SCHOOL BASED FACTORS INFLUENCING QUALITY OF EDUCATION IN PUBLIC SECONDARY SCHOOLS IN KITUI COUNTY, KENYA

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DECLARATION

This research project is my original work and has not been presented for any degree in any University

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E55/62479/2010

This research project has been submitted for examination to my university supervisors.

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DEDICATION

This project is dedicated to my husband Richard Mukula and our two daughters Victoria and Janet.

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I wish to thank the Almighty God for giving me good health and strength to undertake and accomplish this study. To my supervisors Dr. Loice Gichuhi and Mr. Ferdinand Mbeche for their inspiration and critical guidance in this project was very crucial to me.

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ABBREVIATIONS AND ACRONYMS

ALA	Annual Learning Assessment
B.O.G	Board of Governors
CBE	Curriculum Based Establishment
DEO	District Education Officer
DQASO	District Quality Assurance and Standards Officer
EFA	Education for All
FDSE	Free Day Secondary Education
GOK	Government of Kenya
K.C.P.E	Kenya Certificate of Primary Education
K.C.S.E	Kenya Certificate of Secondary Education
KEMI	Kenya Education Management Institute
KESSP	Kenya Education Sector Support Programme
KSA	Knowledge Skills and Attitude
MDGs	Millennium Development Goals
MOE	Ministry of Education
NAC	National Assessment Centre
NESC	National Economic and Social Council
P.T.A	Parents Teachers Association
SWAP	Sector Wide Approach to Planning
TSC	Teachers Service Commission
UNESCO	United Nations Educational Scientific and Cultural
UNICEF	United Nations International Children Education Funds

ABSTRACT

The purpose of the study was to investigate the school based factors influencing the quality of education in public secondary schools in Kitui County. The study was guided by the following specific objectives; to determine how physical facilities affect the quality of education, to establish the extent to which staffing in public secondary schools is affecting the quality of education, to examine how the school fees charged by various categories of schools influence the quality of education, to determine to which extent class size affect the quality of education. The study was guided by human capital theory developed by Schultz in 1960. The study employed descriptive survey design. According to records held at the Kitui County director of education office, there are 16 districts in the county with 340 schools. Therefore the target population was all the 340 headteachers and 2065 teachers. Simple random sampling was used to ensure unbiasedness among the respondents, as the respondents were given equal chances of being selected to participate in the study. The study purposively selected all the 124 principals. The research instruments that were used for this study are questionnaires and observation schedules). A pilot study of four schools randomly selected with four principals, eight class teachers and twenty eight teachers were used. To test for the reliability of the questionnaire the researcher applied the test retest technique. Descriptive studies require meaningful description of a distribution of scores using a few indices or statistics. The study findings indicated that physical facilities affect the quality of education. It was clear that majority of the headteachers (76.5%) said that their libraries were inadequate. 70.6 percent of the schools sharing of facilities was not available. All the schools did not comply to fire and safety requirements on the toilets and classrooms, while the administration block was rated highly on compliance with the fire and safety requirements in majority of the schools followed by the laboratories, kitchen, library. Majority of the headteachers (58.8%) indicating breakages was one of the major problem encountered in effort to optimally utilize physical facilities, while congestion was rated second and misuse and low delivery being rated third respectively. 82.4% of the principals said the remedies to problems encountered in secondary schools make shift was the most common way of compensating for physical facilities that were not sufficient in schools. On effects of staffing on the quality of education in secondary schools, Girls' schools were found to have better staffing with at least 3 (33.3%) schools having more than 25 teachers, 4 (44.5%) schools having between 21 to 25 teachers. On the effect of staff category on the quality of education in secondary schools, at least all schools have 66% and above of TSC deployed teacher. On the effects of fee charged on the quality of education in secondary schools with mixed day schools charge lower fees with the highest school charging within the range of 21,000 to 25,000 Kenya shillings. The effect of class size on the quality of education, one mixed day secondary school had a class with more than 200 students. Summary of trends of passing in grades was done for the four years consecutively. The study leads to a conclusion that physical facilities in the schools affect the quality of education. Lack of good condition buildings in the school will hinder offering of quality education in

schools. The study concludes that lack enough staff in schools led to poor quality of education. The study concludes that fees charged in secondary schools are high and as a result most of students are constantly send home. Head teachers were found to habitually send students for fees at least thrice in a term. This shows the much time students wastes to and from home in look for fees. The government funding through FDSE was found to be too low and needed to be increased in order to enable all students to stay in school. The study found class sizes to be high in most schools. Classes with students ranging up to 200 are likely to compromise efficiency in delivery. Improve the schools capacity building and planning to fully equip. Schools have BOM teachers constituting of almost a third of the whole staffing. The government should increase the funding through the FDSE programme. Headteachers should enrol students according to the resources and teachers they have to avoid overcrowding schools and overworking teachers. Headteachers should involve the community around them to aid in school development issues. Through the government, schools should come up with more classes and create streams to ease the burden of congestion in classes as has been witnessed in this study

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Education is a process that involves imparting knowledge, skills and production capabilities in the labour force, an essential component that determines the character and pace of social economic development of any nation (Blaug, 1968, Psacharopoulos, and Woodhall, (1985). Education is also universally recognised as a form of investment in human capital development that yields economic benefits and contributes to a country's future wealth by increasing the productive capacity of its people (Woodhall, 2004).

UNESCO (2005) noted that education in a country is one of the key indicators of its level of development. Globally, education is recognized as a basic human right. The Human Rights Charter treats education as one of the human rights. It seems highly likely, however, that the achievement of universal participation in education will be fundamentally dependent upon the quality of education available. The World Bank (2008) notes that between 1999 and 2005 primary school intake increased by almost 40%; adding that even though survival rates have remained stable so far, this still implies a very large increase in the number of primary school graduates that are seeking a place in secondary school. With increasing completion rates the number of primary school leavers could even triple by 2020 in many countries in sub-Saharan Africa (SSA) (Ledoux and Mingat, quoted in Verspoor, 2008b). This creates an enormous challenge for secondary education policy which needs to be redesigned not only to respond to inevitable rapid increase in demand for access but also to provide the quality of

instruction necessary to ensure the supply of personnel with higher levels of education and training demanded by a growing and modernizing economy (Muchiri, 2012).

This will be strengthened if education offered is of higher quality. Schooling helps children develop creatively and emotionally and acquire the skills, knowledge, values and attitudes necessary for responsible, active and productive citizenship. How well education achieves these outcomes is important to those who use it. Accordingly, analysts and policy makers alike should also find the issue of quality difficult to ignore.

Quality education is a system of learning that produces well-educated individuals who can handle matters of concern within their area of study proficiently. The system should impose desirable qualities such as moral ethics in the individuals. Children's life chances are strongly influenced by the quality of their education. Schools aim at providing children with knowledge, skills and interpersonal competences required for their development, adult life and contributions to economy and society. Schools can offer learning experiences that a child may not obtain at home, particularly if he or she is living in a disadvantaged environment (Heckman, 2008; Heckman, 2011). However despite efforts by governments to provide high quality education, significant disparities in educational outcomes continue to exist in Organisation for Economic Co-operation and Development (OECD) countries. A large number of students fail to obtain a minimum level of education, jeopardising their own future and the progress of their society (OECD, 2012).

The importance of good quality education was resolutely reaffirmed as a priority for UNESCO at a Ministerial Round Table on Quality of Education, held in Paris in 2003. UNESCO promotes access to good-quality education as a human right and supports a rights-based approach to all educational activities (Pigozzi, 2004). Within this approach, learning is perceived to be affected at two levels. At the level of the learner, education needs to seek out and acknowledge learners' prior knowledge, to recognize formal and informal modes, to practise non-discrimination and to provide a safe and supportive learning environment. At the level of the learning system, a support structure is needed to implement policies, enact legislation and distribute resources and measure learning outcomes, so as to have the best possible impact on learning for all.

UNICEF strongly emphasizes what might be called desirable dimensions of quality, as identified in the Dakar Framework. Its paper Defining Quality in Education recognizes five dimensions of quality: learners, environments, content, processes and outcomes, founded on 'the rights of the whole child, and all children, to survival, protection, development and participation' (UNICEF, 2000). Like the dimensions of education quality identified by UNESCO (Pigozzi, 2004), those recognized by UNICEF draw on the philosophy of the Convention on the Rights of the Child. Numerous studies have investigated the influence of class size on student attitudes, behaviours, and outcomes. The overwhelming majority of these studies have focused on elementary school and even pre-school effects of class size on student achievement. The conventional wisdom among parents, teachers, school administrators, and policy makers is that smaller class sizes translate to improvements in student learning and outcomes.

Only a handful of studies have focused on the role that class size may play in outcomes in tertiary education. Clearly, the educational environment is dramatically different from the classroom and learning environment of the elementary school setting. Even so the conventional wisdom of the benefits of small class size persists in post-secondary education, as well.

For more than twenty years, the World Bank has been lending for education in developing countries. The World Bank which provides financial and technical help for the development of poor countries has long recognised the importance of investment in education and has been active in this field since 1962, (Psacharopoulos & Woodhall, 1985). The World Bank policy reflects that education is a productive investment in human capital. World Bank, (2006) report on quality of education, show that while Guatemala has made a significant improvement in primary education coverage in the last decade, progress in secondary education has not followed the same pace. Expanding quality secondary education is key for Guatemala's growth agenda because it has potential to reduce poverty and inequality, and increase the countries competitiveness.

Although Guatemala has significantly improved primary education coverage, it only graduates on time 22 percent of enrolled cohorts. The low efficiency of the system is linked to late entry, high repetition rate and high dropout rates. In view of the bottlenecks in primary school, expanding access to the early years of secondary education means addressing the low efficiency of primary level as well as the quality and coverage of secondary education. The education quality and secondary school

project will improve access to secondary education for low income students by supporting three interrelated components. These are primary education completion and quality, expansion in access and improvements in quality for the early years of secondary education and school-based management focused on education quality.

In 1990 at the world conference on Education for All in Jomtien, most developing countries re-affirmed their commitment in providing their school age children with universal access to first cycles of education (Lewis and Calloids, 2001). The world conference on EFA held in April 2000 in Dakar, Senegal, formulated six internationally agreed education goals whose aim is to meet the learning needs of all children, youth and adults by 2015. The sixth EFA goal is improving all aspects of the quality of education and ensuring excellence of all so that recognised and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills".

It is against this backdrop that the Government of Kenya is a signatory to the Jomtien Agreement (1990) and Dakar Framework for Action (2000) with a commitment to achieve the EFA and Millennium Development Goals (MDGs) by 2015 respectively (Sessional paper No. 14 of 2012). One of the goals of Basic Education in Kenya is to Ensure access, equity and quality across all levels of basic education by 2020 (Sessional paper No. 14 of 2012). Secondly another goal is to improve the quality of education and training so that Kenya's measurable learning outcomes in literacy, numeracy, scientific and communication skills are in the upper quartile on recognised international standardised test by 2017.

Thirdly, there's a goal to equip schools to ensure that all pre-primary, primary and secondary schools meet minimum quality standards of teaching and learning by 2017 as well as strengthening school inspection to ensure quality education service delivery at the classroom and school level. The government of Kenya has great commitment towards funding of education. Much of the government budgetary allocation goes to the ministry of education (Economic survey, 2009). In addition to these measures, the MOE through Kenya Education Management Institute (KEMI), continues to strengthen the capacities of secondary school managers. The Government is constructing / rehabilitating schools and improving the provision of teaching and learning materials.

However, despite the progress made over the last decade in education, the sector continues to face major challenges especially in enhancing access, retention, quality, completion rates and gender parity in marginalized regions and pockets of poverty in rural and urban areas (Sessional paper No. 14 of 2012). Woodhall (2004) classifies the costs of education into social and private costs. Social costs include both direct and indirect cost borne by the society. Direct costs comprise resources devoted to education by way of: paying teachers, buying books, imputed rents among others. School uniforms, books, transport and meals forms another part of direct costs. These costs at secondary level of education have continued to increase drastically in developing countries whose GDP is relatively low (Lewin 2008).

