below average [ ]

(b) What in your opinion can be done to improve the performance?

.....

.....

THANK YOU

APPENDIX IV

Students' Questionnaire

This questionnaire is divided into two sections, A and B. Please complete each section according to the given instructions. Do not write your name or the name of the school to ensure complete confidentially. Kindly respond to all questions.

SECTION A

1. Indicate your gender by putting a tick [ ] against the appropriate response

   Male [ ] Female [ ]

2. How many marks did you score in KCPE?

   (a) 100 – 150 [ ]

   (b) 151 – 200 [ ]

   (c) 201 – 250 [ ]

   (d) 251 – 300 [ ]

   (e) Above 300 [ ]

3. How many are you in a class?

   (a) 10 – 20 [ ]
   (b) 20 – 30 [ ]

   (c) 30 – 40 [ ]

   (d) 40 – 50 [ ]

   (e) Any other specify .....

4. Kindly indicate occupations of your parents/guardians.

   Father.....

   Mother .....

   Guardians .....

5. (a) Is your school fees always paid on time?

   Yes [ ] No [ ]

(b) If No, how has it affected your learning?

.....

.....

.....

6. Below is a list of facilities necessary for effective learning. Indicate their adequacy by putting a tick [ ] against the most appropriate response.

FACILITIES	ADEQUATE	INADEQUATE	NOT AVAILABLE
Text books			
Laboratory materials and apparatus			
Library			
Desks			
Chairs			
Chalkboard			

7. Please indicate with a tick [ ] against the most appropriate response.

The alternative choices are as follows:

Strongly agree	=	SA
Agree	=	A
Undecided	=	U
Disagree	=	D
Strongly disagree	-	SD

	STATEMENT	SA	A	U	D	SD
1	A: **About teachers** Teachers explain concepts in subjects clearly.					
2	Teachers are very committed in their work.					
3	Teachers use a variety of teaching aids during lessons presentations.					
4	Teachers give extra work in subjects to enhance understanding.					
5	Teachers always mark assignments/homework given to students					
6	Teachers give a lot of encouragement and reward good performance					
7	Teachers pay a lot of attention to weak students in class and organize for remedial work.					
8	Some subjects lack teachers at times.					
9	B: **About the learner** I have language related problems which interfere with my learning.					
10	I have a negative attitude towards learning.					
11	Many times, I absent myself from attending lessons.					
12	I am easily influenced by my friends in negative ways.					
13	Most of my time in school is spent preparing for examinations					
14	Many times, I find difficulties understanding concepts in subjects.					
15	I perceive myself as a very high achiever in education.					
16	My parents/guardians give me a lot of support and encouragement in my education.					
17	Most of my time when at home is spent doing household chores.					
18	I have been sent home for school fees severally.					

SECTION B

Kindly provide short answers to the following questions in the spaces provided.

9. Are there problems you are experiencing that may affect your performance in KCSE?

Yes [ ] No [ ]

If yes, specify.

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

10. Are there practices related to your culture that interfere with your learning?

Yes [ ] No [ ]

If yes, specify.

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

11. In your opinion, how do you rate the KCSE performance in your school? Tick against the appropriate response.

Very good	[ ]
Good	[ ]
Average	[ ]
Poor	[ ]

12. (a) What would you point out as factors influencing KCSE performance in your school? Kindly list them down.

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

(b) Give suggestions on what can be done to improve (if poor) or maintain the KCSE performance (if very good) in your school

.....
.....

Source: KCSE results analysis Meru District (2004)