The high and middle income groups have the economic means to take children to better quality secondary schools from which they can obtain university entry marks. First, the high income group as a proportion of the total population is low (Kenya,

2007). Notwithstanding the dominance of the rich in higher education, it continues to attract greater public subsidies than other levels of education. This means that there is a misdistribution of subsidies as they benefit those who need them least. It has been demonstrated (Republic of Kenya, 1996; Deolalikar, 1999) further that while government expenditures on subsidies to lower levels of education are distribution-neutral, subsidies to secondary and tertiary education benefit disproportionately the more affluent groups. To this extent, the mode of financing education in Kenya is retrogressive and exacerbates inequality. Cumulatively, therefore, the richest 40 percent accounts for up to three quarters of all universities. The share of education development funds in the total government development budget has varied, though not significantly.

The constitution of Kenya (2010) makes education a right of every Kenyan. In particular, the constitution guarantees every child free and compulsory basic education. According to (Sessional paper no. 14 of 2012), Basic education refers to the whole range of educational activities taking place in formal, non-formal and informal settings. It comprises pre-primary, primary and secondary levels. According to the Bill of Rights, basic education is a fundamental human right and it is free and compulsory (Sessional paper no 14 of 2012). This implies that citizens can hold the state accountable for ensuring that every child below the age of 18 years has access to quality basic education.

In line with EFA goal number 6, the vision of Basic education and training in Kenya is provision of quality basic education and training for all (Sessional paper No. 14 of 2012). There has been a widespread belief among educational economist that

education development would lead to accelerated economic growth, more wealth and income distribution, greater equality of opportunity, availability of skilled human power, a decline in population growth, long life, better health outcomes, low crime rates, national unity and political stability. This belief has made many individuals and nations invest immensely in education.

Kitui County is located in Eastern Kenya, it borders the following counties; Tana River to the East and South East, Taita Taveta to the South, Makueni and Machakos to the West, Embu to the North West, and Tharaka and Meru to the North. Mutua (2014) noted that the leaders from Kitui County vowed to better academic standards in the region since the county's performance in National Examination was a shame. The Governor Malombe felt that teachers were condemning students to a future of hardship; hence the county government was willing to use Kshs.286 million to support education projects in the area. This was as a result of the KCPE 2013 performance in which the county was ranked 38 out of 47 counties and results for KCSE in which the county was ranked 33 out of 47 counties. There was a drop in KCSE performance from the 2012 (30.4043) to 29.1466080 (2013). The governor noted that the continued poor academic performance of the county would negatively affect its competitiveness at national, regional and international levels. Table 1.1 shows the results for 5 counties in the Eastern region.

Table 1.1 Eastern Region performance for secondary school year 2012-2013

Count	Year 2013 Mean grade	Year 2013 Mean grade
Embu	33.997279	36.1377
Makueni	30.970680	31.2063
Kitui	29.146080	30.4043
Taita Taveta	26.149539	28.4859
Garissa	23.066333	22.7600

The Table 1.1 shows that Kitui district has been registering poor performance results for the last three years as compared to the results of other districts in Eastern Province. Hence this study wished to establish school based factors influencing quality of education in public secondary schools in Kitui County.

1.2 Statement of the problem

In Kenya, examination performance is an important aspect in our education system since it affords individuals opportunities for further education as well as giving them a distinct advantage in getting better paying jobs than those whose performance is not as good. This reality possibly applies for those who sit for KCSE depending on their performance (Mang'uu, 2011). The results have also been on a downward trend for the last year which has raised concern amongst all stakeholders. This study therefore addressed the problem of poor academic performance by students in Kitui County by finding out the impact of school-based factors on students' academic performance. School based factors include physical facilities, availability of teachers, schools fees and class size. The study aimed at investigating the school based factors influencing the quality of education in public secondary schools in

Kitui County and gave recommendations on measures that could be taken to improve the quality of education. The potential solutions are based on evidence drawn from rigorous quantitative research, and in particular on randomized evaluations, which provide the most reliable evidence on what works and what does not work in increasing access to education while quality is deemed to be dropping drastically.

1.3 Purpose of the study

The purpose of the study was to investigate the school based factors influencing quality of education in public secondary schools in Kitui County.

1.4 Objectives of the study

The study was guided by the following specific objectives;

i. To determine how physical facilities affect the quality of education in public secondary schools in Kitui County.
ii. To establish the extent to which staffing in public secondary schools is affecting the quality of education.
iii. To examine how the school fees charged by various categories of schools influence the quality of education in public secondary schools in Kitui County.
iv. To determine to which extent class size affect the quality of education in public secondary schools in Kitui County.

1.5 Research questions

i. What is the effect of physical facilities on the quality of education in public secondary schools in Kitui County?

ii. To what extent has staffing affected the quality of education in public secondary schools in Kitui County?

iii. How does the school fees charged by various categories of schools influence the quality of education in public secondary schools in Kitui County?

iv. To what extent has class size affected quality of education in public secondary schools in Kitui County?

1.6 Significance of the study

First, the findings and recommendations of this study may be of immense value to education policy makers, economists, teachers' trainers and future researchers as they may provide base line information on steps that need to be taken to improve the quality of education in public secondary schools so as to achieve the EFA goal number 6.

Second, the findings of this study may be useful to the Ministry of Education and the Government of Kenya in attainment of Kenya Vision 2030, where quality education and training is a vital tool.

Third, the Ministry of Education may identify relevant areas necessary for deployment of teacher from areas which are over staffed to areas that are understaffed to improve the quality of education.

Fourth, the study may be useful to school administrators and other stakeholders as it will unveil how class size in public secondary schools is imparting on the quality of education and help them to come up with policies addressing class-size control in public secondary schools.

1.7 Limitations of the study

The study depended on honesty and co-operation on the side of respondents. However, to ensure maximum co-operation and honesty of respondents the researcher explained the importance of the study and the need for guaranteed confidentiality of responses.

1.8 Delimitations of the study

The study was conducted in the public secondary schools in Kitui County, hence the findings may not be generalised to reflect the situation in private schools in the county. There are also other factors such as home based factors and students (casual) factors that may affect the quality of education in these schools.

1.9 Basic assumptions

This study was based on the following assumption:

i. All respondents would co-operate and provide reliable response.
ii. The administration of public secondary schools in Kitui county advocate for provision of quality education.

1.10 Definition of significant terms

Class size refers to the number students in a class

Physical resources refer to physical facilities such as classrooms, laboratories and libraries used to improve the quality of education.

Quality refers to the degree of excellence as measured against agreed upon standards such as academic achievement and participation in co-curricular activities.

Quality of education refers to exception high standards of academic achievement, as well as meeting the stated purpose, values and objectives of secondary education.

School based factors refers to inputs in the teaching learning process, which determine students' academic performance

Staffing refer to the teaching staff that is utilized for the implementation of the curriculum in public secondary schools

1.11 Organization of the study

The study was organised in five chapters. Chapter one focuses on the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions ,significance of the study, limitations of the study, delimitations of the study, basic assumptions definition of significance terms and organization of the study. Chapter two covers literature review. This was done under subsections; introduction, quality of education, physical facilities, staffing, school fees charged and class size, summary of literature review, theoretical framework and conceptual framework. Chapter three contains research methodology under; research design, target population, sample size and sampling procedure, research instruments, validity of instruments, instrument reliability, data collection procedure and data analysis techniques. Chapter four dealt with data analysis, reporting and discussion of

findings. Chapter five contains summary of findings, conclusions, recommendations and suggestions for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed literature from journals, research papers, books and websites of academics. This was done in the following subsection; quality of education, effects of availability of physical facilities on quality of education, effect of staffing on the quality of education, influence of school fees charged on quality of education, effect of class- size on quality of education, summary of literature review, theoretical framework and finally conceptual framework.

2.2 Quality of education

Quality refers to the degree of excellence as measured against agreed upon standards. The following school based factors have a direct and indirect effect on the quality of teaching and learning and educational attainment: Physical facilities, teaching, school resources and number of students per class. The focus of quality in education is found in the students admitted, the learning adopted and the academic staff in the institution (Sessional paper no. 14 of 2012). Education has been recognized as a central element in social and economic development (Patrinos, 2000).

The benefits that occur from people investing in Human capital are increased productivity and higher personal earnings. Justifying investment in human capital, Psacharopoulos and Woodhall (1995) asserts that many studies have shown that the economic returns to secondary education are at or above 10% a year making human

capital productive investment for the society. The outcomes encompass the following knowledge, skills and attitudes that are linked to national goals for education and positive participation in the society. The challenges of quality and relevance include: inadequate facilities and inappropriate teaching and learning environments, inadequate staff, weak collaboration with professional accreditation and weak linkage between the competences acquired in some programmes. According to UNESCO, (2004) & Dembele and Lefoka (2007) teaching is the strongest school determinant of the quality of education. Teachers are reported to affect students' achievements in different ways (Trigwell and Prosser, 1996; Zhang, 2008), and in most Sub-Saharan African countries the students' learning depend heavily on the quality of the teaching force (Sumra and Rajani, 2006; Dembélé and Lefoka, 2007). Achieving quality in education therefore refers to providing relevant knowledge and skills to students.

2.3. How physical facilities determine quality of education

The development and maintenance of physical facilities in educational institutions by communities, parents, and sponsors should continue to be encouraged. This is because lack of such facilities interferes with learning process (Republic of Kenya, 1988a). The evidence from research in other parts of the world points to the great importance of school facilities in relation to quality education. Difference in school facilities would be seen to account for difference in achievement. Physical resources include classrooms, lecture theatres, auditoriums, administrative block, libraries, laboratories, workshops, play grounds, assembly halls, and special rooms like clinics, staff quarters, students' hostels, kitchen, cafeteria, and toilet.

The quality of schools buildings may be related to other school quality issues such as the presence of adequate instructional materials and textbooks, working conditions for students and teachers and the ability of teachers to undertake certain instructional approaches. Such factors as on-site availability of lavatories and a clean water supply, classroom maintenance, space and furniture availability all have an impact on the critical learning factor of time on task. When learners have to leave the school and walk significant distances for clean water for example, they may not always return to class (Miske & Dowd, 1998). Parents often consider the location and condition of the learning environment when assessing school quality.

With the introduction of Free Day Secondary Education, schools could have registered over-enrolment, which means that the resources available in schools are constrained. This is likely to have a negative impact on the quality of education. Verspoor (2008a) argues that increases in public spending will be inadequate to generate increases in education attainment and learning achievement unless accompanied by reforms that aim at a more efficient use of available resources and find sources of additional funding. He advises that well-structured Public-Private Partnerships (PPPs) can help diversify the sources of financing and provision. On the other hand, Mbugua (1987) as quoted by Kamau (2012) cites that it's the duty of the school's head teachers is to develop the physical facilities. She argues that in dealing with physical facilities, a headteacher has to bear in mind where to house the educational program, the population to be served by the facility and ensure that financial resources are readily available for the school expansions. Such factors also impact on quality of teaching and learning that take place in schools.

Likoko, Mutsotso, and Nasongo (2013) noted that learning experiences are fruitful when there are adequate quantity and quality of physical resources; and that unattractive school buildings, crowded classrooms, non-availability of playing ground and surroundings that have no aesthetic beauty can contribute to poor academic performance. To emphasize further the issue of physical facilities, Cameron (1970) as quoted by Likoko et. Al (2013) underscores the importance of developing adequate and appropriate physical facilities for quality education to be realized.

According to FAWE (2001) schools that lack adequate classrooms for instance, hold their lessons outside or under trees. During bad weather such lessons are postponed or are never held altogether. This interferes with syllabus coverage and students from such schools do not perform well in examination. Republic of Kenya (1988a) identified that Kenya's schools are characterized by variety in the size and quality of buildings. Some schools share classrooms and science laboratories, which are too small for current classes of forty and above students. Moreover, most school buildings and other facilities are poorly maintained. Such facilities hamper the teaching and learning process and eventually affect student's performance in examination.

Since no school can provide adequate teaching services without the use of laboratories, she concluded that lack of laboratory facilities was a major contribution to poor performance of some schools in KCSE, because candidates could not answer questions in practical science subjects. Musau (2004) found out that lack of library facilities was one of the most serious problems standing in the way of achieving high

education standards in learning institutions whereas Ayoo (2002) carried out a study on the effects of school physical facilities on academic performance and established that availability of facilities had a direct link with the performance of learners in examination.

A study carried out in Kisumu municipality by Ayoo (2002) found that schools that were doing well in national examinations had adequate learning facilities. It found out that some schools lacked enough classrooms, desks and chairs leading to overcrowding such conditions frustrated students during learning. Ayoo (2002) concurs with Mutua (2014) on the importance of learning facilities. On physical facilities, Mutua noted that most schools in Mtito-Andei Division were poorly equipped and they lack the essential physical facilities, which are necessary for learning. Likoko et. Al (2013) notes that better facilities in a school lead to better performance in examinations

2.4 Effects of staffing on quality of education

There should be optimum use of the available teachers if good performance is to be achieved (RoK, 2005). Ngala (1997) says that where teachers are scarce, head teachers blame poor performance on this. According to Good (as cited in Mudulia, 2012), more important than the quantity of resources. Mudulia (2012) further notes that the length of schooldays time spent on particular curriculum areas, and efficient use of instructional time within the classrooms, is more strongly determined by management practice than by material parameters. To this he adds what Mbiti (1974) says, that it is necessary to firmly enforce working hours in order to enhance productivity and avoid idling.

Mudulia (2012) argues that the length of instructional day is positively related to performance. This is very crucial for science as evidenced by the allocation of more lessons for science in the Kenya Institute of Education (KIE) syllabus. Thus the head-teacher should ensure that the lessons are fully used. Kizito, (1986) says that some teachers have formed a habit of reading novels, newspapers and discussing current affairs during working hours. The headteacher needs to ensure that the length of the instructional day is as planned in the school routine for all teachers.

According to Telli (2013) teachers are the most essential agents for ensuring quality of education is attained within and outside classrooms. Placing teachers and learning at the center of education is an important step in advancing dialogues and securing policy attention (Sayed, 2010). Research shows that quality professional development can change teachers' practices and positively affect student learning and thus improve quality of education (Darling-Hammond, 2005). This means that how teachers are prepared for teaching is one of the most important critical indicators of education quality. Preparing teachers for the challenges of a changing world means equipping them with effective teaching practices and the ability to work collaboratively with other teachers, students, members of the community and parents (UNESCO, 2005).

Hanushek (1998) said that there are two important attributes of quality teachers which are teachers' education and teachers' experience. When the two attributes are combined with teachers per pupil ratio, then these variables describe variations in the instructional resources across classrooms (Telli, 2013). What goes on in the

classroom, and the impact of the teacher and teaching is a crucial variable for improving learning outcomes (UNESCO, 2005). Hence, teacher effectiveness is the primary influence on student achievement. Given this reality, state efforts to improve student achievement should focus on policies and practices that invest in teachers and that, in turn, should improve student outcomes (Grossman, 2009). Therefore for all the students to learn in today's complex society demands there is need to develop teaching skills that go far beyond dispensing information, giving a test, and giving a grade (Darling-Hammond, 2005).

Student-teacher ratio refers to the number of learners enrolled in a given level of education divided by the number of teachers in the system (Kiumi, Kibe and Nganga, 2013). Student-teacher ratio is a significant measure of quality in education. This is because in a system where the ratio is high learners may lack personal attention from the teacher while the less academic learners are likely to lag behind. Consequently, learners' progress through the curriculum may be hindered, a factor that may lead to dismal performance in the exit examination (Nkinyangi, 2003; Katunzi & Ndalichako, 2004). In a low student-teacher ratio learning environment, learners are more likely to get more one-on-one time with the teacher. Moreover, teachers may get to know the individual student's better, thereby enhancing teacher's capacity to identify areas where the student may be in need of assistance. In the final analysis, learners get more value out of their education. These observations lend support to the view that other factors held constant (such as learners family background, material inputs, and so on), teacher factor is the most powerful determinant of learners' academic achievement.

2.5 Effect of school fees on quality of education and students achievement

A task force appointed in 2008 to look into financing of secondary education reached a conclusion that boarding schools charge a maximum of ksh.18,627 per student per year for boarding expenses (GOK, 2008). This is not standard because many schools do not adhere to the recommended fees guidelines. For example, some schools charge development project funds, teacher motivation fees, remedial teaching up keep, and school tours among other levies decided on by parents through the parents' annual general meeting. Boarding schools also charge boarding fees that reflect the cost of living of their respective areas, provided they don't exceed the maximum amount recommended.

On the other hand Dynarski, (2003, 2008) and Scott-clayton, 2011) noted that tuition fees can have an impact on student effort both through affecting incentives and by creating financial constraints. The latter is mainly relevant in a U.S. context where financial constraints can limit the possibility to continue studying and/or complete a study program which eventually affects the quality of education attained. Studies on the effect of subsidies on student effort in this context therefore mainly focus on this element.

Nonetheless, the implication drawn by many was that schools simply don't matter. An extension of this implication was that putting more money into schools to try to improve quality was unlikely to matter either. However, recent re-analyses of the Coleman report data, using up-to-date statistical techniques and computing capacity, found that even Coleman's data indicate that schooling quality has significant effects on student outcomes. In one recent example, Konstantopolous and Borman (2011) conclude.

The results also indicated that schools play meaningful roles in distributing equality or Min equality of educational outcomes to females, minorities, and the disadvantaged. In a related analysis, Borman and Dowling (2010) report: even after statistically taking into account students' family background, a large proportion of the variation among true school means is related to differences explained by school characteristics. In short, while family background certainly matters most, schools matter as well. Furthermore, there exist substantive differences in school quality that explain a substantial portion of the variation in student outcomes.

Similarly, Julian Betts (1996) provided an extensive review of the literature that attempts to link measures of schooling quality and adult earnings, including Card and Krueger's study. Betts explains that, while the overall results of such studies were mixed, they were generally positive. More specifically, he pointed to more positive results for studies evaluating the association between district-level spending and earnings, as opposed to those attempting to identify a link between school-level resources and earnings, for which results are murkier. The re-analyses of Coleman's data, coupled with subsequent credible findings using alternative data sources, served to discredit the original Coleman report findings (or more specifically, common interpretations of Coleman that schools and school quality matter little). It is now clear that schools matter.

2.6. Influence of class size on quality of education

Class size is one of the factors that impact upon academic performance and the general relationship is a negative one (Heinesen, 2010), as such a vicious cycle seems to have been created. While according to OECD (2012) smaller class sizes are generally perceived as allowing teachers to spend more time with each student and less time in classroom management, thereby providing better instruction tailored to the students' individual needs, and ensuring higher performance. Hence, class size may be viewed as an indicator of the quality of education. Class size may affect how much time and attention a teacher can give to individual students, as well as the social dynamics between students**.**

According to Konstantopoulos (2008) noted that several studies have examined the differential effects of small classes on achievement for minority and disadvantaged students (Finn and Achilles 1990; Krueger 1999; Krueger and Whitmore 2001; Nye et al. 2000a, 2002) however, and the findings have been mixed. For example, Nye and colleagues found weak or no evidence for differential effects of small classes on minority, disadvantaged, and low-achieving students, while Finn and Achilles found statistically significant differential effects favoring minority students in reading in grade 1.

A three year longitudinal study of two cohorts of more than 10,000 pupils 4-7 year old English primary school children showed that in smaller classes there was more individualised teacher support for learning (Zyngier, 2014). In a small class, a teacher would more easily be able to provide effective scaffolding for pupils in the form of individual attention, immediacy of feedback, sustained interactions, and flexible and

effective questioning techniques (Blatchford, Basset and Brown, 2002). The authors of this study warn, however, that some teachers varied in how successfully they adapted to the classroom contextual feature of class size.

Blatchford, Bassett, and Brown (2008) in further research found that there were educational consequences of class size differences this confirmed there was a clear effect of class size differences on children's academic attainment over the first year. Hence this was depend on how teachers adapted their teaching to different class sizes, and that more could be done in teacher training and professional development to address contextual features like size of class. In small classes, as would be expected, there were more individualized task related contacts between teacher and pupils, and a more active role for pupils (Zyngier, 2014). These results reinforced earlier research on children aged 4-5 years (Blatchford et al. 2005) and 7-11 years (Blatchford et al. 2007). They suggest that teachers in both large and small classes need to develop strategies for more individual attention, but also recognize the benefits of other forms of learning (for example, group work). Blatchford et al. (2009) add that teachers may be better equipped, when given the opportunities afforded by small classes, if they consider educational principles rather than specific practices. It is against this background that this study was carried out to identify the effect of class size of students' achievement or quality of education.

2.7. Summary of literature review

According to Grayson (2009) school based factors are inputs in the teaching learning process, which determine students' academic performance. Students' achievements are dependent on such factors as school characteristics which include physical

facilities, class size, staffing and financial resources (fees). From the literature reviewed there exists a knowledge gap on effects of school characteristics such as physical facilities, staffing, school fees and class size that affect students' achievement which this study intended to fill. Hence this study wished to fill these gaps to show their influence on academic performance.

2.8. Theoretical Framework

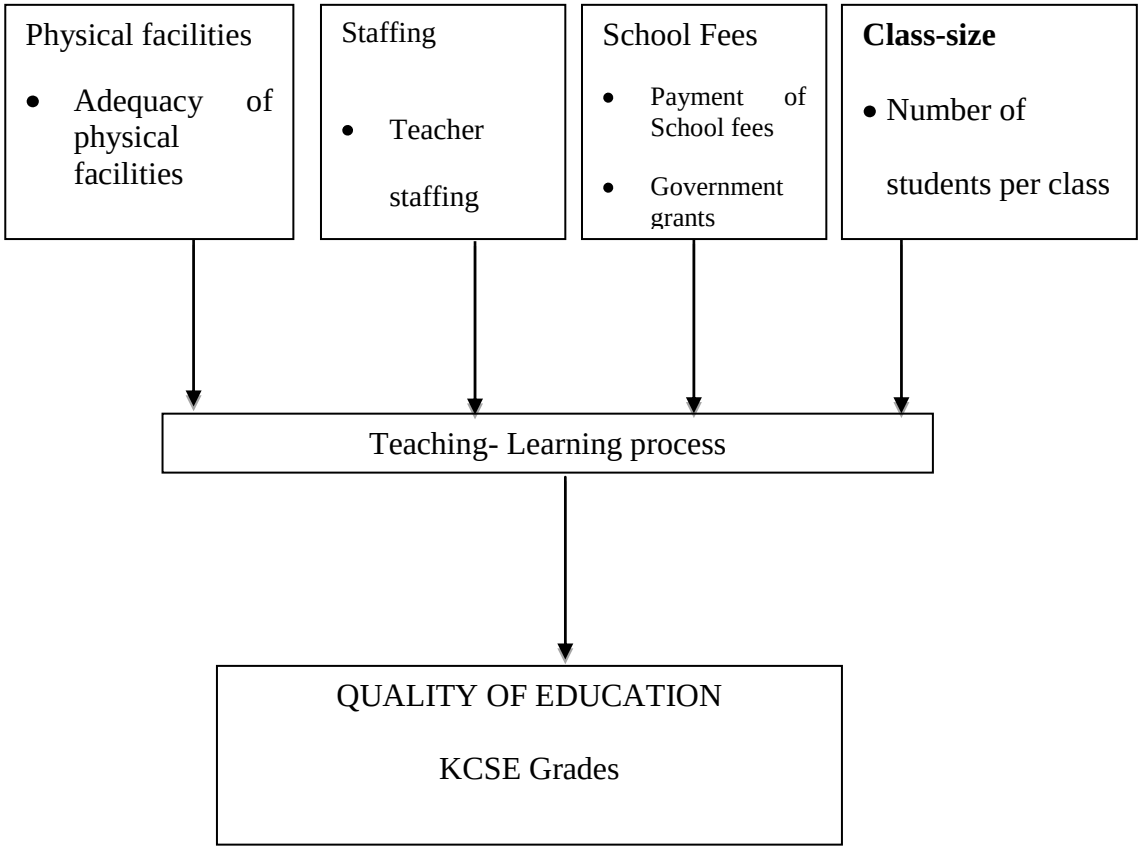
Theoretical frame work for this study was derived from human capital theory developed by Schultz in 1960. Traditionally an economic growth was mainly attributed to three factors of production namely land, capital and labour. Schultz in 1960, after extensive study of economic growth in U.S.A, came up with the theory of Human Capital Investment. He argued that growth in output could only be realized by investment in human capital that had taken place inform of formal education on the job training, improved health, adult education and the mobility and migration of workers so that they are able to respond to changing opportunities (Schultz 1971). According to this theory people should invest in education for future gain inform of economic development. The theory emphasises on present investment in basic quality education in order to enjoy future benefits such as employment opportunities, higher earnings, improved standards of living and higher production hence economic growth.