APPENDIX V

Meru South Schools KCSE Mean Score, 2000 – 2004

SERIAL NO.	SCHOOL	MEAN SCORE				
		2000	2001	2002	2003	2004
1	Ikuu Boys	7.5456	7.6036	7.781	8.427	8.727
2	Chogoria Girls	7.488	7.7843	7.979	8.2574	7.92
3	Chogoria Boys	6.682	6.2105	6.618	7.38	7.083
4	Chuka Girls	6.1978	6.8111	7.132	7.66	7.98
5	Muthambi Girls	5.1793	6.3	5.721	6.384	6.98
6	Ikawa	5.3478	5.4595	6.195	6.789	6.9407
7	Chogoria Senior	-	-	-	-	6.55
8	Nturi Boys	5.5625	6.3042	6.56	6.2142	6.52
9	Kanjiunduthi	6.1626	6.3821	5.954	6.671	6.387
10	Chuka Boys	6.3218	5.9866	5.597	5.8106	6.2898
11	Igwanjau	4.1212	4.377	4.974	5.6	5.9351
12	Mukuuni	4.4725	5.747	5.348	6.7733	5.7174
13	St. Daniel	-	-	-	5.0	5.694
14	Njuri	4.9891	5.364	4.667	5.654	5.594
15	Karamugi	-	4.2597	3.875	4.98	5.5909
16	Ikuu Girls	5.208	5.805	5.335	5.544	5.4537
17	Ibiriga	-	-	-	-	5.4619
18	Muthambi boys	4.7368	4.7639	4.299	4.92	5.448
19	Kiirii	3.9649	3.7679	4.234	5.1875	4.6528
20	Makuri Girls	4.68	4.212	4.234	5.1875	4.6528
21	Wiru	-	-	-	-	5.1
22	Ndagoni	-	-	-	4.986	4.985
23	Igangara	-	5.55	4.414	4.025	4.9642
24	Iruma Girls	5.25	5.6279	4.847	5.03	4.912
25	County	-	-	-	4.75	4.875
26	Kiriani Boys	3.039	4.4474	4.054	4.0843	4.8293
27	Chief Mbogori	4.0476	3.889	4.2708	4.567	4.805
28	Ngaita	4.7	3.9714	4.389	4.0426	4.66
29	Mpukoni	4.2813	4.212	3.179	4.693	4.5313
30	Mugona Girls	3.913	3.6522	3.269	3.9813	4.5
31	Makawani	-	-	-	-	4.5
32	Ndagani	4.929	4.4039	4.52	5.144	4.452
33	Thigaa	4.4096	4.381	4.16	4.44	4.054
34	Muraga Tech	4.9804	4.6038	4.557	4.3913	4.4366
35	Kiurani	4.2857	4.2424	4.211	4.1134	4.4348
36	Kajuki	5.0526	4.136	4.231	4.2	4.414
37	Ruguta	3.6	3.7893	2.8	4.0	4.381
38	Kiereni	4.1667	3.7105	4.342	4.6575	4.3737
39	Magumoni Girls	3.913	3.173	4.375	4.3822	4.373
40	O.L.M. Magundu	3.7759	4.0173	3.821	4.308	4.372
41	Nturiri Girls	-	-	-	-	4.28
42	Ngeru	4.031	3.8143	4.367	4.17	4.933
43	Kiamuriuki	-	-	-	4.09	4.0323
44	Kirege	2.8889	3.6842	3.444	3.484	4.0
45	Kambandi	5.222	4.1176	4.174	4.6	4.0
46	Rubate	4.1333	3.5	3.478	3.744	3.46
47	St. Ann	-	-	-	-	3.4167
48	Mumbuni	3.375	3.2	3.167	3.75	3.166

APPENDIX VI

RANKING OF SCHOOLS IN MERU SOUTH DISTRICT FOR THE YEAR 2004 IN TERMS OF UNVERSITY QUALIFICATIONS

	SCHOOLS	ENTRY	NO
1	IKUU BOYS	122	70
2	CHOGORIA GIRLS	204	63
3	CHOGORIA BOYS	145	40
4	CHUKA GIRLS	128	26
5	KAJIUNDITHI	168	26
6	MUTAHMBI GIRLS	137	23
7	CHUKA BOYS	138	17
8	NJURI	107	12
9	IKAWA	42	9
10	IGWANJAU	78	7
11	MUKUUNI	93	6
12	ST. DANIEL	36	5
13	KARAMUGI	44	4
14	CHOGORIA SENIOR	20	4
15	NTURIRI BOYS	25	4
16	C. MBOGORI	68	4
17	NDAGANI	84	4
18	MURAGA	73	4
19	IKUU GRILS	125	3
20	KIINI	48	3
21	KIRIANI	41	3
22	KALLAMANO	90	3
23	MUTHAMBI BOYS	58	2
24	MAKURI	91	2
25	IGANGARA	28	2
26	IRUMA	92	2
27	MAGUMOBI GIRLS	53	2
28	NDAGONI	24	1
29	COUNTY	32	1
30	MPUKONI	32	1
31	THIGAA	50	1
32	KIURANI	23	1
33	RUGUTA	21	1
34	OLOM MAGUNDU	43	1
35	KIAMURIUKI	31	1
36	KAMBANDI	16	1
37	IBIRIGA	21	0
38	WIRU	30	0
39	NGAITA	38	0
40	MUGONA	36	0
41	MAKWAWANI	35	0
42	KAJUKI	29	0
43	KIERENI	43	0
44	NTURIRI GIRLS	21	0
45	NGERU	58	0
46	KAMWIMBI	37	0
47	KIRIEGE	29	0
48	RUBATE	15	0
49	ST. ANN	12	0
50	MUMBUNI	15	0
	TOTALS	3029	365

Source:DEO'S Office Chuka – Meru South

APPENDIX VII

Determining Sample Size from a given Population

N	S	N	S	N	S
10	10	220	104	1,200	291
15	14	230	144	1,300	297
20	19	240	148	1,400	302
25	24	250	152	1,500	306
30	28	260	155	1,600	310
35	32	270	159	1,700	313
40	36	280	162	1,800	317
45	40	290	165	1,900	320
50	44	300	169	2,000	322
55	48	320	175	2,200	327
60	52	340	181	2,400	331
65	56	360	186	2,600	335
70	59	380	191	2,800	338
75	63	400	196	3,000	341
80	66	420	201	3,500	346
85	70	440	205	4,000	351
90	73	460	210	4,500	354
95	76	480	214	5,000	357
100	80	500	217	6,000	361
110	86	550	226	7,000	364
120	92	600	234	8,000	367
130	97	650	242	9,000	368
140	103	700	248	10,000	370
150	108	750	254	15,000	375
160	113	800	260	20,000	377
170	118	850	265	30,000	379
180	123	900	269	40,000	380
190	127	950	274	50,000	381
200	132	1,000	278	50,000	382
210	136	1,000	285	100,000	384

Note:

N is population size

S is sample size

Source: Krejcie and Morgan (1970:608) as quoted in Mulusa (1988:86)