This theory formed the base of this study because it explains why the government invests heavily in basic quality education. This will translate to quality and relevance on demand driven education and training which promotes technical, professionalism, knowledge and qualification needed in the various sectors of the economy.

2.9. Conceptual framework

A conceptual framework is a model representation where a researcher represents the relationship between variables in the study and shows the relationship graphically and diagrammatically (Orodho, 2004). The conceptual framework in this study was based on the representation of school based factors influencing quality of education in public secondary schools.

Figure 1: Represents the relationship between the variables in the study



CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

This chapter has the following subsections: Research design, target population, sample size and sampling procedure, research instruments, validity of instruments, reliability of instruments, data collection procedures and data analysis techniques.

3.2. Research design

The study employed descriptive survey design. Descriptive survey is a method of collecting information by interviewing or administering a questionnaire for a sample of individuals (Orodho, 2003). The design was identified as the most convenient and it ensured that the data obtained gave answers to the research questions. It also offered the opportunity for a logical structure of the inquiry into the problem of the study. The descriptive survey design was suitable for this research because the researcher collected data at a particular point of time with the intention of establishing the quality of education in public schools in Kitui County.

3.3. Target Population

The study targeted all public secondary schools in Kitui County and at least had form four class for four consecutive years. According to records held at the Kitui County director of education office, there are 16 districts in the county with 340 schools. Therefore the target population was all the 340 headteachers and 2065 teachers.

3.4 Sample size and sampling procedure

Simple random sampling was used to ensure unbiasedness among the respondents, as the respondents were accorded equal chances of being selected to participate in the study. Out of the 16 districts in Kitui County, a sample of six districts was picked and schools sampled from them. A sample size proportion of 30% is appropriate for the descriptive study giving a total of 6 districts. The six districts were namely, Matinyani, Kitui Central, Katulani, Kisasi, Kitui West and Nzambani and had a total population of 124 secondary schools with 124 principals and 3012 teachers. The study purposively selected all the 124 principals. For descriptive study 10% of the population is enough in this case 10% of the teachers resulted to 920 teachers. That is 3 teachers per school, that one form two class teacher, one form three class teachers and one form four class teacher will be selected.

Table 3.1 Sample size

District	**No. of Public secondary schools**	**Head teachers**	**No. of Teachers**
Kitui Central	31	9	27
Katulani	18	5	15
Nzambani	14	4	12
Matinyani	17	5	15
Kitui West	29	6	18
Kisasi	15	5	15
Total	**124**	**34**	**105**

3.5. Research Instruments

The research instruments that were used for this study were questionnaires and observation schedules. A questionnaire is a research instrument that gathers data of a large sample (Kombo & Tromp, 2006). According to Mulusa (1998) questionnaires are cheap to administer to respondents scattered over a large area and respondents feel free to give frank answers to sensitive questions. Questionnaires were administered for the Head teachers and teachers. The questionnaire for the teachers had two sections, part A and B. Part A contained personal details and part B sought information on school factors and their effects on quality of education. The questionnaire for the head teachers contained two parts, that is part A and B. Part A elicited information on personal details while part B gathered information on the school based factors and their effects on quality of education. Observation schedules sought information on how physical facilities affected the quality of education in public secondary schools.

3.6. Validity of Instruments

According to Kombo and Tromp (2006) validity is measure of how well a test measures what it is supposed to measure. To enhance content validity, the supervisor will first appraise the instrument (Orodho, 2004). A pilot study of four schools randomly selected with four principals, eight class teachers and twenty eight teachers were used. The schools and respondents used for the pilot study were not constituted in the main study. The pilot study helped in identifying items in the instrument which were ambiguous and inappropriate in order to improve its quality and validity.

3.7 Instrument reliability

A reliable instrument is the one that constantly produces the expected results when used more than once to collect data from same population. To test for the reliability of the questionnaire the researcher applied the test retest technique. The same questionnaires were administered to the same group within a time interval of two weeks. A reliability co-efficient was then calculated to indicate the relationship between the two sets of scores obtained. Pearson's product moment formula was used to calculate the correlation Pearson coefficient of correlation.

$$r = \frac{\sum(xi - \tilde{x})\ (yi - \tilde{y})}{\sqrt{\sum (i - \bar{x})^2}\ \sqrt{\sum (i - \bar{y})^2}}$$

The value of r lies between 0 and 1. Positives valves of r indicate positive correction between two variables (Kothari, 2004). A correlation coefficient r, of 0.7 is considered appropriate and hence reliable for collecting data. The headteachers questionnaires had a correlation coefficient of 0.8 while that of the teachers questionnaires had a correlation coefficient of 0.7 hence the tools were reliable.

3.8. Data collection procedure

According to (Polit 1999) data collection is the gathering of pieces of information that are necessary for research process. After the approval of the research proposal by the University of Nairobi supervisors a research permit was sought from the National Commission for Science, Technology and Innovation. Once permission was granted the researcher proceeded to the field and reported to the head teachers of sampled schools. The purpose of the visit was explained and the questionnaires were

administered personally by the researcher. This enabled to create good rapport with the respondents and enabled the researcher to conduct document analysis of school records.

3.9 Data analysis techniques

Data analysis is the process of bringing order, structure and meaning to the mass of information collected (Mugenda & Mugenda, 2003). The study generated both qualitative and quantitative data through the research instruments. Based on the study objectives and questions, the massive qualitative data collected from the research tools were grouped into meaningful patterns that revealed how the categories or themes are related (Verma & Mallick, 1999). Data was then tabulated and inductively analyzed, to give a summary of the influence of specified factors on quality of education. Descriptive studies require meaningful description of a distribution of scores using a few indices or statistics. Qualitative data was thematically analysed.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSIONS

4.1. Introduction

This chapter dealt with the questionnaire return rate, demographic characteristics, data analysis and interpretation which were generated by the study. The data presented included: school based factors influencing quality of education in public secondary schools in Kitui County, Kenya. The study was guided by the following objectives;

i. To determine how physical facilities affect the quality of education in public secondary schools in Kitui County.
ii. To establish the extent to which staffing in public secondary schools is affecting the quality of education.
iii. To examine how the school fees charged by various categories of schools influence the quality of education in public secondary schools in Kitui County.
iv. To determine to which extent class size affect the quality of education in public secondary schools in Kitui County.

4.2. Questionnaire return rate

There were 34 questionnaires administered to the head teachers and same number of observation schedules. In each of the 34 sampled schools at least 3 teachers were interviewed making a total of 102 teachers' target. The questionnaires returned by headteachers were 32 while teachers returned 100 questionnaires. All observation schedules were checked. This high return rate was attributed to data collection procedure, where by the researcher personally administered the questionnaires and with a research assistance.

4.3. Demographic characteristics

In order to establish distribution of the respondents across gender, age, level of education and teaching experience such information was sought and results presented tables 4.1, 4.2, 4.3 and 4.4.

Table 4.1 Gender of respondent

	Head teacher		Class teachers	
Gender	**Frequency**	**%**	**Frequency**	**%**
Male	21	65.6	55	55.0
Female	11	34.4	45	45.0
Total	**32**	**100.0**	**100**	**100.0**

From Table 4.1 majority of head teachers 21 (65.6%) were male while 11 (34.4%) were female. It was also observed that the majority of the class teachers were male and 45 (45%) female. This implies that there is no gender parity among the head teachers and teachers. The study also presumed that since the sample schools include 16 mixed schools and presumably their heads were likely to be males. The researcher observed that the class teachers should be balanced since TSC does not post teachers considering gender.

The study also wished to find out the age of the respondents. The results are as shown in Table 4.2

Table 4.2 Age of respondent

	Head teacher		Class teachers	
Age	**Frequency**	**%**	**Frequency**	**%**
30 years and below	0	0.0	17	17.0
31 – 35 years	1	3.1	28	28.0
36 – 39 years	2	6.3	49	49.0
40 years and above	29	90.6	6	6.0
Total	**32**	**100.0**	**100**	**100.0**

From the results it is clear that the majority of head teachers were 40 years and above of age the rest of the head teachers were aged within the range of 31 to 39 years. The class teachers were found to be younger compared to head teachers with slightly below half of them (49.0%) aged 36-39 years. A number of them were aged between 31-35 years of age and a few were aged 40 years and above. This implies that head teachers are teachers who have served for quite some years and acquired promotion to heads. It was also believed that as one advanced in age the more experience they gain hence this would have earned the head teacher the headship positions in their respective schools. On the other hand class teachers from this study some had just joined the teaching fraternity and yet to gain the required experience to head a school.

The study then sought to know the education level of respondents. The results are as shown in Table 4.3.

Table 4.3 Education level of respondent

	Head teacher		Class teachers	
Education level	**Frequency**	**%**	**Frequency**	**%**
Masters	25	78.1	31	31.0
Bachelor of Education (Science)	7	21.9	38	38.0
Bachelor of Education (Arts)	0	0.0	26	26.0
Diploma (PGDE)	0	0.0	5	5.0
Total	**32**	**100.0**	**100**	**100.0**

The findings in Table 4.3 shows that a high percentage of the head teachers were masters' holders and the rest were bachelor of education holders. Among the class teachers there were those who had Master level of education, Bachelor of Education (Science), Bachelor of Education (Arts) had a reasonable number of class teachers too and a few had a post graduate diploma in education. These results showed that schools are headed by qualified managers and class teachers offering the curriculum were also qualified to teach in their respective subjects and schools.

Teaching experience

Teaching experience is a valuable asset. This study sought to know from both the head teachers and the teacher their teaching experience. The results are as shown in Table 4.4.

Table 4.4 Teaching experience of respondent

	Head teacher		Class teachers	
Education level	**Frequency**	**%**	**Frequency**	**%**
Above 15 years	18	56.3	4	4.0
10-15 Years	7	21.9	16	16.0
6-10 Years	7	21.9	37	37.0
1-5 Years	0	0.0	39	39.0
Less than a year	0	0.0	4	4.0
Total	**32**	**100.0**	**100**	**100.0**

Table 4.4 shows the teaching experience of the head teachers and that of the class teachers. A majority of the head teachers were found to have a long experience with teaching experience of above 15 years. On the other hand a high number of class teachers were found to have teaching experience of between 1-10years. This implies that the head teachers had been in class as teachers hence had gained experience as teachers and again this would have earned them a promotion to their current positions. The class teachers' teaching experience is also as important since according to Sidhu (1982) noted that successful teaching experience is a valuable asset. It enables the teachers to acquire certain commendable characteristics such as promptness, adaptability, efficiency, arousing and maintaining interest adequate command of instructional materials and ability to face the class with confidence. Thus the teachers with successful teaching experience may develop positive attitude

towards the subject and hence choose appropriate instructional materials which will arose and sustain interest among learners this leads to improved quality of education.

4.3.1 Type of School

The respondents were asked to include the type of school they taught. The results are as shown in Table 4.5.

Table 4.5 Distribution of respondents by type of school

	Boys		Girls		Mixed day	
Condition	**Frequency**	**%**	**Frequency**	**%**	**Frequency**	**%**
Head teachers	8	22.9	8	22.9	16	25.8
Teachers	27	77.1	27	77.1	46	74.2
Total	**35**	**100.0**	**35**	**100.0**	**62**	**100.0**

There were more respondents from mixed day schools that participated in the study than the pure sex schools. The results were to show the type of school found in the area of study. Although there were mixed boarding schools in the region, the study only captured mixed day schools. This implies that only three types/categories of schools participated in the study.

4.3.2 Age of schools

The age of the school was also sought as a way of averaging school facilities with its age. The results are as shown in table 4.6.

Table 4.6 Age of the school

	Boys		Girls		Mixed day	
Condition	**Frequency**	**%**	**Frequency**	**%**	**Frequency**	**%**
15 Years and below	1	11.1	1	11.1	7	43.8
16- 25 years	3	33.3	0	0.0	3	18.8
26- 30 years	1	11.1	3	33.3	6	37.5
31- 50 years	3	33.3	4	44.4	0	0.0
Above 50 years	1	11.1	1	11.1	0	0.0
Total	**9**	**100.0**	**9**	**100.0**	**16**	**100.0**

From Table 4.6 most of the schools both girls boarding and boys boarding are aged between 31-50 years and 16-25years. The oldest schools among the mixed day school have 15 years and below while the oldest are aged 26-30years. This may determine the education delivery that is done in these schools. This may also imply that the older the school the better in terms of qualified staff, hence better delivery of quality education. The researcher enquired whether the school was initiated by the public or by private entity. Most of the old schools were established under British colonial government and missionaries while majority of the mixed day schools are as young and were established by government initiative through the public.

4.4 How physical facilities affect the quality of education

With the introduction of Free Day Secondary Education in the country headteachers' work is more difficult. This is due to the large number of students going to the

school. This raises the question of extra classrooms and even provision for more land for the expansion of the school compound to accommodate these extra building and at the same time provide more physical facilities. This may interfere with the provision of quality education (Oparanga, 2004). This study sought to identify whether physical facilities had an effect on the quality of education in public secondary schools. This study first looked at the adequacy of physical facilities. The results from the headteachers are as shown in Table 4. 7.

Table 4.7: Headteachers responses on adequacy of physical facilities

	Adequate		**Not adequate**	
Condition	**Frequency**	**%**	**Frequency**	**%**
Administration	16	47.1	18	52.9
Toilets	16	47.1	18	52.9
Classrooms	15	44.1	19	55.9
Laboratories	14	41.2	20	58.8
Library	8	23.5	26	76.5
Kitchen	15	44.1	19	55.9
Dining Hall	12	35.3	22	64.7
Store	16	47.1	18	52.9
Fields	18	52.9	16	47.1

N= 34

From Table 4.7, it is clear that the majority of the headteachers (76.5%) said that their libraries were inadequate, while 64.5% of them felt that their dining hall were inadequate. In some schools the field was adequate. In cases where the dining halls

were inadequate, the students went for lunch in shifts while in cases where the library was inadequate the students studied from the classrooms and laboratories. The researcher observed that in all the schools physical facilities were there but in most of the schools the physical facilities such as dining hall, classrooms, laboratories, toilets, kitchen, store and the library were inadequate. The results corresponds with those of Likoko, Mutsotso, and Nasongo (2013) in a study on adequacy of instructional materials and physical facilities and their effects on quality of teachers preparation in emerging private primary teachers training colleges in Bungoma county, who noted that the difference in school facilities would be seen to account for difference in achievement. Physical resources include classrooms, lecture theatres, auditoriums, administrative block, libraries, laboratories, workshops, play grounds, assembly halls, and special rooms like clinics, staff quarters, students' hostels, kitchen, cafeteria, and toilet. They also noted that lack of laboratory facilities was a major contribution to poor performance of some schools in KCSE because candidates could not answer questions in practical science subjects. The generalization of an education innovation is accompanied by the need for new resources which should be available for a sufficiently long time in order that the innovation becomes part of the daily life of educational establishment.

The researcher then sought to know from the headteachers whether there were times the school shared facilities in across the institutions. The results are as shown in Table 4.8

Table 4.8: Headteachers responses on sharing of facilities

Sharing facilities	Frequency	Percent
Yes	10	29.4
No	24	70.6
Total	**34**	**100.0**

From table 4.8, it is clear that in majority of the schools, sharing of facilities was not available while 29.4% of them indicated that they shared physical facilities such as fields. For those who shared the facilities such as fields, they had little space hence shared with the neighbouring primary schools, other facilities were said to be improvised such as the laboratory where a class will be converted to a laboratory during a practical lesson. The researcher observed that although some schools had little space on their fields, the adjacent primary schools for mixed day secondary schools had a field where the students used to do their games. The results agree with those of Olel (2000), facilities hamper the teaching and learning process and eventually affect student's performance in examination. The study sought from the headteachers whether school facilities were able to cater for special education needs. About 97.1% of them noted that their schools did not cater for special needs education and only 2.9% of them who had a such facilities. The researcher observes that there is need for schools to cater for special needs students.

4.4.1 Some of schools buildings observed for fire and safety requirements

Schools were categorised into three categories namely boys, girls and mixed day schools. An evaluation on school buildings regarding fire and safety was conducted. The results are shown in table 4.9.

Table 4.9 School buildings complying to fire and safety requirements

	Yes		No	
Condition	**Frequency**	**%**	**Frequency**	**%**
Administration	25	73.5	9	26.5
Classrooms	0	0	34	100
Toilets	0	0	34	100
Laboratories	22	64.7	12	35.3
Library	21	61.7	13	38.2
Kitchen	22	64.7	12	35.3
Dining Hall	12	35.3	22	64.7
Store	20	58.8	14	41.2

N=34

From Table 4.9, all the schools did not comply to fire and safety requirements on the toilets and classrooms, while the administration block was rated highly on compliance with the fire and safety requirements in majority of the schools followed by the laboratories, kitchen, library. The researcher observes that there was need for the school administration to comply with fire and safety requirement on all the school physical facilities especially laboratories that were more prone to fire because of the chemicals stored and used in them. This would ensure safety of the laboratory during the class time and even in times of accidents.

Physical learning environments or the places, in which formal learning occurs, range from relatively modern and well-equipped buildings to open-air gathering places.

The quality of school facilities seems to have an indirect effect on learning, an effect that is hard to measure. Some authors argue that extent empirical evidence is inconclusive as to whether the condition of school buildings is related to higher student achievement after taking into account student's background" (Fuller, 1999). A study in India, however, sampled 59 schools and found that of these only 49 had buildings and of these, 25 had a toilet, 20 had electricity, 10 had a school library and four had a television (Carron & Chau, 1996). In this case, the quality of the learning environment was strongly correlated with pupils' achievement in Hindi and mathematics (Carron & Chau, 1996). In Latin America, a study that included 50,000 students in grades three and four found that children whose schools lacked classroom materials and had an inadequate library were significantly more likely to show lower test scores and higher grade repetition than those whose schools were well equipped (Willms, D., 2000). Other studies, carried out in Botswana, Nigeria and Papua New Guinea, concur with these latter findings (Pennycuick, 1993).

The quality of school buildings may be related to other school quality issues, such as the presence of adequate instructional materials and textbooks, working conditions for students and teachers, and the ability of teachers to undertake certain instructional approaches. Such factors as on-site availability of lavatories and a clean water supply, classroom maintenance, space and furniture availability all have an impact on the critical learning factor of time on task. When pupils have to leave school and walk significant distances for clean drinking water, for example, they may not always return to class (Miske & Dowd, 1998). Even when schools do have adequate infrastructure, parents may be reluctant to allow children — especially girls — to attend if they are located too far away from children's homes. In general,

parents often consider the location and condition of learning environments when assessing school quality and this can influence school participation.

4.4.3 Problems encountered in efforts to optimally utilize physical facilities

The head teachers were asked to indicate various obstacles in attempts to optimally utilize physical facilities. The results are shown in Table 4.10.

Table 4.10 Problems encountered in efforts to optimally utilize physical facilities

	Frequency	**Percent**
Breakages	20	58.8
Congestion	6	17.6
Misuse	4	11.8
Low delivery	4	11.8
Total	**34**	**100**

Table 4.10 shows the problems encountered, with majority of the headteachers indicating breakages was one of the major problem encountered in effort to optimally utilize physical facilities, while congestion was rated second and misuse and low delivery being rated third respectively. The result agrees with Mbiti (2001) who noted that the headteacher is the manager of the school and has responsibility for its day-to-day affairs. A main characteristic of the job of the headteacher is that it is concerned largely with the management of people that is teachers, parents and pupils. The headteacher as a manager does not have extensive controls at his disposal since in many ways he is a 'site manager' working within a framework set

out by the Ministry of Education. A further difficulty is that it is difficult to evaluate the quality of the final outcome when physical facilities that he has to use are so congested and with a lot of congestion in class.

4.4.4 Remedies to problems encountered in secondary schools

Most of head teachers indicated various alternatives in which deficiencies in the schools are recovered. The results are shown in table 4.11.

Table 4.11 Remedies to problems encountered in secondary schools

Problems	**Frequency**	**%**
Make shifts	28	82.4
Sharing	3	8.8
Borrowing	2	5.9
Improvising	1	2.9
Total	**34**	**100.0**

It is clear that make shift was the most common way of compensating for physical facilities that were not sufficient in schools. However, schools also use sharing of facilities within students, borrowing across students and improvising some of facilities in attempt to fill up the difference. Borrowing across schools is mainly in sports fields and laboratory services. Most schools are not able to locate a good terrain land for sports or build up a laboratory and due to this reason, the only option is to engage neighbouring school and share such facilities. The results agrees with Mbugua (1987) it's the duty of the school's head teachers is to develop the physical

facilities. She argues that in dealing with physical facilities, a headteacher has to bear in mind where to house the educational program, the population to be served by the facility and ensure that financial resources are readily available for the school expansions. Such factors also impact on quality of teaching and learning that take place in schools.

4.5. Effect of staffing on the quality of education in secondary schools

Mudulia (2012) argues that the length of instructional day is positively related to performance. This is very crucial for science as evidenced by the allocation of more lessons for science in the Kenya Institute of Education (KIE) syllabus. Thus the head-teacher should ensure that the lessons are fully used. The study sought to know from the headteachers how staffing of secondary schools is depended on the category of the school. Schools are classified as boys, girls and mixed day schools. The results are shown in table 4.12.

Table 4.12 Staffing of school

	Boys		**Girls**		**Mixed day**	
No. of teachers	**Frequency**	**%**	**Frequency**	**%**	**Frequency**	**%**
Above 25	2	22.2	3	33.3	1	6.3
21- 25	5	55.6	4	44.5	7	43.5
15- 20	2	22.2	2	22.2	3	18.8
10- 15	0	0.0	0	0.0	3	18.8
Below 10	0	0.0	0	0.0	2	12.6
Total	**9**	**100.0**	**9**	**100.0**	**16**	**100.0**

Girls' schools were found to have better staffing with at least 3 (33.3%) schools having more than 25 teachers, 4 (44.5%) schools having between 21 to 25 teachers. This is an indication of high human resource for delivering the curriculum. Boys' schools also are also well resourced with at least 7 schools with more than 20 teachers. In both categories, no school had less than 20 teachers. This indication reflects the fact that boys and girls schools normally have a higher population thus class size. According to King, (2008), School size and class size are linked to the five key cultural values ….: a culture that teaches effort yields success; a culture of high expectations; a disciplined culture; a culture built on relationships; and a culture of excellence in teaching. Small classes and small overall student loads allow teachers to spend more time working with individual students to help them track their own progress and develop their skills – thus reinforcing the principle that effort yields success. High expectations are easier to maintain when teachers know their students well (because of small school and class size), can identify whether a student's poor performance on an assessment reflects deficiencies in their effort or their understanding, and can respond accordingly.

In mixed day schools, at least 7 schools had 21 to 25 teachers. Most of these schools have a low population and thus teachers do not have much of specializations. The lower the class size the higher the teacher to student contact. In addition, teachers may be more effective in small classes. In small classes, the curriculum may take on more variety, breadth, depth or richness because teachers have more time to focus on planning. With smaller classes teachers are able to individualize instruction according to the students' needs, using a variety of approaches, and allowing teachers to provide students with opportunities to reveal their abilities and

understanding. Teachers can offer more frequent critique and feedback to each student. While some studies show that activities are more varied and innovative in small classes, a number of studies suggest that teachers do not change their methods based on the size of the class (Shapson et al. 1980).

Small classes may result in positive peer effects. Research indicates that student relationships are improved in smaller classes. Teacher and student morale is reported to be higher. Students in small classes may identify more with the schooling process. This may be particularly helpful to minority or low-income students at risk of being detached from the education system (Blatchford and Mortimore, 1994, Cooper, 1989, Finn et al.1990, Finn, 1998).

4.5.2 Effect of staff category on the quality of education in secondary schools

Due to in adequacy of TSC teachers, most of public secondary schools result to employing BOM teachers to assist fill the gap. The results of comparison of TSC and BOM teachers in all schools are shown in table 4.13.

Table 4.13 Staff category of schools

	Boys		Girls		Mixed day	
No. of teachers	**Frequency**	**%**	**Frequency**	**%**	**Frequency**	**%**
TSC	132	66.7	140	69.0	198	68.8
BOM	66	33.4	62	31.0	90	31.2
Total	**198**	**100.0**	**202**	**100.0**	**288**	**100.0**

From the schools and their categories the schools were found to employ BOM teachers to supplement the staffing deficiencies. At least all schools have 66% and above of TSC deployed teachers. This is a good CBE indicator since specialization is found to be of great importance in secondary schools. Curriculum is defined as 'a plan for providing learning opportunities and experiences to the learners in order to achieve the educational goals and specific objectives required by Kenyan society'. It is the sum total of the learning opportunities presented to the learner (Education Act, Cap 211). Teacher core competencies are systematically evaluated and learning ability established.

The study then sought from the headteachers whether staffing affected the quality of education in the school. The results are as shown in Table 4.14.

Table 4.14: Staffing affect the quality of education

Staffing	Frequency	Percent
Yes	28	82.4
No	6	17.6
Total	**34**	**100**

From table 4.14, it is clear that the headteachers agreed that staffing had an effect on quality of education in their school, while only a small percentage of 17.6% of them who felt that staffing did not have an effect. Those who indicated that staff had an effect were asked to indicate how it affected the quality of education. With majority of them indicating that high turnover of teachers due to BOM teachers. The researcher observed that when these teachers got permanent jobs elsewhere then they left without notice hence affecting the quality of education.

4.6. Effect of fees charged on the quality of education in secondary schools

A task force appointed in 2008 to look into financing of secondary education reached a conclusion that boarding schools charge a maximum of ksh.18,627 per student per year for boarding expenses (GOK, 2008). This is not standard because many schools do not adhere to the recommended fees guidelines. All schools do receive a ministerial fees guideline as stipulated under ministry's' act. Most of schools do in addition add some levies that vary from school to depending on the category of the school. School head teachers were interviewed on this and the results are shown in table 4.15.

Table 4.15 Fees charged by three categories of schools

	Boys		Girls		Mixed day	
Fees range (Ksh.)	**Frequency**	**%**	**Frequency**	**%**	**Frequency**	**%**
Above 25,000	2	22.2	1	11.2	0	0.0
21,000- 25,000	4	44.4	4	44.4	5	31.2
15,000- 20,000	3	33.4	4	44.4	7	43.8
Below 15,000	0	0.0	0	0.0	4	25.0
Total	**9**	**100.0**	**9**	**100.0**	**16**	**100.0**

Mixed day schools charge lower fees with the highest school charging within the range of 21,000 to 25,000 Kenya shillings. Four (25%) of the mixed day school charged fees less than 15,000 Kenya shillings. All boys and girls school charged 15,000 Kenya shillings and above. At least 2 (22.2%) and 1 (11.2%) boys and girls schools respectively, charging above 25,000 Kenya shillings. An average fees figure across all the school was found to be within the range 17,000 to 23,000 Kenya shillings. Schools found to charge above 25,000 Kenya shilling are suspected to be the two national schools in the County namely Kitui high school and Muthale girls' school.

4.6.2 Frequency of sending students for fees

Different school have different modes of fees collection. Entirely head teachers send students home for fees in different times of the term. School head teachers were interviewed on this and the results are shown in table 4.16.

Table 4.16 Frequency of sending students for fees

	Boys		Girls		Mixed day	
Per term	**Frequency**	**%**	**Frequency**	**%**	**Frequency**	**%**
Once	0	0.0	0	0.0	0	0.0
Twice	4	44.4	2	22.2	5	31.3
Thrice	5	55.6	7	77.8	11	68.8
Total	**9**	**100.0**	**9**	**100.0**	**16**	**100.0**

Head teachers often send students home for fees thrice per term with 5 (55.6%) of boys schools, 7 (77.8%) of the girls' schools and 11(68.8%) of the mixed day schools adopting the mode. There was no school sending students for fees once in a term. From the findings it can be prostituted that students go home for fees end months since the term has three months. The researcher observes that the quality of education is affected when students are sent home for school fees.

4.6.3 Ways of reducing fees charged by schools to students

Head teachers shared their opinions on how to reduce the fees burden in attempt to increase financial resources of the schools. School head teachers were interviewed on this and the results are shown in table 4.17.

Table 4.17 Ways of reducing fees charged by schools to students

	Boys		Girls		Mixed day	
Ways	**Frequency**	**%**	**Frequency**	**%**	**Frequency**	**%**
Increase FDSE	6	66.7	5	55.6	10	62.5
Income projects	1	11.1	2	22.2	3	18.8
Sponsorships	1	11.1	1	11.1	2	12.5
Increase staffs	1	11.1	1	11.1	1	6.3
Total	**9**	**100.0**	**9**	**100.0**	**16**	**100.0**

As we approach 2015, the year in which the international community pledged to meet the targets of Education for All (EFA) and the Millennium Development Goals (MDGs), many governments, particularly in sub-Saharan Africa (SSA), are considering abolishing school fees for secondary education. This is partly due to the domestic and international demand to achieve EFA and the MDGs. Fees charged at secondary school are indeed one of the major obstacles for some children to access secondary education, resulting in low transition rates from primary to secondary education. Thus, many governments in SSA have planned to abolish secondary school fees. Head teachers recommended government for establishment of FDSE. However, amount disbursed per student is very low and cannot guarantee student full stay in school. From the results 6 boys schools, 5 girls schools and 10 mixed day schools indicated the need to increase this funding.

These findings are a confirmation of the UNESCO report the year 2008. Secondary enrolment rates in SSA continue to be the lowest in the world. Of approximately 104

million secondary school-age children in the region, only one in four (25%) were enrolled in secondary school in 2006 (UNESCO, 2008: 330-331). Of those, there were 83 girls only for every 100 boys (ibid, 2008). This figure in SSA is a critical challenge as compared with other regions. For instance, net enrolment ratio (NER) 1 in secondary education in the Caribbean is 40 percent with 107 girls for every 100 boys. Secondary NER in South and West Asia is 45 percent with 86 girls for every 100 boys. The world average on secondary NERs shows that slightly more than half (58%) of the secondary school-age children are enrolled in secondary schools in 2006, with 96 girls for every 100 boys (ibid, 2008). The gaps in NERs between SSA and the world average are 33 percentage points. Statistics provided by UNESCO (2008) show that children, particularly girls, in SSA have the lowest opportunity to enrol in secondary school at their official age.

Other source mentioned included; start of income generating activities, sponsorships and employment of enough teachers to cut down cost of paying BOM teachers. Lack of enough funds to run schools triggers need for students being send home for fees hence interfering with learning of the students. Such disturbances will eventually have a negative effect on performance of students. This is an area where the government under its educational framework need to identify potential and feasible ways on how to curb the effect.

4.7. Effect of class size on the quality of education in public secondary schools

Class size is one of the factors that impact upon academic performance and the general relationship is a negative one (Heinesen, 2010), as such a vicious cycle seems to have been created. While according to OECD (2012) smaller class sizes are

generally perceived as allowing teachers to spend more time with each student and less time in classroom management, thereby providing better instruction tailored to the students' individual needs, and ensuring higher performance. The size of class is important parameter in evaluating the quality and contact of students with teachers. School head teachers were interviewed about their class sizes and the results are shown in table 4.18.

Table 4.18 Class size

	Boys		**Girls**		**Mixed day**	
Class size	**Frequency**	**%**	**Frequency**	**%**	**Frequency**	**%**
Above 200	0	0.0	0	0.0	1	6.3
151- 200	4	44.4	5	55.6	4	25.0
101- 150	4	44.4	4	44.4	10	62.5
51- 100	1	11.1	0	0.0	1	6.3
Below 50	0	0.0	0	0.0	1	6.3
Total	**9**	**100.0**	**9**	**100.0**	**16**	**100.0**

Only one mixed day secondary school had a class with more than 200 students. Most of classes had a range size of 100 to 200 students. Four boys' schools, five girls' schools and 4 mixed day schools had 151 to 200 students in a class. There are several mechanisms through which class size can affect the behaviour of students and faculty. These behavioural changes can occur inside and outside the classroom. For example, students may be less attentive in larger classes, or may compensate for larger classes by exerting more effort either in the library or with their peers.

Department may be better able to identify the ability and interests of the median student in smaller classes, or be more able to answer students' questions directly. Outside of the classroom, department might devote more time preparing the delivery of class and organization of materials for larger classes, or there may be congestion effects if department have less time to devote per student during office hours.

The median student has a difference between her largest and smallest class sizes of 56, and more than 20% of students have a difference of at least 100. Therefore estimate whether class size effects are non-linear over a wide range of class sizes, from less than 10 to over 200. This is important given some potential mechanisms for class size effects are only relevant, on the margin, in the smallest or largest classes. The study observed the teachers teaching different class sizes are able to control the class with their teaching style or motivational skills.

4.8. Performance in public secondary schools as per class size.

Class size and performance was analysed from the performance of sampled schools classified in the three categories. The results are shown in table 4.19, 4.20, 4.21 and 4.22.

Table 4.19 Summary breakdown of performance since 2010

	Boys		Girls		Mixed day	
No. Of Candidates	**Frequency**	**%**	**Frequency**	**%**	**Frequency**	**%**
Grade A	40	4.1	40	3.9	6	0.5
Grade B	309	31.4	432	42.5	73	6.4
Grade C	441	44.8	448	44.1	382	33.7
Grade D	180	18.3	96	9.4	666	58.8
Grade E	15	1.5	1	0.1	5	0.4
Total	**985**	**100.0**	**1017**	**100.0**	**1132**	**100.0**

From table 4.19 is the summary according to class size of students in the 2010 the performance in boys school was average with 309 (31.4%) and 441 (44.8%) of the boys students having an average grade of B and C respectively. Girls performed much better with 432 (42.5%) and 448 (44.1%) of girls having grade B and C respectively. Mixed day schools performance was poor with 382 (33.7%) and 666 (58.8%) of the students having grade C and D respectively. Zyngier (2014) noted that in small classes, as would be expected, there were more individualized task related contacts between teacher and pupils, and a more active role for pupils. These results reinforced earlier research on children aged 4-5 years (Blatchford et al. 2005) and 7-11 years (Blatchford et al. 2007). They suggest that teachers in both large and small classes need to develop strategies for more individual attention, but also recognize the benefits of other forms of learning.

Table 4.20 Summary breakdown of performance since 2011 versus class size

	Boys		Girls		Mixed day	
No. Of Candidates	**Frequency**	**%**	**Frequency**	**%**	**Frequency**	**%**
Grade A	42	4.3	40	3.9	5	0.5
Grade B	327	32.9	436	42.5	74	6.7
Grade C	443	44.6	452	44.1	383	34.5
Grade D	171	17.1	95	9.3	645	58.2
Grade E	11	1.1	2	0.2	2	0.1
Total	**994**	**100.0**	**1025**	**100.0**	**1109**	**100.0**

In 2011 the performance in boys school was average with 327 (32.9%) and 443 (44.6%) of the students having an average grade of B and C respectively. Girls performed much better with 436 (42.5%) and 452 (44.1%) of girls having grade B and C respectively. Mixed day schools performance was poor with 383 (34.5%) and 645 (58.2%) of the students having grade C and D respectively.

Table 4.21 Summary breakdown of performance since 2012

	Boys		Girls		Mixed day	
No. Of Candidates	**Frequency**	**%**	**Frequency**	**%**	**Frequency**	**%**
Grade A	46	4.5	44	4.3	6	0.5
Grade B	330	33.3	443	42.6	77	7.0
Grade C	450	45.5	457	43.9	384	34.8
Grade D	153	15.5	95	9.1	632	57.4
Grade E	11	1.1	1	0.1	3	0.3
Total	**990**	**100.0**	**1040**	**100.0**	**1102**	**100.0**

In 2012 the performance in boys school was average with 330 (33.3%) and 450 (45.5%) of the students having an average grade of B and C respectively. Girls performed much better with 443 (42.6%) and 457 (43.9%) of girls having grade B and C respectively. Mixed day schools performance was poor with 384 (34.8%) and 632 (57.4%) of the students having grade C and D respectively.

Table 4.22 Summary breakdown of performance since 2013

	Boys		**Girls**		**Mixed day**	
No. Of Candidates	**Frequency**	**%**	**Frequency**	**%**	**Frequency**	**%**
Grade A	44	4.5	43	4.2	6	0.5
Grade B	327	33.1	451	44.1	84	7.6
Grade C	440	44.7	443	43.3	388	35.2
Grade D	164	16.7	85	8.3	624	56.6
Grade E	9	1.0	0	0.0	2	0.1
Total	**984**	**100.0**	**1022**	**100.0**	**1104**	**100.0**

In 2013 the performance in boys school was average with 327 (33.1%) and 440 (44.7%) of the students having an average grade of B and C respectively. Girls performed much better with 451 (44.1%) and 443 (43.3%) of girls having grade B and C respectively. Mixed day schools performance was poor with 388 (35.2%) and 624 (56.6%) of the students having grade C and D respectively.

Summary trend of performance since 2010 up to 2013

Summary of trends of passing in grades was done for the four years consecutively. Trends from 2010 to 2013 show a positive change across years. Most schools have shown tremendous improvements. This is attributable to the current reorganization in schools, government provision of FDSE funds and improved staffing. The study establishes that with more teachers, congestion was drastically reduced. The result agrees with Blatchford et al. (2009) who added that teachers may be better equipped, when given the opportunities afforded by small classes, if they consider educational principles rather than specific practices. Hence this would prove quality of education.

CHAPTER FIVE

SUMMARY OF THE STUDY, CONCLUSSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter contains the summary of the study and makes conclusions based on the results. The implication from the findings and areas for further research are also presented.

5.2 Summary of the study

The study aimed to find out the school based factors influencing quality of education in public secondary schools in Kitui County. The researcher singled out four school based factors affecting quality of education.

The researcher sought to establish how physical facilities in schools affect the quality of education. Most of boys schools 5 (55.6%) were found to be above average in condition. Seven, 77.8% of girls school were also above average in terms of their conditions. In mixed day school, 11 schools out of 16 schools were found to fall above average. This meant that the high level of performance witnessed would be associated with the good condition of some of school physical facilities. However, majority of the mixed day secondary schools lacked enough physical facilities. These included laboratories, dining halls and play fields. Only 8 (50%) of mixed day school had laboratories, 10 (62.5%) mixed day schools having dining halls and 7 (43.8%) mixed day schools having sports fields. Only 6 (37%) of the mixed day schools were found to have a computer laboratory. With the emerging need for computer literacy, schools need to quickly lay down computer infrastructure

and have a specialised computer science department in order to grow the talents in students.

Girls' schools were found to have highest compliance in fire and safety cautions in school buildings with 8 (88.9%) of their building having fire extinguishers and safety requirements in the buildings adhered to while 7 (77.8%) of their boys schools complying with such requirements.

Make shift were found to be the most common way of compensating for physical facilities that are not sufficient in schools with 7 (77.8%) of boy schools having makeshifts, eight girls schools still have make shifts and mixed day using make shifts were 13 (81.3%).

The study sought to establish how staffing in school was affecting the quality of education. Most schools were found to be well staffed with girls schools were found to have better staffing with at least 3 (33.3%) schools having more than 25 teachers, 4 (44.5%) schools having between 21 to 25 teachers. This is an indication of high human resource for delivering the curriculum. However, mixed day schools have many students as well but staffing of these schools was not at par with the students' population. Most of mixed day school use BOM teachers who are not fully qualified to deliver the curriculum. BOM teachers in mixed day schools constituted 31.2% of the entire teaching staff in this category of schools.

The study found that fees charged by secondary school did affect the quality of education in schools. This was evident since the head teachers clarified that fee

charged needed to be reducing to ease the burden. All boys and girls school charged 15,000 Kenya shillings and above, with at least 2(22.2%) and 1 (11.2%) boys and girls schools respectively charging above 25,000 Kenya shillings. An average fees figure across all the school was found to be within the range 17,000 to 23,000 Kenya shillings. Head teachers often send students home for fees thrice per term with 5 (55.6%) of boys schools, 7 (77.8%) of the girls' schools and 11(68.8%) of the mixed day schools adopting the mode. There was no school sending students for fees once in a term.

The study also sought to know the effect of class size on the quality of education. From the study findings, most of classes had a range size of 100 to 200 students. Four boys' schools, five girls' schools and 4 mixed day schools had 151 to 200 students in a class. However, most of schools run streams to decongest the classes but the teacher-student ratio is in turn compromised. The contact between the teacher and student is core in quality education delivery.

5.3 Conclusion

The study concludes that physical facilities in schools affected the quality of education. Lack of good condition buildings in the school hindered delivery of quality education in schools.

The study also concludes that lack of enough staff in schools led to poor quality of education. This is triggered by teachers being overloaded reducing their contact with students. Teachers contact with students is a greatly requirement since it aids the ability students skills as well as boosting the weak students.

The study concludes that fees charged in secondary schools are high and as a result most of students are constantly sent home for fees. Head teachers were found to habitually send students for fees at least thrice in a term. This shows the much time students wastes to and from home in look for fees. The government funding through FDSE was found to be too low and needed to be increased in order to enable all students to stay in school.

The study found class sizes to be high in most schools. Classes with students ranging up to 200 are likely to compromise efficiency in delivery. Teachers will find it hard to know their students fully and interacting with them. All classes from form two to form four were found to have an average range in their populations.

5.4 Recommendations

The Ministry of Education should come up with an operational mechanism to ensure that schools follow to the later the regulations regarding school structures and buildings. Improve the schools capacity building and planning to fully equip the school with all building as required by the Ministry.

The Ministry of Education through TSC increase staffing in schools especially mixed day school in order to remove the burden of employing BOM teachers by the school and also improve quality of curriculum delivery. Most schools have BOM teachers constituting of almost a third of the whole staffing.

The government should increase the funding through the FDSE programme. Schools should also come up with income generating projects in order to raise more financial resources. Head teachers should appraise students for sponsorships wherever they arise.

The government should allocate enough funds and resources to schools to ensure that free day secondary school education runs smoothly without compromising quality of education. The government should continue to build new schools and employ more teachers to accommodate all those qualifying for secondary education.

Headteachers should enrol students according to the resources and teachers they have to avoid overcrowding schools and overworking teachers. Headteachers should involve the community around them to aid in school development issues.

Through the government schools should come up with more classes and create streams to ease the burden of congestion in classes as has been witnessed in this study. A class need to be of average population in order to improve teacher to student interaction.

5.5 Suggestion for Further Research

The researcher recommends the following areas for further research

i. Influence of leadership skills in schools on quality of education in secondary school students.
ii. Effect of government and other stake holders policies on the quality of education in secondary school students.

iii. Influence of provision of basic needs to students on the quality of education in secondary schools.

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APPENDIX I: INTRODUCTION LETTER

February 6, 2014

Linah Mwende Gideon

C/O University of Nairobi, College of Education and external studies

P.O. Box 30179-00100

Nairobi

Dear Participants

RE: REQUEST FOR DATA

I am a post graduate student at the University of Nairobi enrolled in Masters in Education, economics of Education. I have completed my course work and am now required to carry out a research project on school based factors influencing the quality of education in public secondary schools in Kitui county, Kenya.

After careful analysis your school has been selected to participate in the study. In this regards you are kindly requested to participate in the study by filling in the attached questionnaires as truthful as you can. The information you provide will be used only in the realization of the objective above.

Your assistance in this regard will be highly appreciated.

Yours Sincerely,

Linah Mwende Gideon

APPENDIX II: HEADTEACHERS QUESTIONNAIRE

Thank you for accepting to take part in this research. The research intends to establish the school based factors influencing the quality of education in public secondary schools in Kitui County. The information provided will be treated with utmost level of confidentiality. Do not write your name on this form. Please answer as truthful as possible. (Please tick or give the response where appropriate).

PART A: BACKGROUND INFORMATION

1. What is your gender? Male [ ] Female [ ]
2. What is your age?

   Below 30 years [ ] 36 – 39 years [ ]

   31-35 ears [ ] Above 40 years [ ]
3. What is your highest academic qualification?

   Masters ( ) Bachelor of Education (Science) ( )

   Bachelor of Education (Arts) ( ) Diploma ( )
4. For how many years have you been teaching? …… years
5. Indicate with a tick the category of your school

   Boarding boys ( ) Boarding girls ( ) Mixed Day ( )

Part B: School based factors on quality of education

6. When was the school started?

   .....
7. Was there PUBLIC initiative (funding) for the school to start?

   .....
8. Apart from the school fees paid by the students, are there other sources of finances in the school? Yes [ ] No [ ]

9. If the answer is yes in question 4 above, mention the sources.....

10. Are the Government grants in form of FDSE of ksh.10,265 per student remitted to the school on time?.....

11. What is the Ministry Of Education guideline on school fees to be charged in your school? .....

12 Are the students able to clear the school fees charged in a year?

Yes [ ] No [ ]

12. How often are students sent home for school fees in a term? Indicate your answer with a tick.

Once per term [ ] Twice per term [ ]

Thrice per term [ ]

13. Is payment of school fees by students influencing the quality of education in your school?. Yes [ ] No [ ]

15. In your own opinion what can be done to reduce the school fees charged by the school?.....

16. How would you rate the academic performance of the school in KCSE?

Poor [ ] High [ ] Average [ ] Excellent [ ]

17. What is Curriculum based establishment in your school?

……..

b. How many teachers are in the school currently

TSC How many……..

BOM How many……..

c. In your opinion is staffing affecting the quality of education in your school?

Yes [ ] No [ ]

D. If yes how is it affecting the quality?

……..

18. Indicate the number of students in your class-year 2014

CLASS SIZE	**NUMBER OF STUDENTS**
Form Two	
Form Three	
Form Four	

19. Please indicate KCSE Results Analysis for the school year 2010-2013

YEAR	A	A^-	B^+	B	B^-	C^+	C	C^-	D^+	D	D^-	E	ENTRY	M/S
2010														
2011														
2012														
2013														

20. If physical facilities are not adequate specify the alternative used by the school.

Facility Alternative

_____ _____

_____ _____

21. Do you share facilities in across the institution Yes [ ] No [ ]

Give reason(s) for your answer.

.....

22 How often do you maintain and repair facilities in your school?

Regularly [ ] Sometimes [ ]

When extremely necessary [ ] When funds are available [ ]

22. Do the school buildings cater for students with special education needs?

Yes [ ] No [ ]

23. What problems do you encounter in your effort to optimally utilize available physical facilities in your school?

.....

24.. In your opinion, how can physical facilities be utilized to promote quality of education in public Schools?

.....

Thank you for your cooperation

APPENDIX III: TEACHERS QUESTIONNAIRE

Thank you for accepting to take part in this research. The school based factors influencing the quality of education in public secondary schools, in Kitui County. The information provided will be treated with utmost level of confidence. Do not write your name on this form. Please answer as truthful as possible. (Please tick or give the response where appropriate).

PART A: BACKGROUND INFORMATION.

1. What is you gender?

   Male [ ] Female [ ]

2. What is your age?

   Below 30 years [ ] 36 – 39 years [ ]

   31-35 years [ ] Above 40 years [ ]

Part B: School based factors on quality of education

3. What is your highest academic qualification?

   Masters ( ) Bachelor of Education (Science) ( )

   Bachelor of Education (Arts) ( ) Diploma ( )

4. For how many years have you been teaching? …… years

5. Indicate your teaching subjects.

   .....

6. Indicate your teaching workload per week.

   .....

7. For how long have you been teaching in the school?

   .....

8. Do you teach other subjects besides your teaching subjects?

Yes [ ] No [ ]

9. If yes in question (8) above, indicate the other subjects that you teach?

.....

10. Have you attended any in-service training over the last year?

.....

11. In your opinion is staffing affecting the quality of education in your school?

Yes [ ] No [ ]

b. IF YES how is it affecting the quality?

……..

12. Indicate the number of students in your class - year 2014

CLASS SIZE	**NUMBER OF STUDENTS**
Form Two	
Form Three	
Form Four	

Thank you for your cooperation

APPENDIX IV: OBSERVATION SCHEDULE

1. Conditions of the school buildings?

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

2. School buildings meet fire and safety requirements?

   Yes [ ] No [ ]

3. The school have appropriate buildings for administering and delivering the curriculum?

   a) Administration blocks? Yes [ ] No [ ]

   b) Staffroom? Yes [ ] No [ ]

   c) Adequate classrooms? Yes [ ] No [ ]

   d) Sufficient desks and seats in the classrooms? Yes [ ] No [ ]

   e) Specialised teaching areas? Yes [ ] No [ ]

   f) (i) Biology laboratory? Yes [ ] No [ ]

   g) (ii) Chemistry laboratory Yes [ ] No [ ]

   h) (iii) Computer laboratory Yes [ ] No [ ]

   i) (iv) Library Yes [ ] No [ ]

   j) Sporting facilities? Yes [ ] No [ ]

   k) Catering facilities? Yes [ ] No [ ]

   l) Kitchen? Yes [ ] No [ ]

   m) Dining hall? Yes [ ] No [ ]

   n) Store? Yes [ ] No [ ]

   o) The school has electricity and running water?

      Yes [ ] No [ ]

   p) Sufficient toilets (both girls and boys?)

      Yes [ ] No [ ]

q) Security measures put by the

Fence?	Yes	[ ]	No	[ ]
School watchman?	Yes	[ ]	No	[ ]
Daily occurrence book?	Yes	[ ]	No	[ ]

Thank you for your cooperation

APPENDIX V: RESEARCH AUTHORIZATION

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No.

Date:

29th May, 2014

NACOSTI/P/14/3908/1703

Gideon Mwende Linah
University of Nairobi
P.O.Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"School based factors influencing quality of education in public secondary schools in Kitui County, Kenya,"*** I am pleased to inform you that you have been authorized to undertake research in **Kitui County** for a period ending **7th August, 2014.**

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

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

DR. M. K. RUGUTT, PhD, HSC.
Ag. SECRETARY/CEO

COUNTY DIRECTOR OF EDUCATION
KITUI
P. O. Box 1557, KITUI.

Copy to:

The County Commissioner
The County Director of Education
Kitui County.

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

APPENDIX VI: *RESEARCH AUTHORIZATION (County Commissioner)*

OFFICE OF THE PRESIDENT

MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL GOVERNMENT

Telegrams "DC" Kitui
Telephone 22004/22010
Fax – 04444 23260
Email – dckitui@yahoo.com

DEPUTY COUNTY COMMISSIONER
KITUI CENTRAL
P. O. BOX 1,
KITUI

Ref.K.1526/V/105

11th June 2014

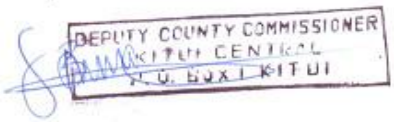
TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION
GIDEON MWENDE LINAH

The above named is a student at the University of Nairobi

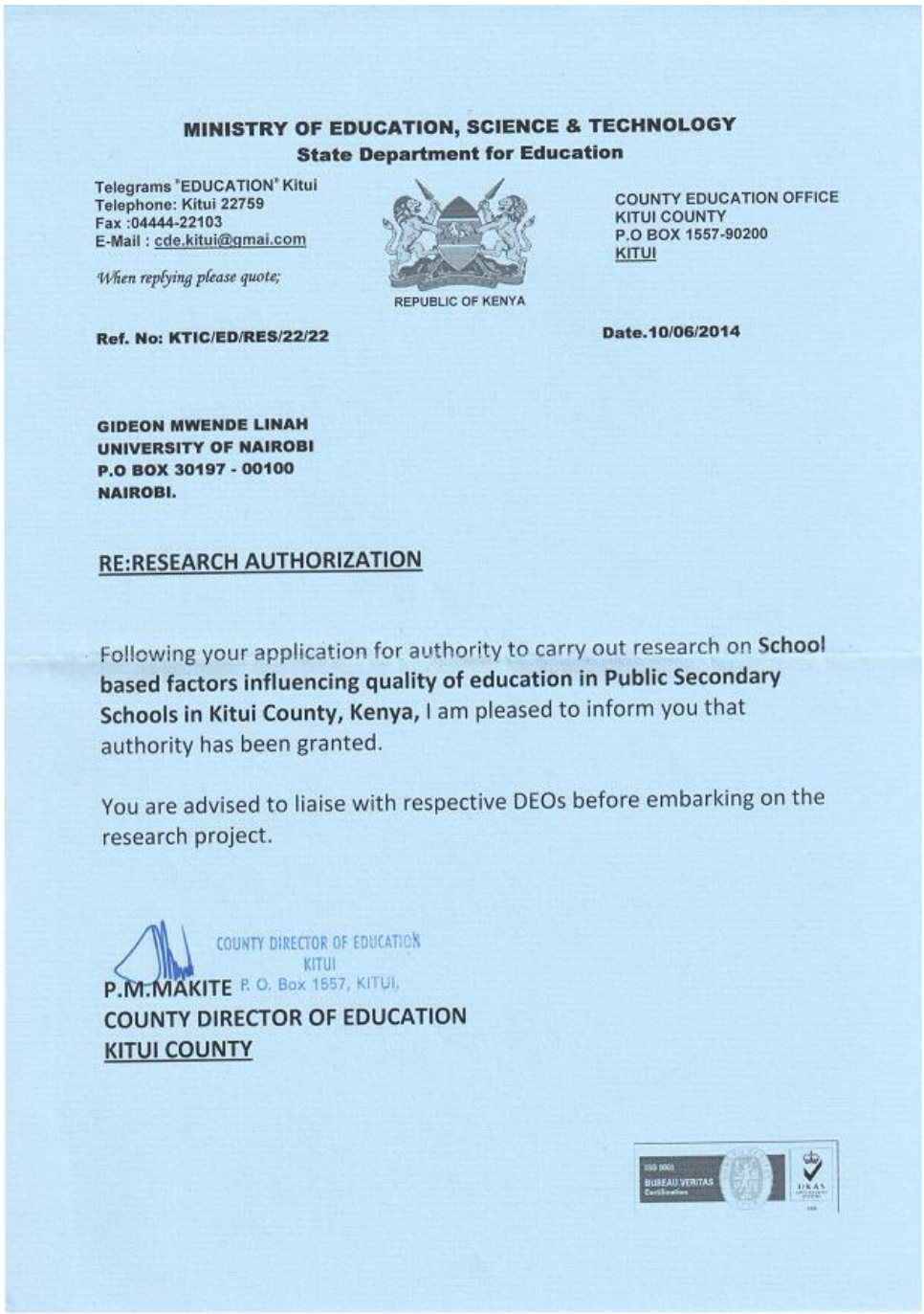
She is authorized by this office to carry out a research on ***"School based factors influencing quality of education in Public Secondary Schools in Kitui County, Kenya".***

Any assistance accorded to her in data collection will be highly appreciated.



E.N. MWACHIRO,
DEPUTY COUNTY COMMISSIONER,
KITUI CENTRAL

APPENDIX V: RESEARCH AUTHORIZATION (COUNTY EDUCATION OFFICE)



MINISTRY OF EDUCATION, SCIENCE & TECHNOLOGY
State Department for Education

Telegrams "EDUCATION" Kitui
Telephone: Kitui 22759
Fax :04444-22103
E-Mail : cde.kitui@gmai.com

When replying please quote;

REPUBLIC OF KENYA

COUNTY EDUCATION OFFICE
KITUI COUNTY
P.O BOX 1557-90200
KITUI

Ref. No: KTIC/ED/RES/22/22

Date.10/06/2014

GIDEON MWENDE LINAH
UNIVERSITY OF NAIROBI
P.O BOX 30197 - 00100
NAIROBI.

RE:RESEARCH AUTHORIZATION

Following your application for authority to carry out research on **School based factors influencing quality of education in Public Secondary Schools in Kitui County, Kenya,** I am pleased to inform you that authority has been granted.

You are advised to liaise with respective DEOs before embarking on the research project.

COUNTY DIRECTOR OF EDUCATION
KITUI
P. O. Box 1557, KITUI.

P.M.MAKITE
COUNTY DIRECTOR OF EDUCATION
KITUI COUNTY

APPENDIX V III: RESEARCH PERMIT

CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice

REPUBLIC OF KENYA

NACOSTI

National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No. A 1805

CONDITIONS: see back page

THIS IS TO CERTIFY THAT:
MS. GIDEON MWENDE LINAH
of UNIVERSITY OF NAIROBI, 0-90200 kitui,has been permitted to conduct research in *Kitui County*

on the topic: *SCHOOL BASED FACTORS INFLUENCING QUALITY OF EDUCATION IN PUBLIC SECONDARY SCHOOLS IN KITUI COUNTY, KENYA.*

for the period ending:
7th August,2014

.....
Applicant's Signature

Permit No : NACOSTI/P/14/3908/1703
Date Of Issue : 29th May,2014
Fee Recieved :Ksh 1,000

.....
Secretary
National Commission for Science, Technology & Innovation